Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

ACADEMIC COUNCIL
ATTENDANCE SHEET FOR 42nd MEETING OF
THE ACADEMIC COUNCIL ON 10.06.2023 AT 10.30 am
VENUE: SENATE HALL

S.No	NAME	POSITION	SIGNATURE
1	Prof.S.Salivahanan Vice Chancellor, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Chairperson	S. Salim
2	Prof. R.Venkata Rao Vice Chancellor, International University of Legal Education and Research (IIULER) Goa	External Member	Leave of Absence
3	Prof. N.V. Ramana Rao Director, National Institute of Technology Warangal, Telangana - 506004.	External Member	Leave of Absence
4	Dr. OR. Nandagopan Director, DRDO Industry Academia, Ramanujan Centre of Excellence, IIT, Madras	External Member	10/6/23
5	Dr. Shankar Venugopal Vice President, Technology Innovation & KM Dean – Mahindra Technical Academy Mahindra World City, Chengalpattu, Tamil Nadu..	External Member	Leave of Absence
6	Mr.Ramakrishna Chief Executive Officer and Managing Director, Effronics Systems Pvt.Ltd.,Vijayawada	External Member	Leave of Absence
7	Dr. K. Sankaranarayanasamy Professor HAG National Institute of Technology (NIT), Trichy Phone: 265231-101.	External Member	10/6/23

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S.No	NAME	POSITION	SIGNATURE
8.	Prof. Dr. Krishnan BASKAR. D.Sc. (KTH-Sweden), FRSC (London). Director, Indian Institute of Technology-Senapati, Manipur (An Institute of National Importance by Act of Parliament, Government of India) Mantripukri, Imphal – 795002, India. Mobile: +919444125126, E-mail: director@iiitmanipur.ac.in, drbaskar2009@gmail.com	External Member	10/06/2023
9	Dr.A.T.Ravichandran Professor & Dean - Academics Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	10/6
10	Dr. V. Srinivasa Rao Professor & Dean – SoC Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science andTechnology.	Internal Member	
11	Dr. R.S.Valarmathi Professor & Dean - SoEC Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science andTechnology.	Internal Member	10/6/23
12	Dr.M.Sivakumar Professor & Dean - FME Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	10/6/23
13	Dr. N. Lenin, Professor & Dean (SoMC) – Dept. of Mechanical Engineering, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology,	Internal Member	10/6/23
14	Dr. A.Subrahmanyam Professor & Dean - SoL Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	10/6/23

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S.No	NAME	POSITION	SIGNATURE
15	Dr. M.S.R. Mariyappan, Professor & Dean - SoM Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology	Internal Member	10/6/23
16	Dr. E.Suresh Paul Professor & Dean – Media Technology Communication Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	
17	Dr. P. Chandrakumar Professor & Dean – R&D and Industry Relations Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	
18	Dr..P.Vijayaraman Assistant Professor & Dean – Incharge (Campus to Corporate) Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	Absent
19	Dr. M. Rajeev Kumar, Professor & Dean - Quality Assurance Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology.	Internal Member	10/06/23
20	Dr. P. Suresh Professor & Dean - International Relations & HRDCVel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	10/6/2023
21	Prof. Dr. Nagalingeswara Raju, Professor and Dean (Hostels) Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology	Internal Member	Absent
22	Dr. K. Jagajjanani Rao Associate Professor Dean (Academic Research) R&D Vel Tech Rangarajan Dr.Sagunthala R & D Institute of Science and Technology.	Internal Member	K. Jagajjanani Rao 10/6/2023.

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S.No	NAME	POSITION	SIGNATURE
23	Dr.R.Sivaraman Professor & Controller of Examinations, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Permanent Invitee	
24	Dr.R.Jaganraj Associate Professor & HoD – Dept. of Aeronautical Engineering, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	
25	Dr. Amala Justus Selvam Professor & HoD – Dept. of Automobile Engineering, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	10/6/23
26	Dr.A.Geetha Selvarani, Professor & HoD – Dept. of Civil Engineering, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	
27	Dr. S. Ramesh, Professor – HoD, Department of Electrical and Electronics Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D institute of Science& Technology	Internal Member	
28	Dr.P.Esther Rani, Professor & HoD – Dept. of Electronics & Communication Engineering, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai-62.	Internal Member	
29	Dr. J Visumathi Professor & HoD – (Information Technology) Dept. of Computer science and Engineering Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	

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S.No	NAME	POSITION	SIGNATURE
30	Dr. S. Jayavelu Associate Professor & HoD – Dept. of Mechanical Engineering, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology,	Internal Member	
31	Dr. K. Ravishankar Professor & HoD – Department of Management Studies Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	
32	Ms.J.Sri Devi Assistant Professor & HoD – Dept. of Commerce and Business Administration Vel Tech Rangarajan Dr. SagunthalaR & D Institute of Science and Technology.	Internal Member	10/6/23
33	Dr. M.L.Suresh Professor & HoD – Dept. of Mathematics, , Vel Tech RangarajanDr. Sagunthala R & D Institute of Science and Technology.	Internal Member	10/6/23
34	Dr. Senthil Kumar Associate Professor & HoD – Dept. of Physics, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	for 10/6/23
35	Dr.CH.Hazarathaiah Yadav Professor & HoD – Dept. of Chemistry, Vel Tech Rangarajan Dr. Sagunthala R &D Institute of Science and Technology.	Internal Member	10/6/23
36	Dr. M.R.Bindu Professor & Head- Dept. of English, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	10/6/23

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S.No	NAME	POSITION	SIGNATURE
37	Dr. D. Balasubramanian, Associate Professor and Head, Dept. of Biomedical Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D institute of Science and Technology	Internal Member	
38	Dr.V.R.Manoj Professor & HoD – Dept. of Bio Technology, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	
39	Dr.B.Someswara Rao Professor & HoD – School of Law, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	
40	Dr. N.R. Rajalakshmi Professor & HoD – Dept. of Artificial Intelligence and Machine Learning Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Internal Member	
41	Dr.V.Dhilipkumar Associate Professor & HoD – Dept. of Artificial Intelligence (AI) and Data Science Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Internal Member	
42	Dr. R. Parthasarathy Associate Professor & HoD – Dept. of Computer Science and Design Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Internal Member	

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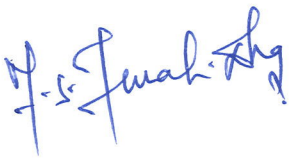
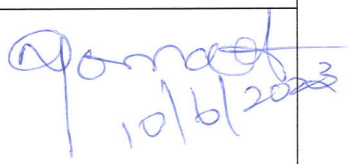
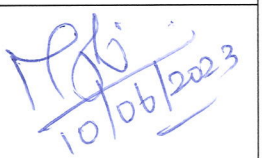
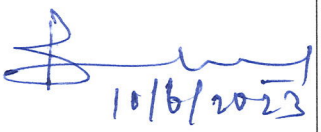
S.No	NAME	POSITION	SIGNATURE
43	Dr. Muralidhar M S Associate Professor & HoD – Dept. of Computer Science & Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Internal Member	
44	Dr. S.Samson Professor, Dept of Civil Engineering Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	
45	Dr. N.Gomathi Professor, Dept. of Computer Science and Engineering Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	
46	Dr. Malarvizhi Professor, Dept. of Computer Science and Engineering Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	
47	Dr.P.K.Dhal Professor, Dept. of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	
48	Dr. J.L.Mazher Iqbal Professor, Dept. of Electronics and Communication Engineering Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	

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S.No	NAME	POSITION	SIGNATURE
49	Dr. V.Sundarapandian Professor, Dept. of Mathematics Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	V. Sundara Pandia
50	Dr. E.Chandrasekaran Professor, Dept. of Mathematics Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	E.Chandrasekaran
51	Dr. M. Kavitha Professor, Dept. of Computer Science and Engineering Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	
52	Dr.G.Sasikala Professor, Dept. of Electronics and Communication Engineering Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	Absent
53	Dr.S.Irudayaraj Professor Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Professor	
54	Dr. C.T.Dora Pravina Associate Professor, Dept. of Mathematics, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Associate Professor	
55	Mrs. D.Kanagajothi Associate Professor, Dept. of Mathematics,Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Associate Professor	

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S.No	NAME	POSITION	SIGNATURE
56	Mrs. Lilly Victoria A Assistant ProfessorSchool of Law Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Assistant Professor Nominee	10/6/23
57	Dr. G. Chandramowleeswaran Assistant Professor Dept. of Commerce and Business Administration Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member Representing as Assistant Professor Nominee	10/6/23
58	Dr. K. Senthilnayagam Chief Librarian, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science andTechnology.	Internal Member	K. Senthilnayagam 10/6/2023
59	Dr.P.Chandrasekar Professor Dept. of Electrical & Electronics Engineering, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	10/06/23
60	Dr.N.M. Masoodhu Banu Professor, Dept. of Bio Medical, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Internal Member	Absent
61	Dr.E.Kannan Professor & Registrar Dept. of Computer Science&Engineering Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.	Secretary	10/06/2023

S. Salivahanan
VICE CHANCELLOR
Prof. S. Salivahanan
Vice Chancellor

Vel Tech
Rangarajan Dr. Sagunthala
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42nd MEETING
OF
THE ACADEMIC COUNCIL

Saturday, June 10, 2023

MINUTES

No. 42, Avadi-Vel Tech Road, Avadi, Chennai, Tamil Nadu, Pincode-600 062.
Email: registrar@veltech.edu.in, Website: www.veltech.edu.in.

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Minutes OF THE 42nd MEETING OF THE ACADEMIC COUNCIL

Saturday, June 10, 2023, at 10.30 a.m.

The Vice Chancellor welcomed all the members and highlighted the acheivements of the Institution.

A. Opening

42.1 Call to Order and Approval of Agenda of the 42nd meeting of the Academic Council.

The Chairperson called to order and placed the agenda for confirmation which was circulated to members by e-mail.

The Council confirmed the agenda.

42.2 Confirmation of the minutes of 41st meeting of the Academic Council held on Saturday, March 11, 2023.

The minutes of the 41st meeting of the Academic Council held on March 11, 2023 were circulated to the members.

The draft minutes of the 41st meeting of the Academic Council can be accessed *here*

Appendix A

The council confirmed the minutes of 41st meeting of the Academic Council

42.3 To review the Action Taken Report on the minutes of the 41st meeting of the Academic Council held on March 11, 2023.

The Vice Chancellor, placed before the Academic Council to consider the Action Taken Report in respect of the 41st meeting of the Academic Council as described in Table 1.

Table 1: Action Taken Report in respect of 41st meeting of the Academic Council held on March 11, 2023.

S.No	Decision Taken	Action Taken Report
1	Item No 41.8 - Page 13 To discuss and develop the e-content material in the form of Videos for minimum of 2 courses in each department in every semester.	One day workshop on "**Online Content Developement Processes - Methods and Pedagogy**" was conducted on April 21, 2023. 60 faculty members attended the workshop

2	Item No 41.9 - Page 15 To discuss about to improving the usage of Library resources.	**"Best Library User Award- School wise"** have been created and will be implemented from the Academic year 2023-24 onwards
3	Item No 41.10 - Page 15 To discuss the monitoring and evaluation guidelines of Community Service Project which is introduced in the new Regulations VTR UGE 2021 under Independent Learning.	The Guidelines were formulated and in the forthcoming semester, students will register the Community Service Project
4	Item No 41.11 - Page 16 To consider and approve the project duration for B.,Tech., programme as per the clause 7.2.5.3 under the Regulations VTR UGE 2021.	Ammended in the Regulations VTR UGE 2021
5	Item No 41.12 - Page 17 To consider and approve the Minor & Major projects that can be carried out by the students in Industry/Higher Learing Institutions in India and Abroad /Research organizations for B.,Tech., programme as per the clause 7.2.5.2 & 7.2.5.3 under the Regulations VTR UGE 2021.	Ammended in the Regulations VTR UGE 2021
6	Item No 41.13 - Page 17 To discuss the guidelines to qualify for pursuing Intensive Semester in the AY 2023- 24.	Guidelines were formulated and totally 463 students have registered for the Intensive semester of AY 2023-24.

42.4 To record leave of absence of the members.

The following member have expressed their inability to attend the meeting due to various reasons.

* **Prof. N.V. Ramana Rao**
  Director, National Institute of Technology,
  Warangal.

* **Dr. Shankar Venugopal,**
  Vice President, Technology Innovation & KM,
  Dean – Mahindra Technical Academy Mahindra World City,

* **Mr.Ramakrishna,**
  Chief Executive Officer and Managing Director,
  Effronics Systems Pvt.Ltd., Vijayawada.

* **Mr.P.Vijayaraman,**
  Assistant Professor,
  Dean – Incharge (Campus to Corporate),
  Vel Tech Rangarajan Dr.Sagunthala R & D Institute of Science and Technology.

* **Dr. Senthil Kumar,**
  Associate Professor, HoD – Dept. of Physics,
  Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.

* **Dr.N.M. MasoodhuBanu,**
  Professor, Dept. of Bio Medical,
  Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.

B. Items for Consideration

42.5 To consider and approve the New Regulations for the following disciplines:

* **Engineering and Technology - Post Graduate(PG) programmes**

The Vice Chancellor, placed before the Academic Council to consider the proposed changes in the Regulations **VTR PGE 2023** for Post-graduate (PG) – Engineering & Technology to be implemented with effect from the Summer Semester of the Academic Year 2023-24.

Dr.A.T. Ravichandran, Professor & Dean Academics, presented the proposed changes in the Regulations **VTR PGE 2023** for Post-graduate (PG) – Engineering & Technology.

The proposed changes in the Regulations VTR PGE 2023 for Post-graduate (PG) – Engineering & Technology can be accessed here

Appendix
VTR PGE 2023

* **Dr Krishnan Baskar** and **Dr.K. Sankaranarayanasamy**, members have suggested retaining the allocation of 20 marks in the Internal Assessment for the Assignment/Seminar and 20 marks for the tests as in the M. Tech. R16 regulations
* They have also suggested to include the National Conference also with International Conference/Scopus indexed journal as mandate to present/publish the research articles
* Dr. K. Jagajjanani Rao, Internal member suggested to give credits for Pattern/Product Development.
* Dean Academics has assured the members that, the points will be added in the VTR PGE 2023

Dr.A.T. Ravichandran, Professor & Dean Academics, moved the proposed changes in the Regulations **VTR PGE 2023** for Post-graduate (PG) – Engineering & Technology to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr.N. Lenin, Professor & Dean - School of Mechanical and Construction, seconded it.

The motion was carried

* **Arts and Science - Post-Graduate (PG) Programmes**

The Vice Chancellor, placed before the Academic Council to consider the proposed changes in the Regulations **VTR PGAS 2023** for Post-graduate (PG) – Arts and Science to be implemented with effect from the Summer Semester of the Academic Year 2023-24.

Dr.A.T. Ravichandran, Professor & Dean Academics, presented the proposed changes in the Regulations **VTR PGAS 2023** for Post-graduate (PG) – Arts and Science.

The proposed changes in the Regulations VTR PGAS 2023 for Post-graduate (PG) – Arts and Science can be accessed here

Appendix
VTR PGAS 2023

- Members suggested adding the same suggestions given for PG Engineering Regulations in the proposed VTR PGAS 2023 regulations.
- Dean Academics has assured the members that, the points will be added in the VTR PGAS 2023 Regulations.

Dr.A.T. Ravichandran, Professor & Dean Academics, moved that "the proposed changes in the Regulations **VTR PGAS 2023** for Post-graduate (PG) – Arts and Science to be implemented with effect from the summer semester of the Academic Year 2023-24", be approved

Dr. Amala Justus Selvam,, Professor & Head, Department of Automobile Engineering, seconded it.

The motion was carried

* **Law - Under Graduate(UG) Programme**

The Vice Chancellor, placed before the Academic Council to consider the proposed changes in the Regulations **VTR UGL 2023** for Under-graduate (UG) – Law Programme to be implemented with effect from the Summer Semester of the Academic Year 2023-24.

Dr.A.T. Ravichandran, Professor & Dean Academics, presented the Regulations VTR UGL 2023 for Under-graduate (UG) – Law Programme.

The proposed changes in the Regulations VTR UGL 2023 for Under-Graduate (UG) – Law Programme can be accessed here

Appendix
VTR UGL 2023

Dr.A.T. Ravichandran, Professor & Dean Academics, moved the proposed changes in the Regulations **VTR UGL 2023** for Under-graduate (UG) – Law Programme to be im-

plemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr.Manoj.V.R, Associate Professor & Head, Department of Bio Technology, seconded it.

The motion was carried.

42.6 To consider and approve the minutes of the Board of Studies of the following disciplines:

1. Engineering and Technology - Under Graduate & Post Graduate Programmes

A. B.Tech. - Aeronautical Engineering

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 24^{th} and 25^{th} Board of Studies of Department of Aeronautical Engineering for **B.Tech. Aeronautical Engineering** to be implemented with effect from the Summer Semester of the Academic Year 2023-24.

Dr. R. Jegan Raj, Associate Professor & Head, Department of Aeronautical Engineering, presented the recommendations of the 24^{th} and 25^{th} meeting of the Board of Studies.

The Minutes of the BoS meeting can be accessed here

Appendix AERO

Dr.O.R.Nandagopan, suggested to include Hypersonic Course in the UG and PG Curriculum. He also suggested to explore the option of starting a new PG programme - M. Tech. Defence Technology.

Dr. R. Jegan Raj, Associate Professor & Head, Department of Aeronautical Engineering, moved the recommendations of the 24^{th} and 25^{th} Board of Studies of **B.Tech. Aeronautical Engineering** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. Amala Justus Selvam,, Professor & Head, Department of Automobile Engineering, seconded it.

The motion was carried

B. B.Tech. - Artificial Intelligence and Data Science

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 4^{th} Board of Studies of Department of Artificial Intelligence and Data Science for **B.Tech. Artificial Intelligence and Data Science** to be implemented with effect from the summer semester of the Academic Year 2023-24.

Dr. V. Dhilip kumar, Associate Professor & Head, Department of Artificial Intelligence and Data Science, presented the recommendations of the 4^{th} meeting of the Board of Studies conducted on May 27, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix AI&DS

Dr. V. Dhilip kumar, Associate Professor & Head,Department of Artificial Intelligence and Data Science, moved the recommendations of the 4^{th} Board of Studies of B.Tech. Artificial Intelligence and Data Science to be implemented with effect from the Summer semester of the Academic Year 2023-24, be approved.

Dr.M.S.Muralidhar, Associate Professor & Head, Department of Computer Science & Engineering, seconded it.

The motion was carried

C. B.Tech. - Artificial Intelligence and Machine Learning

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 4^{th} Board of Studies of Department of Artificial Intelligence and Machine Learning for **B.Tech. Artificial Intelligence and Machine Learning** to be implemented with effect from the Summer semester of the Academic Year 2023-24.

Dr. N. R. Rajalakshmi, Professor & Head,Department of Artificial Intelligence and Machine Learning , presented the recommendations of the 4^{th} meeting of the Board of Studies conducted on May 27, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix AI&ML

Dr. N. R. Rajalakshmi, Professor & Head,Department of Artificial Intelligence and Machine Learning, moved the recommendations of the 4^{th} Board of Studies of **B.Tech. Artificial Intelligence and Machine Learning** to be implemented with effect from the Summer semester of the Academic Year 2023-24, be approved.

Dr. V. Dhilip kumar, Associate Professor & Head, Department of Artificial Intelligence and Data Science, seconded it.

The motion was carried

D. B.Tech. - Bio Medical Engineering

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 10^{th} Board of Studies of Department of Bio Medical Engineering for **B.Tech. Bio Medical Engineering** to be implemented with effect from the Summer Semester of the Academic Year 2023-24.

Dr. D. Balasubramaniam, Associate Professor & Head, Department of Bio Medical Engineering, presented the recommendations of the 10^{th} meeting of the Board of Studies conducted on June 06, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix BIOMED

Dr. D. Balasubramaniam, Associate Professor & Head, Department of Bio Medical Engineering, moved the recommendations of the 10^{th} Board of Studies of **B.Tech. Bio Medical Engineering** to be implemented with effect from the Summer Semester of the Academic Year 2023-24, be approved.

Dr.Manoj.V.R, Associate Professor & Head, Department of Bio Technology, seconded it.

The motion was carried.

E. B.Tech. - Biotechnology

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 10^{th} Board of Studies of Department of Biotechnology for **B.Tech. Biotechnology** to be implemented with effect from the Summer semester of the Academic Year 2023-24.

Dr. V. Manoj, Associate Professor & Head, Department of Biotechnology, presented the recommendations of the 10^{th} meeting of the Board of Studies conducted on May 30, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix Biotech

Dr. V. Manoj, Associate Professor & Head, Department of Biotechnology, moved the recommendations of the Board of Studies of B.Tech. Biotechnology to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. D. Balasubramaniam, Associate Professor & Head, Department of Bio Medical Engineering, seconded it.

The motion was carried.

F. B.Tech. - Civil Engineering

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the Board of Studies of Department of Civil Engineering for **B.Tech. Civil Engineering** to be implemented with effect from the summer semester of the Academic Year 2023-24.

Dr.A. Geetha Selvarani, Professor & Head, Department of Civil Engineering, presented the recommendations of the Board of Studies meeting conducted on June 03, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix CIVIL

- **Dr.O.R.Nandagopan** raised questions about inclusion of Demolition Technique and Bridge Engineering related courses in the UG curriculum.
- The HoD replied that Demolition Technique contents are included in the course comes under the Programme Core category and Bridge Engineering Course is included in the Programme elective Category

Dr.A. Geetha Selvarani, Professor & Head, Department of Civil Engineering, moved the recommendations of the Board of Studies of B.Tech. Civil Engineering to be implemented with effect from the Summer Semester of the Academic Year 2023-24, be approved.

Dr. R. Jagan Raj, Associate Professor & Head, Department of Aeronautical Engineering, seconded it.

The motion was carried

G. B.Tech. - Computer Science & Engineering

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 37^{th} Board of Studies of Department of Computer Science & Engineering for **B.Tech. Computer Science & Engineering** to be implemented with effect from the summer semester of the Academic Year 2023-24.

Dr.M.S.Muralidhar, Associate Professor & Head,Department of Computer Science & Engineering, presented the recommendations of the 37^{th} meeting of the Board of Studies conducted on May 27,2023.

The Minutes of the BoS meeting can be accessed here

Appendix CSE

Dr.M.S.Muralidhar, Associate Professor & Head,Department of Computer Science & Engineering, moved the recommendations of the 37^{th} Board of Studies of **B.Tech. Computer Science & Engineering** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. N. R. Rajalakshmi, Professor & Head, Department of Artificial Intelligence and Machine Learning, seconded it.

The motion was carried

H. B.Tech. - Computer Science Design

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 4^{th} Board of Studies of Department of Computer Science and Design for

B.Tech. Computer Science and Design to be implemented with effect from the Summer semester of the Academic Year 2023-24.

Dr. R. Parthasarathy, Professor, Department of Computer Science and Engineering, presented the recommendations of the 4^{th} meeting of the Board of Studies conducted on May 27, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix CSD

Dr. R. Parthasarathy, Professor, Department of Computer Science and Engineering , moved the recommendations of the 4^{th} Board of Studies of **B.Tech. Computer Science and Design** to be implemented with effect from the Summer semester of the Academic Year 2023-24, be approved.

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering , seconded it.

The motion was carried

I. B.Tech. - CSE (Artificial Intelligence and Machine Learning)

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 2^{nd} Board of Studies of **B.Tech. - CSE (Artificial Intelligence and Machine Learning)** to be implemented with effect from the summer semester of the Academic Year 2023-24.

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering, presented the recommendations of the 2^{nd} meeting of the Board of Studies conducted on June 05, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix CSE (AI & ML)

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering , moved the recommendations of the 2^{nd} Board of Studies of **B.Tech. - CSE (Artificial Intelligence and Machine Learning)** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. R. Parthasarathy, Associate Professor & Head, Department of Computer Science and Design , seconded it.

The motion was carried

J. B.Tech. - CSE (Cyber Security)

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 2^{nd} Board of Studies of **B.Tech. - CSE (Cyber Security)** to be implemented with effect from the summer semester of the Academic Year 2023-24.

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering, presented the recommendations of the 2^{nd} meeting of the Board of Studies conducted on June 05, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix CSE (CS)

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering , moved the recommendations of the 2^{nd} Board of Studies of **B.Tech. - CSE (Cyber Security)** to be implemented with effect from the Summer semester of the Academic Year 2023-24, be approved.

Dr. N. R. Rajalakshmi, Professor & Head, Department of Artificial Intelligence and Machine Learning, seconded it.

The motion was carried

K. B.Tech. - CSE (Data Science)

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 2^{nd} Board of Studies of **B.Tech. - CSE (Data Science)** to be implemented with effect from the summer semester of the Academic Year 2023-24.

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering, presented the recommendations of the 2^{nd} meeting of the Board of Studies conducted on June 05, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix CSE (CS)

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering , moved the recommendations of the 2^{nd} Board of Studies of **B.Tech. - CSE (Data Science)** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. V. Dhilip kumar, Associate Professor & Head, Department of Artificial Intelligence and Data Science , seconded it.

The motion was carried

L. B.Tech. - Electrical and Electronics Engineering

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 30^{th} Board of Studies of Department of Electrical and Electronics Engineering for **B.Tech. Electrical and Electronics Engineering** to be implemented with effect from the Summer semester of the Academic Year 2023-24.

Dr.S. Ramesh, Professor & Head, Department of Electrical and Electronics Engineering, presented the recommendations of the 30^{th} meeting of the Board of Studies conducted on June 03, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix EEE

- **Dr. Krishnan Baskar** have suggested to introduce a course related to Material Science Engineering viz., "Power Semiconductor Materials" for B.Tech. – EEE Programme and "Smart Materials for Power Electronics Application" for M.Tech. Power Electronics Programme.
- HoD – EEE informed the members that, these courses will be included in the respective Program Elective Category from the winter semesterof AY 2023-24.

Dr.S.Ramesh, Professor & Head,Department of Electrical and Electronics Engineering, moved the recommendations of the 30^{th} Board of Studies of **B.Tech. Electrical and Electronics Engineering** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr.P.Esther Rani, Professor & Head, Department of Electronics and Communication Engineering, seconded it.

The motion was carried

M. B.Tech. - Electronics and Communication Engineering

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the Board of Studies of Department of Electronics and Communication Engineering for **B.Tech. Electronics and Communication Engineering** to be implemented with effect from the summer Semester of the Academic Year 2023-24.

Dr. P. Esther Rani, Professor & Head, Department of Electronics and Communication Engineering, presented the recommendations of the Board of Studies meeting conducted on May 27, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix ECE

- **Dr.Krishnan Baskar** and **Dr.K. Sankaranarayanasamy** questioned regarding the addition of course on new technology "Quantum Computing".
- HoD ECE replied that the Department has organised an FDP in Quantum Information Processing from 20.6.2023 to 24.6.2023 and a new program elective will be introduced from the winter semester of AY 2023-24

Dr.P. Esther Rani, Professor & Head, Department of Electronics and Communication Engineering, moved the recommendations of the Board of Studies of **B.Tech. Electronics and Communication Engineering** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr.S.Ramesh, Professor & Head,Department of Electrical and Electronics Engineering, seconded it.

The motion was carried

N. B.Tech. - Information Technology

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the Board of Studies of Department of Information Technology for **B.Tech. Information Technology** to be implemented with effect from the Summer Semester of the Academic Year 2023-24.

Dr. J. Visumathi, Professor & Head, Department of Information Technology, presented the recommendations of the Board of Studies meeting conducted on June 01, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix IT

Dr. J. Visumathi, Professor & Head,Department of Information Technology, moved the recommendations of the Board of Studies of **B.Tech. Information Technology** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. R. Parthasarathy, Associate Professor & Head, Department of Computer Science and Design, seconded it.

The motion was carried

O. B.Tech. - Mechanical Engineering

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 37^{th} Board of Studies of Department of Mechanical Engineering for **B.Tech. Mechanical Engineering** to be implemented with effect from the Summer semester of the Academic Year 2023-24.

Dr.S. Jeyavelu, Associate Professor & Head, Department of Mechanical Engineering , presented the recommendations of the 37^{th} meeting of the Board of Studies conducted on May 27, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix MECH

- External members suggested including courses like Electrical Vehicle & Battery Storage, Energy/Thermal Management and Additive Manufacturing in the UG curriculum.
- HoD - Mechanical clarified that, Additive Manufacturing and Energy/Thermal Management courses are already available in the UG Curriculum under Programme Elective category. The Electrical Vehicle & Battery Storage courses will be added in the programme electric category from winter semester of AY 2023-24.

Dr.S. Jayavelu, Associate Professor & Head, Department of Mechanical Engineering, moved the recommendations of the 37^{th} Board of Studies of **B.Tech. Mechanical Engineering** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr.A.Geetha Selvarani, Professor & Head – Department of Civil Engineering, , seconded it.

The motion was carried

- **Law - Under Graduate Programmes**

a) **B.A.,LL.B.** and **B.Com., LL.B.**

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 10^{th} Board of Studies of School of Law for **B.A., LL.B. and B.Com., LL.B.** to be implemented with effect from the summer semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Appendix LAW

Dr. A. Subrahmanyam, Professor & Dean, School of Law, presented the recommendations of the 10^{th} Board of Studies meeting conducted on June 02, 2023.

Members appreciated the School Dean and members for getting the funded Research Project from ICSSR.

Dr. A. Subrahmanyam, Professor & Dean, School of Law, moved that "the recommendations of the 10^{th} Board of Studies of **B.A., LL.B.** and **B.Com., LL.B.** to be implemented with effect from the Summer semester of the Academic Year 2023-24", be approved.

Dr. E. Suresh Paul,Professor & Dean - School of Media Technology & Communication, seconded it.

The motion was carried

- **Arts and Science - Under Graduate Programmes**

a) **B.Sc. Multimedia.**

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 14^{th} Board of Studies of School of Media Technology & Communication for **B.Sc. Multimedia** to be implemented with effect from the Summer semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Dr. E. Suresh Paul,Professor & Dean - School of Media Technology & Communication, presented the recommendations of the 14^{th} Board of Studies meeting conducted on May 29, 2023.

Appendix MultiMedia

Dr. E. Suresh Paul,Professor & Dean , School of Media Technology & Communication, moved the recommendations of the 14^{th} Board of Studies of **B.Sc Multimedia** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. A. Subrahmanyam, Professor & Dean, School of Law, seconded it.

The motion was carried

b) B.Sc Visual Communication

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 14^{th} Board of Studies of School of Media Technology & Communication for **B.Sc Visual Communication** to be implemented with effect from the summer semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Dr. E. Suresh Paul,Professor & Dean - School of Media Technology & Communication, presented the recommendations of the 14^{th} Board of Studies meeting conducted on May 29, 2023.

Appendix Viscom

Dr. E. Suresh Paul,Professor & Dean , School of Media Technology & Communication, moved the recommendations of the 14^{th} Board of Studies of **B.Sc Visual Communication** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. M.S.R. Mariyappan, Professor & Dean - SoM, seconded it.
seconded it.

The motion was carried

c) Bachelor of Commerce (B.Com.)

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 26^{th} Board of Studies of **Bachelor of Commerce (B.Com.)** to be implemented with effect from the summer semester of the Academic Year 2023-24.

Dr. J. Sridevi, Assistant Professor & Head, Department of commerce and Business Administration, presented the recommendations of the 26^{th} Board of Studies meeting conducted on May 29, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix BCom

Dr. J. Sridevi, Assistant Professor & Head, Department of commerce and Business Administration, moved that "the recommendations of the 26^{th} Board of Studies of **Bachelor of Commerce (B.Com.)** to be implemented with effect from the summer semester of the Academic Year 2023-24", be approved.

Dr.Visumathi, Professor & Head, Department of Information Technology, seconded it.

The motion was carried

d) Bachelor of Business Administration (B.B.A)

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 26^{th} Board of Studies of **Bachelor of Business Administration (B.B.A)** to be implemented with effect from the summer semester of the Academic Year 2023-24.

Dr. J. Sridevi, Assistant Professor & Head, Department of commerce and Business Administration, presented the recommendations of the 26^{th} Board of Studies meeting conducted on May 29, 2023.

The Minutes of the BoS meeting can be accessed here

Appendix BBA

Dr. J. Sridevi, Assistant Professor & Head, Department of commerce and Business Administration,, moved the recommendations of the 26^{th} Board of Studies of **Bachelor of Business Administration (B.B.A.)** to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

Dr. Amala Justus Selvam,, Professor & Head, Department of Automobile Engineering, seconded it.

The motion was carried

- **Arts and Science - Post Graduate Programmes**

a) M.A. - English

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the Board of Studies of Department of English for **M.A. - English** to be implemented with effect from the Summer Semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Dr. M.R. Bindu, Professor & Head, Department of English, presented the recommendations of the Board of Studies meeting conducted on May 29, 2023.

Appendix M.A.- ENG

Dr. M.R. Bindu,Professor & Head, Department of English, moved "that the recommendations of the Board of Studies of **M.A. English** to be implemented with effect from the Summer Semester of the Academic Year 2023-24", be approved.

Dr.CH.Hazarathaiah Yadav, Professor & HoD – Department of Chemistry, seconded it.

The motion was carried

b) M.Sc. - Mathematics

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the Board of Studies of Department of Mathematics for **M.Sc. - Mathematics** to be implemented with effect from the summer semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Dr.Suresh. M.L, Head, Department of Mathematics, presented the recommendations of the Board of Studies meeting conducted on June 01, 2023.

Appendix MATHS

- **Dr.O.R.Nandagopan** questioned whether any courses are offered in Data Mining.
- HoD – Mathematics explained that the PG students will study the program core course Mathematical Statistics (part of data mining) in which they will study about data sampling distribution, estimation and analysis of variance. Further, the Curriculum also has an integrated course "Mathematical Computing using R" in which students will study representation of data, correlation, regression and so on.

Dr. Suresh. M.L., Professor & Head, Department of Mathematics, moved "that the recommendations of the Board of Studies of **M.Sc. - Mathematics** to be implemented with effect from the summer Semester of the Academic Year 2023-24", be approved.

Dr. M.R.Bindu, Professor & HoD – Department of English, seconded it.

The motion was carried

c) M.Sc. - Physics

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the Board of Studies of Department of Physics for **M.Sc. - Physics** to be implemented with effect from the Summer Semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Dr. D. Senthil Kumar, Associate Professor & Head, Department of Physics, presented the recommendations of the Board of Studies meeting conducted on June 06, 2023.

Appendix PHY

Dr. D. Senthil Kumar, Associate Professor & Head, Department of Physics, moved "that the recommendations of the Board of Studies of **M.Sc. Physics** to be implemented with effect from the summer semester of the Academic Year 2023-24", be approved.

Dr. Suresh. M.L., Professor & Head, Department of Mathematics, seconded it.

The motion was carried

d) M.Sc. - Chemistry

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the Board of Studies of Department of Chemistry for **M.Sc. - Chemistry** to be implemented with effect from the summer semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Dr. CH. Hazarathaiah Yadav, Professor & Head, Department of Chemistry, presented the recommendations of the Board of Studies meeting conducted on May 30, 2023.

Appendix CHEM

Dr. CH. Hazarathaiah Yadav, Professor & Head, Department of Chemistry, moved "that the recommendations of the Board of Studies of **M.Sc. - Chemistry** to be implemented with effect from the summer semester of the Academic Year 2023-24", be approved.

Dr. S. Jeyavelu, Professor & Head, Department of Mechanical Engineering, seconded it.

The motion was carried

I. M.Sc. - Data Analytics

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the 2^{nd} Board of Studies of Department of Computer Science and Design for **M.Sc. - Data Analytics** to be implemented with effect from the summer

semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering, presented the recommendations of the 2^{th} meeting of the Board of Studies conducted on June 05, 2023.

Appendix M.SC(DA)

Dr. M. Kavitha, Professor, Department of Computer Science and Engineering , moved the recommendations of the 2^{nd} Board of Studies of **M.Sc. - Data Analytics** to be implemented with effect from the Summer semester of the Academic Year 2023-24, be approved.

Dr.M.Sivakumar, Professor & Dean - FME, seconded it.

The motion was carried

- **Management - Post Graduate Programmes**

a) Master of Business Administration (M.B.A.)

The Vice Chancellor, placed before the Academic Council to consider the recommendations of the Board of Studies of Department of Management for **Master of Business Administration (M.B.A.)** to be implemented with effect from the summer semester of the Academic Year 2023-24.

The Minutes of the BoS meeting can be accessed here

Dr. K. Ravishankar, Professor & Head, Department of Management, presented the recommendations of the Board of Studies meeting conducted on March 27, 2023.

Appendix E

Dr. K. Ravishankar, Professor & Head, Department of Management, moved "that the recommendations of the Board of Studies of **Master of Business Administration (M.B.A.)** to be implemented with effect from the summer semester of the Academic Year 2023-24", be approved.

Dr.B.Someswara Rao, Professor & Head, School of Law, seconded it.

The motion was carried

42.7 To consider and approve the minutes of the Meeting of the Research Board.

The Vice Chancellor, placed before the Academic Council to consider the minutes of meeting of the Research Board.

Dr. Jagajjanani Rao, Associate Professor & Dean - Academic Research, presented the minutes of the 24^{th} meeting of the Research Board held on June 02, 2023.

The Minutes of the Research Board can be accessed here

Appendix RESEARCH

Dr. K. Jagajjanani Rao, Associate Professor & Dean - Academic Research, moved that "the minutes of the 24^{th} meeting of the Research Board", be approved.

42.8 To consider and approve the Policy for Identifying the Slow & Advanced Learners and Activities

The Vice Chancellor, placed before the Academic Council to consider and approve the Policy for Identifying the Slow & Advanced Learners and Activities.

Dr.A.T. Ravichandran, Professor & Dean Academics, presented the Policy for Identifying the Slow & Advanced Learners and Activities.

The Policy for Identifying the Slow & Advanced Learners and Activities can be accessed here

Appendix SLOW and ADVANCED

Dr.Krishnan Baskar expressed his happiness over the policy and suggested to follow sincerely for the benefit of student community.

Dr.A.T. Ravichandran, Professor & Dean Academics, presented the Policy for Identifying the Slow & Advanced Learners and Activities to be implemented with effect from the summer semester of the Academic Year 2023-24, be approved.

C. Items for Reporting

42.9 To report the Academic Calendar for the Academic Year 2023-24 for all the Under Graduate (UG) and Post Graduate (PG) programmes

The Vice Chancellor, placed before the Academic Council to ratify the Academic Calendar for the Academic Year 2023-24 for Under-graduate (UG) and Post-graduate (PG) level programmes.

Dr.A.T. Ravichandran, Professor & Dean Academics, will present the Academic Calendars for the Academic Year 2023-24 for Under-graduate (UG) and Post-graduate (PG) level programmes.

The Academic Calendar for AY 2023-24 can be accessed here

Appendix Academic calendar

Dr.A.T. Ravichandran, Professor & Dean Academics, moved that "the Academic Calendar for the Academic Year 2023-24 for Under-graduate (UG) and Post-graduate (PG) level programmes",

be reported.

42.10 To report the minutes of 20th meeting of the IQAC held on April 29, 2023.

The Vice Chancellor, placed before the Academic Council to report the minutes of 20th meeting of the IQAC held on April 29, 2023.

Dr. M. Rajeev Kumar, Professor & Dean - Quality Assurance, reported the minutes of 20th meeting of the IQAC held on April 29, 2023.

The minutes of 20th meeting of the IQAC can be accessed here

Appendix Minutes IQAC

Dr. M. Rajeev Kumar, Professor & Dean - Quality Assurance, moved that "the minutes of 20th meeting of the IQAC held on April 29, 2023.", be approved.

42.11 To report the status of NBA accreditation for three departments Viz. Mechanical Engineering, Aeronautical Engineering and Electrical and Electronics Engineering.

The Vice Chancellor, placed before the Academic Council to report the status of NBA accreditation for three departments Viz. Mechanical Engineering, Aeronautical Engineering and Electrical and Electronics Engineering.

Dr. M. Rajeev Kumar, Professor & Dean - Quality Assurance, reported the status of NBA accreditation for three departments Viz. Mechanical Engineering, Aeronautical Engineering and Electrical and Electronics Engineering.

Dr. M. Rajeev Kumar, Professor & Dean - Quality Assurance, moved that "report the status of NBA accreditation for three departments Viz. Mechanical Engineering, Aeronautical Engineering and Electrical and Electronics Engineering", be approved.

42.12 To report the results of the Ph.D. viva voce conducted since last Academic Council held on March 11, 2023.

The Vice Chancellor, placed before the Academic Council to ratify the results of the Ph.D. viva voce conducted since last Academic Council held on March 11, 2023.

Dr. R. Sivaraman, Controller of Examinations, presented the results of the Ph.D. viva voce conducted since last Academic Council held on March 11, 2023.

The Ph.D. viva voce completed name list can be accessed here

Appendix PHD Name list

Dr. R. Sivaraman, Controller of Examinations, moved that "the results of the Ph. D. viva voce conducted since last Academic Council held on March 11, 2023.", be ratified.

42.13 To record the progression and achievements of the following Schools and divisions:

The Vice Chancellor, placed before the Academic Council to report the progression of School of Management, School of Science & Humanities and office of International Relations and their academic achievements.

A) School of Management.

Dr. M.S.R. Mariyappan, Professor & Dean School of Management, presented the progression and academic achievements of the School of Management.

The Progression of SoM can be accessed here

Appendix SOM

Dr. M.S.R. Mariyappan, Professor & Dean School of Management, moved that "the progression and academic achievements of the School of Management", be recorded.

B) School of Science and Humanities.

Dr.M.Sivakumar, Professor & Dean - School of Science and Humanities, presented "the progression of the School of Science and Humanities and academic achievements.

The Progression of SoSH can be accessed here

Appendix SoSH

Dr.M.Sivakumar , Professor & Dean School of Science and Humanities, moved that "the progression and academic achievements of the School of Science and Humanities", be recorded.

C) Office of International Relations.

Dr. P. Suresh, Professor & Dean International Relations, presented the progression and academic achievements of the Office of International Relations.

The Progression of Office of International can be accessed here

Appendix INT

Dr. P. Suresh, Professor & Dean International Relations, moved that "the progression and academic achievements of the Office of International Relations", be recorded.

D. Closing

42.14 Anyother items with the permission of the Chairperson

Dr. M. Rajeev Kumar, Professor & Dean-Quality Assurance has reported about the Institution Ranking as follows:

In the National Institutional Ranking Framework (NIRF) 2023

* Engineering - 87th Rank among 1314 participated Engineering Institutions in India
* University – Band 101-150
* Overall – Band 101-150 among 2478 participated HEIs in India
* Innovation – Band 11-50 among 1417 participated HEIs in India

In the Times Higher Education (THE) Impact Ranking:

* SDG 6 - Band 301-400 among 702 ranked institutions in the world
* SDG 9 - Band 301-400 among 873 ranked institutions in the world
* SDG 10 - Band 601-800 among 901 ranked institutions in the world
* SDG 17 - Band 1001+ among 1625 ranked institutions in the world
* Overall - Band 1001+ among 1591 ranked institution in the world

All members congratulated the Institution Management, Faculty, Staff and students for being within 100 Ranks in NIRF Ranking consecutively for the last 7 years and good show in the 'THE' Rankings.

42.15 To decide the date of holding the next meeting of the Academic Council.

43^{rd} Regular Meeting of the Academic Council is tentatively scheduled in the **Month of October**.

42.16 Vote of Thanks.

Dr. E. Kannan, Professor & Registrar, expressed his thanks to all the members of the Academic Council for their presence and valuable contributions.

42.17 Adjournment

The meeting was adjourned at 2.30 PM.

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

School of Sciences and Humanities
Department of Chemistry

Minutes of the 4th Board of Studies meeting held on 30th May 2023

The Board of Studies for B.Tech & M.Sc(Chemistry) was held in Block 7, Engineering Hive Seminar Hall Room No.7002 between 9:30am and 1.45pm and the following members were present during the meeting:

Chairman

Dr.C.Hazarathaiah Yadav, Professor and Head of the Department, Department of Chemistry, School of Sciences and Humanities, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science & Technology, Chennai

Academic Experts (External)

1. Dr.A.Vijayalakshmi, Associate Professor, Department of Chemistry, RMK College of Engineering, Kavaraipettai, Chennai-601206.
2. Dr.A.R.Mohamed Sikkander, Associate Professor and Head, Department of Chemistry, Velammal Engineering College, Surapet, Chennai-600066.

Internal Members

1. Prof.Dr.A.Kanni Raj, Professor of Chemistry, VTU, Chennai
2. Dr.N.Haridharan, Associate Professor of Chemistry , VTU, Chennai
3. Dr.M.Nagoor Meeran, Associate Professor of Chemistry , VTU, Chennai
4. Dr. L. Sivarama Krishna, Associate Professor of Chemistry , VTU, Chennai
5. Dr.G.Nageswara Reddy, Associate Professor of Chemistry, VTU, Chennai
6. Dr.K.Thirunavukkarasu, Assistant Professor of Chemistry, VTU, Chennai

Special Invitees

1. Dr.N.Edayadulla, Associate Professor of Chemistry , VTU, Chennai.
2. Dr.L.Venkataramana, Assistant Professor of Chemistry, VTU, Chennai.
3. Dr.A.Roniboss, Assistant Professor, VTU, Chennai
4. Dr. Vivek P M, Assistant Professor, VTU, Chennai
5. Dr.S.Sivakumar, Assistant Professor, VTU, Chennai
6. Dr.A.Silambarasan, Assistant Professor, VTU, Chennai
7. Dr.J.Gayathri, Assistant Professor, VTU, Chennai
8. Dr.M.N.Aswathy, Assistant Professor, VTU, Chennai
9. Dr.V.Srinivasan, Assistant Professor, VTU, Chennai
10. Dr.D.Divya, Assistant Professor, VTU, Chennai

Agenda

Agenda 1 – Presentation on B.Tech.Foundation Courses

(i) Engineering Chemistry
(ii) Environmental Science & Sustainability
(iii) Engineering Chemistry Laboratory

Agenda 2 – Presentation on B.Tech.Open Elective courses

(i) Cryogenic Fuels
(ii) Energy Storage Devices
(iii) Food Safety & Quality Management

Agenda 3 – Presentation on M.Sc. Chemistry courses

Agenda 4 – Presentation on value added courses

Discussion

Presentation by Chairman of the Board of Studies: Briefing BoS Agenda and Major outlines of syllabi framed by Department faculty.

On Agenda 1 – B.Tech.Foundation Courses

Course Code	Course Title	Modifications Suggested by BoS Experts
	Engineering Chemistry	In Unit IV-Polymer Science & Nanotechnology, 1. Instead of PHBV, External Expert Dr.A.Mohamed Sikkander suggested to add PLA. In Unit V-Spectroscopy & Computational Chemistry, 1. Ab Initio method was removed by External Expert Dr.A.Mohammed Sikkander 2. Green IoT and Artificial Intelligence were suggested to be added by External Expert Dr.A.Mohamed Sikkander
	Environment Science and Sustainability	1. In Unit I, Alternate Energy Sources, Floods, Drought, Drainage and their Effects were suggested to be removed by External Academic Expert Dr.A.Vijayalakshmi 2. In Unit II, Concept of an ecosystem and different types of values (consumptive use, productive use, social, ethical, aesthetic and option values) were suggested to be removed by External Academic Expert Dr.A.Vijayalakshmi 3. In Unit III, Solid Waste Control Measures by 3R System (Reduce-Reuse-Recycle) was suggested to be added by Dr.A.Mohamed Sikkander, and Floods and Drought were suggested to be added by Dr.A.Vijayalakshmi 4. In Unit IV, climate change, global warming, acid rain, ozone layer depletion and nuclear accidents and holocaust were suggested to be

Course Code	Course Title	Modifications Suggested by BoS Experts
		removed by External Expert Dr.A.Vijayalakshmi, and Wild Life Act 1972 was added by External Expert DrA.Mohamed Sikkander 5. In Unit V, COVID-19 was suggested to be added by External Expert Dr.A.Mohamed Sikkander
	Engineering Chemistry Laboratory	1. External Experts suggested to remove the Exp.No.6 - Determination of dissolved oxygen in water sample by Winkler's method, and added For Exp.No.6, "Determination of sulphate content in water sample".

On Agenda 2 - B.Tech.Open Electives

Course Code	Course Title	Modifications Suggested by BoS Experts
	Cryogenic Fuels	1. Proposed syllabus content approved as such
	Energy Storage Devices	2. Proposed syllabus content approved as such
	Food Safety & Quality Management	3. Proposed syllabus content approved

On Agenda 3 – M.Sc. Chemistry

Course Code	Course Title	Modifications Suggested by BoS Experts
	Organic Chemistry – I	In Unit – I, Internal BoS Member Prof.Dr.A.Kanni Raj suggested to remove 'Review of basic principles of stereochemistry and chiral auxiliaries' and to add 'Topicity and prostereoisomerism'
	Organic Chemistry – II	In Unit – IV, Internal BoS Member Dr.G.Nageswara Reddy suggested to replace 'Demjanov rearrangement' by 'Beckmann rearrangement'.
	Organic Chemistry – III	In Unit – I, 'Photo rearrangements such as Photo fries rearrangement and photo rearrangement of 2,5 – cyclohexadienones' were suggested to be removed by Internal BoS Member Dr.M.Nagoor Meeran and were suggested to be replaced by 'Barton reaction and Hoffman-Loefller-Freytag reaction'.
	Inorganic Chemistry – I	Internal BoS Member Prof.Dr.A.Kanni Raj suggested to include the "MOT concept to hetero nuclear diatomic molecules like CO and HF" in Unit 1 and to remove the "MOT of H_2O molecule" from Unit 1 and suggested to include the "MOT of co-ordinate bonds" and to remove 'Spectrochemical Series' in Unit 2.
	Inorganic Chemistry – II	Internal BoS member Dr.N.Haridharan suggested to include the application of metal carbonyls, and nitrosyls in Unit 1, to remove the "Synthetic Gasoline-Mobil Reaction" from Unit 2, and to remove semiconductors and superconductors from Unit 5.
	Inorganic Chemistry – III	Internal BoS member Dr.L.Sivarama Krishna suggested to remove the structure of blue copper electron transferases from Unit 1, and to remove the Toxicity of Zn and Sb from Unit 3
	Physical	In unit IV, Internal BoS member Dr.K.Thirunavukkarasu suggested to

Course Code	Course Title	Modifications Suggested by BoS Experts
	Chemistry-I	remove "potassium iodide - water system" from Unit 4
	Physical Chemistry-II	In unit III, Internal BoS member Dr.N.Haridharan suggested to remove 'Heat capacity of solids, and Einstein and Debye model'
	Physical Chemistry-III	In Unit III, Internal BoS member Dr.G.Nageswara Reddy suggested to remove the 'Estimation of free energy, enthalpy and entropy of activation and their significances'.
	Electro-analytical and Separation Techniques	The internal BoS member Dr.M.Nagoor Meeran suggested to move "Electro-analytical and Separation Techniques" from programme core to programme elective category.
	Synthesis of Pharmaceutical Ingredients & their Manufacture	Internal BoS member Dr.L.Sivarama Krishna suggested to remove "Synthesis of Pharmaceutical Ingredients and their manufacture" from programme elective list.
	Physical Chemistry laboratory	In Set III, Internal BoS member Dr.G.Nageswara Reddy suggested to remove the Conductometric titration o strong acid versus strong base, and to add the precipitation titration of $AgNO_3$ versus KCl.
	Organic Chemistry laboratory	In Part B, Internal BoS member Dr.M.Nagoor Meeran suggested to remove the "Two stage preparation Acetyl salicylic acid (Aspirin) from Methyl Salicylate", and to add 'preparation of 1,3,5-tribromobenzene from aniline'.
	Inorganic Chemistry laboratory	In Part I, Internal BoS member Dr.N.Haridharan suggested to remove the estimation of calcium and nickel (because estimation of these ions are covered in EDTA titration).
	Analytical Chemistry laboratory	In Part I, Internal BoS member Dr.K.Thirunavukkarasu suggested to remove the Analytical Chemistry practical - estimation of nickel and chromium by gravimetric and volumetric analysis
	Organic Spectroscopy	External Expert Dr. A. Mohamed Sikkander suggested to move Mass Spectra from Unit V to Unit III or to Unit I. So, Mass Spectra is in Unit III.
	M.Sc.Chemistry (Elective Courses)	BoS Chairman informed that 6 credits of programme elective, 6 credits of open elective and 2 credits of life skills may be completed through online mode or offline mode or in NPTEL.

Action Taken

Proposed B.Tech. syllabus and M.Sc. syllabus have been discussed in detail and all the suggestions given by members are incorporated and the syllabi were approved .

Date: 30-05-2023 **Chairman – BOS**

3rd MEETING of BOARD of STUDIES

Minutes

for

MSc. Data Analytics Programme

[CBCS]

On

05.06.2023

Department of Computer Science

School of Computing

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3rd MEETING of BOARD of STUDIES
For
MSc. Data Analytics Programme

Date&Time: 05.06.2023-2.30 PM
Venue:33023

Item No	Agenda
A.	**Opening**
1	Confirmation of 2nd BoS meeting minutes held on 22.10.2022
2	To review the Action Taken Report on the minutes of the 2nd meeting of the Board of Studies (Annexure-I)
B.	**Items to be considered**
3	To discuss and approve the courses to be offered in Online MOOCs platforms under Independent Learning Category (MOOCs) during the academic year Summer 2023-2024 for MSc. Data Analytics. (Annexure-II)
4	Any other cognate item

School of Computing
3rd Meeting of Board of Studies
For
MSc. Data Analytics Programme

Members Present: **Date:05.06.2023**

Sl.No	Name and Designation	Nominee	Signature
1	Dr. V. Srinivasa Rao, Professor and Dean, SoC, Vel Tech	Chairperson	
2	Dr.V.Masilamani, Associate Professor & Head Department of Computer Science Engineering IIITDM Kancheepuram, Chennai, Tamil Nadu	Academic Expert Nominee	
3	Dr.Saravanan Krishnan Senior Assistant Professor& Head, Department of Computer Science Engineering Anna University, Tirunelveli, Tamil Nadu	Academic Expert Nominee	
4	Ms.T. K.Chandravadhana, Senior Technical Consultant and Atos Expert, Java Cloud Full Stack Engineer , Atos FSI, Chennai, Tamil Nadu	Industry Expert Nominee	
5	R.V.Chandrashekhar, Manager - Cyber Liaison Ford Motor Private Ltd, Chennai, Tamil Nadu	Alumni	
6	Dr.M.Kavitha Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
7	Dr.N.R.Rajalakshmi Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
8	Dr.S.Sridevi Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
9	Dr.M.S.Muralidhar Associate Professor & Head Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Associate Professor Nominee	
10	Dr.V.Dhilip kumar Associate Professor & Head Department of AI & DS Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Associate Professor Nominee	
11	Dr.R.Thangaselvi Assistant Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Assistant Professor Nominee	
12	Mrs.K.Prema Assistant Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Assistant Professor Nominee	

Invited Members

S.No	Name	Designation
1	Dr.J.Visumathi	Professor and Head, Department of IT, Vel Tech
2	Mrs.Kujani	Assistant Professor, CSE, Vel Tech

3rd MEETING of BOARD of STUDIES
For
MSc. Data Analytics Programme

Date&Time: 05.06.2023-2.30 PM
Venue:33023

Item No	Agenda
A. Items to be considered	
03-BoS-03	To discuss and approve the courses to be offered in Online MOOCs platforms under Independent Learning Category (MOOCs) during the academic year Summer 2023-2024 for MSc. Data Analytics.
Resolution	The members reviewed and approved the courses to be offered in Online MOOCs platforms under Independent Learning Category (MOOCs) during the academic year Summer 2023-2024 for MSc. Data Analytics. Course details are shown in (Annexure-II)
03-BoS-04	Any other cognate item
Resolution	The Chairman informed next BoS meeting may be scheduled in the month of December 2023

ANNEXURE-I

Item No	Item	Decision taken	Action Taken
ITEMS FOR DISCUSSION AND APPROVAL			
3-BoS-1	To discuss and approve the revised credit structure and course categories to be offered in the MSc. Data Analytics under the regulation VTR PGAS-2023 with effect from 2022-2023. The course categories to be finalized are 1. Program Core 2. Program Elective 3. Open Elective 4. Independent Learning 5. Other Course Categories (Annexure-I)	The members approved the revised credit structure and course categories to be offered from Academic Year 2022 – 2023.	Proposed Courses were offered
3-BoS-2	To discuss and approve the course contents of Program core courses to be offered in the MSc. Data Analytics under the regulation VTR PGAS-2023 with effect from 2022-2023 (Annexure-II)	The members approved the course contents of Program core courses to be offered from Academic Year 2022-2023	Courses is offered with effect from Academic Year 2022-2023
3-BoS-3	To discuss and approve the course contents of Program Electives are proposed in this BoS as per the list attached, to be offered MSc. Data Analytics under the regulation VTR PGAS-2023 with effect from 2022-2023 (Annexure-III)	The members approved the proposed new courses under Program Elective category for implementation from Academic Year 2022- 2023	The proposed course was offered with effect from the Academic Year 2022-2023
3-BoS-4	To discuss and approve the courses to be offered in Online MOOCs platforms under Independent Learning Category (MOOCs) during the academic year Winter, 2022-2023 for MSc. Data Analytics. (Annexure-IV)	The members approved the courses to be offered in Online MOOCs platforms under Independent Learning Category	The proposed courses will be offered with effect from the 2022-2023
ITEMS FOR RATIFICATION			

3-BoS-5	To ratify the course contents of Program Core courses to be offered in the MSc. Data Analytics under the regulation PMAS-R19 with effect from 2020-2021 (Annexure-V)	The members ratified the course contents of Program Core courses	The offered course is ratified
3-BoS-6	To ratify the course contents of Program Elective courses to be offered in the MSc. Data Analytics under the regulation PMAS-R19 with effect from 2020-2021 (Annexure-VI)	The members ratified the course contents of Program Electives courses	The offered course is ratified
3-BoS-7	To ratify the courses offered in Online MOOCs platforms under Independent Learning Category (MOOCs) during the academic year Winter 2021-2022, for MSc. Data Analytics under the regulation PMAS-R19. (Annexure-VII)	The members ratified the the courses offered in Online MOOCs platforms under Independent Learning	The offered course is ratified

ANNEXURE-II

S.No.	Course Code	Course Name	Course Provider	Duration in weeks	Credits	
1.	60224CS408	Next Generation Sequencing Technologies : Data Analysis And Applications	NPTEL	12 weeks	2	
2.	60224CS409	Genetic Engineering: Theory And Application	NPTEL	12 Weeks	2	
3.	60224CS410	Medical Image Analysis	NPTEL	12 Weeks	2	
4.	60224CS411	Reinforcement Learning	NPTEL	12 Weeks	2	
5.	60224CS412	Applied Accelerated Artificial Intelligence	NPTEL	12 Weeks	2	
6.	60224CS413	Design & Implementation Of Human-Computer Interfaces	NPTEL	12 Weeks	2	
7.	60224CS414	Introduction To Haskell Programming	NPTEL	8 Weeks	1	
8.	60224CS415	Pattern Recognition And Application	NPTEL	12 Weeks	2	
9.	60224CS416	Social Networks	NPTEL	12 Weeks	2	
10.	60224CS417	Introduction To Industry 4.0 And Industrial Internet Of Things	NPTEL	12 Weeks	2	
11.	60224CS418	Privacy and Security in Online Social Media	NPTEL	12 Weeks	2	
12.	60224CS419	Data Science for Engineers	NPTEL	8 Weeks	1	
13.	60224CS420	Microsoft Azure Data Fundamentals	Microsoft	-	2	
14.	60224CS421	Microsoft Azure AI Fundamentals(AI-900)	Microsoft	-	2	

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60223CS408	Next Generation Sequencing Technologies : Data Analysis And Applications	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Outcomes

CO Nos	Course Outcomes	Skill Level (Based on revised Bloom's Taxonomy)
CO1	Understand the basics of Next Generation Sequencing (NGS) technologies ,algorithms , data formats and data quality check(QC)	K2
CO2	Experiment the data quality check and read mapping algorithms	K3
CO3	Analysis the single nucleotide polymorphisms (SNPs),INDELs and RNA sequencing and data normalization	K3
CO4	Interpret differential expression analysis, multiple hypothesis testing corrections, Gene Ontology (GO) and Gene set enrichment	K2
CO5	Describe the Genome assembly algorithms and the applications of NGS technologies in genome assembly and epigenomics.	K2

Correlation of COs with Program outcomes and Programme Specific Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	2	3								3	2	2
CO2	2	2	2	2	3								3	2	2
CO3	2	2	2	2	3								3	2	2
CO4	2	2	2	2	3								3	2	2
CO5	2	2	2	2	3								3	2	2

Course Contents

Week 1: Next Generation Sequencing (NGS) Technologies

Week 2: NGS data formats and data quality check (QC)

Week 3: Hands-on tutorial 1 - NGS data and quality check

Week 4: Read Mapping and Mapping Algorithms

Week 5: Targeted resequencing and SNP, INDEL identification

Week 6: Hands-on tutorial 2 - Mapping and SNP identification

Week 7: RNA sequencing and data normalization

Week 8: Differential expression analysis and multiple hypothesis testing corrections

Week 9: Gene Ontology (GO) and Gene set enrichment analysis

Week 10: Hands-on tutorial 3 - RNA-seq data normalization and differential expression analysis

Week 11: Genome assembly algorithms

Week 12: Application of NGS in epigenomic studies

Course Provider	**:**	NPTEL
Professor	**:**	Prof. Riddhiman Dhar
University	**:**	IIT Kharagpur

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS409	Genetic Engineering: Theory And Application	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Outcomes

CO Nos	Course Outcomes	Skill Level (Based on revised Bloom's Taxonomy)
CO1	Explain the Basics of Biological System and Cloning	K2
CO2	Discuss the Recombinant DNA Technology	K2
CO3	Explain the Product Recovery and Purification	K2
CO4	Discuss the Characterization of Isolated Products	K2
CO5	Explain the Biotechnology in Social Welfare	K2

Correlation of COs with Program outcomes and Programme Specific Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2			1										
CO2	2	2	1		2	1			2	2		2			
CO3	2	2	1		3							2		2	
CO4	2	2	2		3	1	1	1			2	2			
CO5	2	2			1										

Course Contents

Week 1: Introduction and Basics of Biological System.

Week 2: Basics of Biological System

Week 3: Basics of Cloning (Part I)

Week 4: Basics of Cloning (Part II)

Week 5: Recombinant DNA Technology (Part I)

Week 6: Recombinant DNA Technology (Part II)

Week7: Product Recovery and Purification (Part I)

Week 8: Product Recovery and Purification (Part II)

Week 9: Characterization of Isolated Products (Part I)

Week 10: Characterization of Isolated Products (Part II)

Week11: Biotechnology in Social Welfare

Week 12: Summary & Conclusions

Course Provider	**:**	NPTEL
Professor	**:**	Prof Vishal Trivedi
University	**:**	IIT Gawahati

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS410	Medical Image Analysis	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Outcomes

CO Nos	Course Outcomes	Skill Level (Based on revised Bloom's Taxonomy)
CO1	Understand the concepts of various medical processing techniques	K2
CO2	Apply the image data acquisition techniques to collect images and do image registration	K3
CO3	Analyze various image segmentation techniques to segment region of interest	K4
CO4	Develop computer aided diagnosis system for segmentation and further analysis	K6
CO5	Develop various 3D CNN based deep learning models	K6

Correlation of COs with Program outcomes and Programme Specific Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2				2			1	2				1	1	3
CO2	2	1			2			1				1			1
CO3	2	2		1	1			1	1				2	2	
CO4	2	2	3	2	1			2				1	3	3	3
CO5	2	2	3	2	3			1				1	3	3	3

Week 1: Introduction to medical imaging

Week 2: Basic image processing techniques

Week 3: Image registration – 1- Rigid models

Week 4: Image registration – 2- Non-Rigid models

Week 5: Image registration – 3- Application and demonstration

Week 6: Image segmentation - Statistical shape model

Week 7: Image segmentation – PDE based methods

Week 8: Image segmentation – application and demonstration

Week 9: Computer Aided Diagnosis – Case Study 1

Week 10: Computer Aided Diagnosis – Case Study 2

Week 11: Deep Learning for Medical image analysis – 3D Convolutional Neural Networks

Week 12: Deep Learning for Medical image analysis – Generative models for synthetic data

Course Provider	**:**	NPTEL
Professor	**:**	Prof. Ganapathy Krishnamurthi
University	**:**	IIT Madras

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS411	Reinforcement Learning	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Contents

Week 1 Introduction

Week 2 Bandit algorithms – UCB, PAC

Week 3 Bandit algorithms –Median Elimination, Policy Gradient

Week 4 Full RL & MDPs

Week 5 Bellman Optimality

Week 6 Dynamic Programming & TD Methods

Week 7 Eligibility Traces

Week 8 Function Approximation

Week 9 Least Squares Methods

Week 10 Fitted Q, DQN & Policy Gradient for Full RL

Week 11 Hierarchical RL

Week 12 POMDPs

Course Provider : NPTEL
Professor : Prof. Balaraman Ravindran
University : IIT Madras

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS412	Applied Accelerated Artificial Intelligence	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Outcomes

CO Nos	Course Outcomes	Skill Level (Based on revised Bloom's Taxonomy)
CO1	Understand the components of AI system hardware, including CPU, RAM, GPU, interconnects, storage, and network controllers,IDEs for AI development	K2
CO2	Apply accelerated machine learning techniques to train models on large datasets and network inference in PyTorch and TensorFlow	K3
CO3	Apply automated mixed precision techniques to optimize deep learning training and improve efficiency.	K3
CO4	Apply AI techniques to solve specific challenges related to Smart City infrastructure, services, and urban planning.	K3

Correlation of COs with Program outcomes and Programme Specific Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	3	2				1					1	2	2
CO2	1	1	3						2					1	
CO3	1	2	1	2	1			1				3	1	2	2
CO4	1		1	2											

Course Contents

Week 1: Introduction to AI System Hardware CPU, RAM, GPU, Interconnects, Storage, Network Controller; Introduction to AI Accelerators GPUs (Lecture); Introduction to System Software Operating System, Virtualization, Cloud; (Lecture)

Week 2: Introduction to Containers and IDE (Jupyter Demo) (Lecture + Demo); Scheduling and Resource Management Introduction to schedulers and orchestration tools (Lecture); DeepOps: Deep-dive into Kubernetes with deployment of various AI-based services (Lecture + Demo)

Week 3: DeepOps (contd) (Lecture + Demo); Design principles for building High Performance compute clusters for AI (Lecture); Implementation details for building High Performance compute clusters for AI (contd) (Lecture)

Week 4: Frameworks for Accelerated Deep Learning Workloads - PyTorch (Lecture); Frameworks for Accelerated Deep Learning Workloads - PyTorch (contd) (Lecture + Demo); Accelerated PyTorch (Lecture + Demo)

Week 5: Frameworks for Accelerated Deep Learning Workloads - TensorFlow (Lecture); Frameworks for Accelerated Deep Learning Workloads - TensorFlow (contd) (Lecture + Demo); Accelerated TensorFlow (Lecture + Demo)

Week 6: Optimizing Deep Learning Training: Automated Mixed Precision (Lecture + Demo); Optimizing Deep Learning Training: Transfer Learning (Lecture + Demo)

Week 7: Fundamentals of Distributed AI Computing: Multi-GPU and multi-node implementation (MPI, NCCL, RDMA) (Lecture); Distributed AI Computing: Horovod (Lecture + Demo)

Week 8: Challenges with Distributed Deep Learning Training Convergence (Lecture + Demo); Fundamentals of Accelerating Deployment (Lecture + Demo)

Week 9: Accelerating neural network inference in PyTorch and TensorFlow (Lecture + Demo); Accelerated Data Analytics (Lecture + Demo); Accelerated Machine Learning (Lecture + Demo)

Week 10: Scale Out with DASK; Web visualizations to GPU accelerated crossfiltering (Lecture + Demo); Accelerated ETL Pipeline with SPARK

Week 11: Applied AI: Smart City (Intelligent Video Analytics); Applied AI: Smart City (Intelligent Video Analytics) (Contd.)

Week 12: Applied AI: Healthcare (Federated Learning, AI Assisted Annotation); Applied AI: Healthcare (Federated Learning, AI Assisted Annotation)

Course Provider	**:**	NPTEL
Professor	**:**	Prof. Satyajit Das Prof. Satyadhyan Chickerur Prof. Bharatkumar Sharma Prof. Adesuyi Tosin Prof.Ashrut Ambastha
University	**:**	IIT Palakkad, KLE Technological University, NVIDIA, Kumoh National Institute of Technology, NVIDIA

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS413	Design & Implementation Of Human-Computer Interfaces	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Contents

Week 1: Introduction

Week 2: Identification of usability requirements I

Week 3: Identification of usability requirements II

Week 4: Usable interface design

Week 5: Rapid usability evaluation

Week 6: Converting design to system I

Week 7: Converting design to system II

Week 8: System implementation I

Week 9: System implementation II

Week 10:System implementation III

Week 11: Empirical usability evaluation

Week 12: Conclusion

Course Provider : NPTEL
Professor : Prof. Samit Bhattacharya
University : IIT Guwahati

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS414	Introduction To Haskell Programming	10	-	1

Course Category:

Independent Learning (Self - Learning Course)

Course Outcomes

CO Nos	Course Outcomes	Skill Level (Based on revised Bloom's Taxonomy)
CO1	Demonstrate understanding of how to structure programs involving elementary Haskell techniques, functions and execute them using GHCi interpreter	K3
CO2	Utilize standard combinators for operating on lists, strings, tuples and polymorphism to solve complex problems	K3
CO3	Implement given problem scenario using higher order functions, lazy execution and infinite data structures	K3
CO4	Apply conditional polymorphism, user defined data types for building rapid prototypes	K3
CO5	Design solutions for real world problems using functional paradigm and arrays	K3

Correlation of COs with Program outcomes and Programme Specific Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	2									2		
CO2	2	3	2	2									2		
CO3	3	3	2	3									3		
CO4	2	2	1	3									2		
CO5	2	3	3	2									2	3	3

Course Contents

Week 1: Introduction to Haskell and the ghci interpreter

Week 2: Defining functions: guards, pattern matching and recursion

Week 3: Lists, strings and tuples

Week 4:Types and polymorphim

Week 5: Higher order functions on lists: map, filter, list comprehension

Week 6: Computation as rewriting, lazy evaluation and infinite data structures

Week 7: Conditional polymorphism and type classes

Week 8: User defined datatypes: lists, queues, trees

Week 9: Input/output and the ghc compiler

Week 10: Arrays

.

Course Provider	**:**	NPTEL
Professor	**:**	Prof.Madhavan Mukund Prof.S P Suresh
University	**:**	Chennai Mathematical Institute

Total: 15 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS415	Pattern Recognition And Application	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Contents

Week 1 : Introduction

Feature Extraction - I

Feature Extraction - II

Week 2 : Bayes Decision Theory - I

Bayes Decision Theory - II

Week 3 : Normal Density and Discriminant Function - I

Normal Density and Discriminant Function - II

Bayes Decision Theory - Binary Features

Week 4 : Maximum Likelihood Estimation

Probability Density Estimation - I

Week 5 : Probability Density Estimation - II

Probability Density Estimation - III

Probability Density Estimation - IV

Week 6 : Dimensionality Problem

Multiple Discriminant Analysis

Week 7 : Principal Component Analysis - Tutorial

Multiple Discriminant Analysis - Tutorial

Perceptron Criteria - I

Week 8 : Perceptron Criteria - II

MSE Criteria

Week 9 : Linear Discriminator Tutorial

Neural Network - I

Neural Network - II

Week 10 : Neural Network -III/ Hopefield Network

RBF Neural Network – I

Week 11 : RBF Neural Network - II

Support Vector Machine

Clustering -I

Week 12 : Clustering -II

Clustering -III

Course Provider : NPTEL
Professor : Prof. Prabir Kumar Biswas
University : IIT Kharagpur

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS416	Social Networks	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Contents

Week1: Introduction
Week 2: Handling Real-world Network Datasets
Week 3: Strength of Weak Ties
Week 4: Strong and Weak Relationships (Continued) & Homophily
Week 5: Homophily Continued and +Ve / -Ve Relationships
Week 6: Link Analysis
Week 7: Cascading Behaviour in Networks
Week 8: Link Analysis (Continued)
Week 9: Power Laws and Rich-Get-Richer Phenomena
Week 10: Power law (contd..) and Epidemics
Week 11: Small World Phenomenon
Week 12: Pseudocore (How to go viral on web)

Course Provider : NPTEL
Professor : Prof. S. R.Sudarshan Iyengar
University : IIT Ropar

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS417	Introduction To Industry 4.0 And Industrial Internet Of Things	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Contents

Week 1: Introduction: Sensing & actuation, Communication-Part I, Part II, Networking-Part I, Part II
Week 2: Industry 4.0: Globalization, The Fourth Revolution, LEAN Production Systems
Week 3: Industry 4.0: Cyber Physical Systems and Next Generation Sensors, Collaborative Platform and Product Lifecycle Management
Week 4: Cybersecurity in Industry 4.0, Basics of Industrial IoT: Industrial Processes-Part I, Part II, Industrial Sensing & Actuation
Week 5: IIoT-Introduction, Industrial IoT: Business Model and Referece Architerture: IIoT-Business Models-Part I, Part II, IIoT Reference Architecture-Part I, Part II.
Week 6: Industrial IoT- Layers: IIoT Sensing-Part I, Part II, IIoT Processing-Part I, Part II, IIoT Communication-Part I.
Week 7: Industrial IoT- Layers: IIoT Communication , IIoT Networking-Part I, Part II, Part III.
Week 8: Industrial IoT: Big Data Analytics and Software Defined Networks: IIoT Analytics - Introduction, Machine Learning and Data Science Part I, Part Il
Week 9: Industrial IoT: Big Data Analytics and Software Defined Networks: SDN in IIoT-Part I, Part II, Data Center Networks, Industrial IoT
Week 10: Industrial IoT: Security and Fog Computing - Fog Computing in IIoT, Security in IIoT-Part I, Part II, Industrial IoT- Application Domains
Week 11: Industrial IoT- Application Domains: Healthcare, Power Plants, Inventory Management & Quality Control, Plant Safety and Security (Including AR and VR safety applications), Facility Management.
Week 12: Industrial IoT- Application Domains: Oil, chemical and pharmaceutical industry, Applications of UAVs in Industries, Real case studies

Course Provider : NPTEL
Professor : Prof. Sudip Misra
University : IIT Kharagpur

Total: 30 Hours

COURSE CODE	COURSE TITLE	W	H	C
60224CS418	Privacy and Security in Online social media	12	-	2

Course Category:

Independent Learning (Self - Learning Course)

Course Outcomes

CO Nos	Course Outcomes	Skill Level (Based on revised Bloom's Taxonomy)
CO1	Interpret the importance of data in social media and it's associated vulnerabilities	K2
CO2	Construct the importance of security in social media with preventive and detective controls	K3
CO3	Understand the online social media privacy and policing procedures	K2
CO4	Identify the impact of information revelation and it's association with phishing	K3

Correlation of COs with Program outcomes and Programme Specific Outcomes:

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1		M		M											M
CO2	M	H	M	H										M	
CO3		M				M	M								M
CO4	M	M			M		M							M	

Course Contents

Week 1: What is Online Social Networks, data collection from social networks, challenges, opportunities, and pitfalls in online social networks, APIs

Week 2: Collecting data from Online Social Media.

Week 3: Trust, credibility, and reputations in social systems

Week 4: Trust, credibility, and reputations in social systems

Week 5: Online social Media and Policing

Week 6: Information privacy disclosure, revelation and its effects in OSM and online social networks

Week 7: Phishing in OSM & Identifying fraudulent entities in online social networks

Week 8: Refresher for all topics

Week 9 to 12: Research paper discussion

Course Provider : NPTEL
Professor : Prof.Raghunathan Rengasamy
Prof. Shankar Narasimhan
University : IIT Madras

Total: 30 Hours

Academic Year: 2023-2024
Semester : Summer

COURSE CODE	COURSE TITLE	W	H	C
60224CS419	Data Science for Engineers	8	-	1

Course Category:

Independent Learning (Self - Learning Course)

Course Contents

Week 1: Course philosophy and introduction to R
Week 2: Linear algebra for data science-1. Algebraic view - vectors, matrices, product of matrix & vector, rank, null space, solution of over-determined set of equations and pseudo-inverse) ,2. Geometric view - vectors, distance, projections, eigenvalue decomposition
Week 3: Statistics (descriptive statistics, notion of probability, distributions, mean, variance, covariance, covariance matrix, understanding univariate and multivariate normal distributions, introduction to hypothesis testing, confidence interval for estimates)
Week 4: Optimization
Week 5:1. Optimization,2. Typology of data science problems and a solution framework
Week 6: 1. Simple linear regression and verifying assumptions used in linear regression ,2. Multivariate linear regression, model assessment, assessing importance of different variables, subset selection
Week 7: Classification using logistic regression
Week 8: Classification using kNN and k-means clustering

Course Provider : NPTEL
Professor : Prof. Ponnurangam Kumaraguru
University : IIT Delhi

Total: 15 Hours

Gist of BoS – M.B.A.

The 26th Board of Studies (BoS) of Department of Management studies was held on March 27, 2023 from 9 AM onwards. BoS Chairman greeted the members of the 26th BoS. Further, chairman presented the department's academic growth initiatives, student accomplishments, and faculty accomplishments of the department. Following that BoS chairman presented the confirmation of the 25th BoS meeting minutes held on 13.08.2022 and also action taken report of the 25th BoS meeting. The following agenda items were discussed and approved in the BoS.

The syllabus for the first semester of the Batch 2023-25 and the third semester of the Batch 2022-24 under PG Regulations VTR PGM – 2021 were presented.

The Academic expert proposed the inclusion of "G20 policy" in the "International Business Management" course.

The Board approved the addition of new courses in the Digital Marketing specialization, such as "Search Engine Optimization", "Content Marketing", and "Digital Marketing Services."

In the Business Analytics specialization, members suggested to incorporate "Database Management System" as one of the topics under the course "Data Mining and Business Intelligence" instead of having DBMS as a separate course.

The board approved and appreciated for the inclusion of new course titled "Basics of Functional Analytics" in the Business Analytics specialization which covers different functional analytics such as People Analytics, Marketing Analytics, Financial Analytics, and Supply Chain Analytics.

The BoS members suggested to incorporate the below topics

- "Performance Improvement Plan (PIP)" in "Performance Appraisal and Management" course
- "Career Mobility Framework" and "Exit Strategy" in "Human Resource Management" course
- "Business Partnering" as a topic in "Talent and Knowledge Management" course
- ONDC (Open Network for Digital Commerce) and the National Logistics Policy in "Logistics and Supply Chain Management" course
- Google Data Studio" and "Power BI" as experimental components in "Information Technology for Business (Laboratory)" course

The members suggested to remove "Training on Advanced Competency Development" from the "IPR Management Training on Advanced Competency Development" course in the Technopreneurship specialization.

The BOS recommended to change the course title as "Digital Innovations" instead of "Digital Marketing of Innovations."

The BOS members suggested that students can choose any management course with at least 2 credits from SWAYAM and similar MOOC platforms for the academic year 2023-24.

The board approved to conduct one week bridge course for the non-commerce and non-management stream students to create the basic understanding about accountancy, economics, and basics of management.

Minutes

of

24th Meeting of the Research Board

Date: 02-06-2023

Time: 03.00 P.M

Venue: Video Conferencing Mode

Ref No: VTU / Research Board / 2023/ dt.02.06.2023

Date and Time	**:**	02.06.2023 / 3.00 P.M – 5.00 P.M
Location of Meeting	**:**	Video Conferencing Mode

Members Present:

1.	Prof. Dr. S.Salivahanan	Vice Chancellor - Chairman
2.	Prof. Dr. E. Kannan	Registrar - Member
3.	Prof. . Dr. A. T. Ravichandran	Dean, Academics - Member
4.	Prof. Dr. P. Chandrakumar	Dean, R &D- Member
5.	Prof. Dr. Valarmathi R S	Dean, SoEC - Member
6.	Prof. Dr. N. Kumarappan	Annamalai University - Member
7.	Prof. Dr. S. Rajaram	Thiagarajar College of Engineering–Member
8.	Prof. Dr. R. Sivaraman	Controller of Examinations – Special Invitee
9.	Dr. K. Jagajjanani Rao	Dean (Academic Research) - Secretary

Items for Consideration

Item No 24.1: To consider the status of applications received for the admission of Ph.D. Programme for National Admission of Summer Session of the Academic Year 2023-24.

Discussion:
The Dean, Academic Research presented the details of applications received for Ph.D. Programme for the national admission of the summer session of the academic year 2023-24 and presented that the number of applications received is 74 as given in Table 1.

Table 1: Details of applications received

DEPARTMENT	Vacancy	Applied	Mode of study		Male	Female
			Full Time	Part Time		
AERO	11	3	2	1	2	1
CIVIL	20	6	1	5	3	3
MECH	157	7	0	7	7	0
IT	6	1	0	1	0	1
CSE	108	15	1	14	14	1
ECE	143	10	2	8	5	5
EEE	7	1	1	0	1	0
BIOTECH	25	2	2	0	1	1
ENGLISH	0	3	1	2	2	1
MATHS	62	16	8	8	3	13
PHYSICS	45	2	1	1	0	2
CHEMISTRY	67	8	5	3	6	2
TOTAL	**651**	**74**	**24**	**50**	**44**	**30**

Action:

After the discussion with the research board, 74 applications were approved for scrutiny process and provisional admission to the Ph.D programme of the summer session of the academic year 2023.24.

Items for Discussion

Item No.: 24.2 To discuss and approve the Proposed Amendments of Regulation 2021.

Discussion:

The Amendments of Ph.D. Regulations VTR 2021-DR were proposed and presented by Dean, Academic Research for discussion. The revised clauses in the proposed regulation are listed in Table 2.

Table 2: Amendments Clause in Proposed VTR 2021- DR

Clause	VTR DR- 2021	Amendments of VTR 21- DR
6.2	Any regular Professor with at least five research publications in refereed journals out of which two post Ph.D. publications / any regular Associate Professor / Assistant Professor with at least three / two research publications in refereed journals out of which one post Ph.D. publication may be recognized as Research Supervisor. At least one journal paper should be indexed by SCI / SCIE as a **first / second author** and the remaining journal papers must be indexed by SCI / SCIE / SCOPUS as a first / second author.	Any regular Professor with at least five research publications in refereed journals out of which two post Ph.D. publications / any regular Associate Professor / Assistant Professor with at least three / two research publications in refereed journals out of which one post Ph.D. publication may be recognized as Research Supervisor. At least one journal paper should be indexed by SCI / SCIE as a any **author position** and the remaining journal papers must be indexed by SCI / SCIE / SCOPUS and preferably he should be a **Corresponding author**.
9.8	The list of registered candidates with particulars of their topic of research, supervisor, and date of enrollment / registration will be placed in Institution website.	9.8 will be extended with….. **"During supervisor/s allotment, the candidate's preference in the application form (if mentioned) may be considered based on the availability by DRC"**
10.1	**Research and Publication Ethics** (RPE) - The two credit course is made compulsory, to create awareness about publication ethics and publication misconducts for all Ph.D. scholars along with course work. **Research Methodology** which includes quantitative methods, computer applications and research ethics for 4 credits.	Feasibility of completing compulsory courses (Research and Publication Ethics and Research Methodology) for Ph.D scholars though **Swayam NPTEL platform**
10.3	The prescribed course work shall normally be completed within **one year** from the date of provisional registration in the case of full-time research scholars and **two years** in the case of part-time research scholars.	**After completion** of the allotted course work (usually within 2 semesters), the research scholar allowed for an **open presentation** in the institute detailing his problem statement. He/she will finalize his tentative working title and should submit a 10 page report/~2000 words of the proposed work with expected outcomes to the Research Office. If PhD student fails to complete his/her course work in 2 semesters; his/her tenure is by default extended **compensating for the semester delay**.
13.2	After satisfactory completion of course work of required credits & CGPA and research work, scholar shall produce draft thesis / dissertation shall in reasonable time as indicated in clause 10.	Possibility of adding a point regarding - **two international conference contributions by Ph.D. students during their programme period.**
15.3	In all the above cancellation cases, the fees paid by the research scholar shall not be refunded.	If a full-time candidate wants to relieve in between the program in an exceptional case, what about the fellowship paid to him by the institute.

Action:

As per clause 6.2 is concerned, the members of the research board suggested specifying that for Professor/Associate Professor/Assistant Professor with at least one journal paper should be indexed by SCI/SCIE as any author position (1 to 4) to get the supervisor recognition. The remaining journal papers must be indexed by SCI/SCIE /SCOPUS.

As per clause 9.8 is concerned, the members of the research board suggested that it is not necessary to amend it. Instead, the research board members were advised to give firm instructions to Department Research Committee.

As per clause 10.1 is concerned, the members of the research board suggested it is not necessary to complete the Ph.D. courses (Research and Publication Ethics and Research Methodology) through the Swayam NPTEL platform. Instead, they have suggested that the stated course can be completed through the institute as usual in current practice.

As per clause 10.3 is concerned, the members of the research board suggested amending Regulation 2021. Further, they have suggested the coursework allotted to Ph.D. students should be completed within 3 semesters or 2 consecutive semesters.

As per clause 13.2 is concerned, the members of the research board suggested amending Regulation 2021.

As per clause 15.3 is concerned, the members of the research board suggested that it is not necessary to amend. Instead, the research board members advised that Department Research Committee will take a decision based on the Research Scholar's work or legal bond guidelines may be developed upon consultation with management and higher officials.

Item No.: 24.3 To discuss about RAC meeting frequency and feasibility rules for online mode conducting.

Discussion:

The Dean, Academic Research presented the proposal for RAC meeting frequency and feasibility rules for online mode.

Action:

The research board suggested that, three physical meetings as follows

1. After the completion of coursework, 2. For Synopsis Meeting, 3. For Pre-viva / Viva presentation.

The research board suggested that, online meetings as follows

1. First RAC Meeting for coursework 2. For Synopsis recommendation Meeting. 3. Periodic RAC meetings can be scheduled online to monitor the progress of the student based on the RAC's decision.

Item No.: 24.4 To discuss and approve alternative for one Scopus Publication for the Ph.D. scholars of the Department of Law, English and MBA.

Discussion:

The Dean, Academic Research explained the difficulties involved in the Scopus publication by the Department of Law, English, MBA and sought a grant of Exemption from Scopus Publication in respect of Ph.D. scholars.

Action:

Most of the members have suggested that the relaxation may be permitted for only Law and English. The Research Board resolved to grant exemption from one scopus publication to the department of Law and English; instead of one scopus 2 UGC Care Journals are recommended.

The Research Board members have suggested that the relaxation may not be permitted now for the Department of MBA.

Item No.: 24.5 To discuss about directions to be followed for the Ph.D. candidates placed under the DORMANT category and to finalize the time period for this category.

Discussion:

The Dean, Academic Research presented the case of the Ph.D. candidates placed under the DORMANT category to finalize the time period for this category, as given in Table 3.

Table 3: Ph.D. candidates placed under the DORMANT category.

S.No.	VTD No.	Name of the Research Scholar	Dept.	Date of Admission	Mode of Study	No.of Semester in Dormant
1	296	Hari Babu Dasari	ECE	04-05-2014	PT-EXTERNAL	5
2	346	Mohan K N	MECH	24-05-2015	PT-EXTERNAL	5
3	432	Sunildevajosh	CIVIL	06-04-2017	PT-EXTERNAL	5
4	455	Sudharshan Kottha	EEE	06-04-2017	PT-EXTERNAL	5
5	456	Santhosh Kumar Edukulla	EEE	06-04-2017	PT-EXTERNAL	5
6	460	Devendra O. Rapelli	ECE	06-04-2017	PT-EXTERNAL	5
7	465	T.Ramakrishnaiah	ECE	06-04-2017	PT-EXTERNAL	5
8	511	Sivakalyani Pappuru	ECE	20-09-2017	PT-EXTERNAL	5
9	515	C.H.Shashi Dhar	EEE	20-09-2017	PT-EXTERNAL	5
10	572	K.Sudarshan Reddy	EEE	24-01-2018	PT-EXTERNAL	5
11	573	Sreekanth Tummala	EEE	24-01-2018	PT-EXTERNAL	5
12	650	Immandi Solomon Raju	EEE	20-12-2018	PT-EXTERNAL	5
13	657	Sateesh Amarneni	ECE	20-12-2018	PT-EXTERNAL	5
14	712	Manikandan R	ENGLISH	12-07-2019	PT-EXTERNAL	5
15	724	Santhosh Kumar Rajamahendravarapu	MECH	12-07-2019	PT-EXTERNAL	5
16	738	Prashant Bharat Maitreya	MECH	23-09-2019	PT-EXTERNAL	5
17	757	M.Sakthivel	CSE	10-01-2020	PT - INTERNAL	5
18	759	Thota Chaithanya	ECE	10-01-2020	FULL TIME	5
19	762	Naresh Bopparathi	ECE	10-01-2020	PT-EXTERNAL	5
20	776	Kadhiri Hareesh Kumar Reddy	MBA	10-01-2020	PT-EXTERNAL	5
21	833	Navakishor Vadla	CSE	23-09-2020	PT-EXTERNAL	5
22	834	P Swathy	CSE	28-09-2020	PT-EXTERNAL	5
23	837	B Jagadeesh	EEE	23-09-2020	PT-EXTERNAL	5
24	850	T Chakrapani	ECE	23-09-2020	PT-EXTERNAL	5
25	852	G Krishna Murthy	ECE	23-09-2020	PT-EXTERNAL	5
26	901	Vinodh Kumar G	Aero	26-02-2021	FULL TIME	5
27	908	Aakavaram Raj Kumar	CIVIL	26-02-2021	PT-EXTERNAL	5
28	921	Budati Nagaveni	CSE	26-02-2021	PT-EXTERNAL	5
29	932	Mohammad Khadir	ECE	26-02-2021	PT-EXTERNAL	5
30	935	Sushma Suram	ECE	26-02-2021	PT-EXTERNAL	5
31	939	Kruttiventi A Manjusha	ECE	26-02-2021	PT-EXTERNAL	5
32	940	Pappathi N A	ECE	26-02-2021	PT-EXTERNAL	5

33	962	Ravichandran	MECH	26-02-2021	PT-EXTERNAL	5
34	977	M. Karthick	MBA	22.03.2021	PT - INTERNAL	5
35	984	Paranthaman.S	Chemistry	28-08-2021	PT-EXTERNAL	5
36	992	Florence S	CSE	03-09-2021	PT - INTERNAL	5
37	995	Nagendra Babu Rajaboina	CSE	28-08-2021	PT-EXTERNAL	5
38	1014	K.Sofiya	Law	28-08-2021	PT-EXTERNAL	5
39	1015	G Arunachala Boopathy	Maths	28-08-2021	FULL TIME	5
40	349	Darsi Krishnaiah	MECH	08-08-2015	PT-EXTERNAL	4
41	377	Suresh M	CSE	13-08-2016	PT-EXTERNAL	4
42	403	Kilari Kumar	EEE	11-12-2016	PT-EXTERNAL	4
43	405	Kannan G	AERO	11-12-2016	PT-EXTERNAL	4
44	429	P Sai Prasad	ECE	02-11-2017	PT-EXTERNAL	4
45	457	V Sreepathi	ECE	06-04-2017	PT-EXTERNAL	4
46	518	Anjaneyulu Nelluru	CSE	20-09-2017	PT-EXTERNAL	4
47	523	Amol Ashok Kamble	CIVIL	20-09-2017	PT-EXTERNAL	4
48	528	Samleti Sandeep Dwarkanath	CSE	20-09-2017	PT-EXTERNAL	4
49	540	Bussa Ashreetha	ECE	20-09-2017	PT-EXTERNAL	4
50	549	Ganga Ramesh	ECE	20-09-2017	PT-EXTERNAL	4
51	583	Sarvepalli Sandeep	ECE	24-01-2018	PT-EXTERNAL	4
52	584	Bala Murali.P	MECH	24-01-2018	PT-EXTERNAL	4
53	593	Rajnikant Kundlik Narwade	CSE	25-06-2018	PT-EXTERNAL	4
54	601	E Krishna Rao Patro	CSE	25-06-2018	PT-EXTERNAL	4
55	606	Surwase Atul Bhimrao	ECE	25-06-2018	PT-EXTERNAL	4
56	620	Sathesh Kumar A	MECH	25-06-2018	PT - INTERNAL	4
57	627	Anil Babu.Seelam	AUTO	20-12-2018	PT-EXTERNAL	4
58	633	Duvvi Varaha Shanmukesh	CIVIL	20-12-2018	PT-EXTERNAL	4
59	659	Aglave Prashant Navnath	ECE	20-12-2018	PT-EXTERNAL	4
60	707	Vara Venkatakrishnareddy	EEE	12-07-2019	PT-EXTERNAL	4
61	732	Swapnil Chandgude	MECH	23-09-2019	PT-EXTERNAL	4
62	750	Raja R	CSE	10-01-2020	PT-EXTERNAL	4
63	760	T.Srikanth Reddy	ECE	10-01-2020	PT-EXTERNAL	4
64	791	Velu S	MECH	10-01-2020	PT - INTERNAL	4
65	819	Anil Sangappa Ligade	CIVIL	23-09-2020	PT-EXTERNAL	4
66	822	Santosh Madeva Naik	MECH	24-09-2020	PT-EXTERNAL	4
67	829	Hema P Mahajan	CSE	28-09-2020	PT-EXTERNAL	4
68	839	Mavuduru Sreenivasulu	EEE	02-11-2020	PT-EXTERNAL	4
69	448	R. Sathis Kumar	CSE	06-04-2017	PT-EXTERNAL	2
70	477	Ramakrishna Reddy E	ECE	06-04-2017	PT-EXTERNAL	2
71	507	Yadavalli Pavan Kumar	ECE	20-09-2017	PT-EXTERNAL	2
72	512	Shaik Rahil	ECE	20-09-2017	PT-EXTERNAL	2
73	568	Rajeshbabu Chitikena	ECE	24-01-2018	PT-EXTERNAL	2
74	580	Gawai Ujwal Samadhan	MECH	24-01-2018	PT-EXTERNAL	2
75	718	Nithyanandhan K	MATHS	12-07-2019	FULL TIME	2

76	796	Hanmant Dnayandeo Magar	CSE	31-01-2020	PT-EXTERNAL	2
77	870	Bhavya Gunashekar	LAW	24-09-2020	PT-EXTERNAL	2
78	917	Mediga Nagaseshudu	CSE	26-02-2021	PT-EXTERNAL	2
79	925	G Indumathi	EEE	26-02-2021	FULL TIME	2
80	997	S J Karthik Deep Yadav	CSE	28-08-2021	PT-EXTERNAL	2
81	1054	Harshavardhan V	CSE	08.01.2022	PT-EXTERNAL	2
82	1059	Arunbalaj A	EEE	08.01.2022	PT - EXTERNAL	2

Action:

The subject pertaining to the placing of research scholars under the Dormant category to discuss with the research supervisor and based on the recommendation may be cancelled.

Items for Record

Item No.: 24.6 To approve and record the vacancy positions of Research Supervisor for Summer Session of the Academic Year 2023-24.

Discussion:

The Dean, Academic Research presented the research supervisor vacancy positions for the Summer Session of the Academic Year 2023-24, as given in Table 4.

Table 4: Research Supervisor vacancy positions for the Summer Session of the Academic Year 2023-24.

DEPARTMENT	Research Supervisor Vacancy Positions
AERO	11
AUTO	4
CIVIL	20
MECH	157
IT	6
CSE	108
ECE	143
EEE	7
BIOTECH	25
BIOMEDICAL	17
ENGLISH	0
MATHS	62
PHYSICS	45
CHEMISTRY	67
LAW	0
MBA	0
TOTAL	**672**

Action:

The Board approved the Research Supervisor vacancy positions which are existing in various departments.

Item No.: 24.7 To approve and record the dates of Admission of Doctoral (Ph.D.) level Programmes in Engineering and Technology/ Science / Law/ Management / Arts for the Academic Year 2023 – 24.

Discussion:

The Dean, Academic Research presented the dates of Admission of Doctoral (Ph.D.) level Programmes in Engineering and Technology / Science / Law/ Management / Arts for the Academic Year 2023 – 24 and the details are given in Table 5.

Table 5: Important dates of Admission of Doctoral (Ph.D.) level Programmes in Engineering and Technology/ Science / Law/ Management / Arts for the Academic Year 2023 – 24.

Batch	Month & Year	Issue of Application	Last Date for Submission of Application	Entrance Examination	Interview	Certificate Verification and Admission
Summer Session	July 2023	01.04.2023	22.05.2023	10.06.2023	24.06.2023	08.07.2023
Winter Session	January 2024	02.10.2023	20.11.2023	09.12.2023	23.12.2023	08.01.2024

Action:

The Board has discussed the dates of Admission of Doctoral (Ph.D.) level Programmes in Engineering and Technology/ Science / Law/ Management / Arts for the Academic Year 2023 – 24 and resolved that the schedule presented, be approved.

Item No.: 24.8 To record the budget for the financial year 2023-24.

Discussion:

The Dean, Academic Research proposed the budget for the financial year 2023-24 as per Table 6 given below.

Table 6: Budget for the financial year 2023-24

S.No.	Particulars	Amount Required From April to June (WS2223 - 1/4/23 to 30/6/23)	Amount Required From July to November (SS2324 - 1/7/23 to 30/11/23)	Amount Required From December to March (WS2324 - 1/12/23 to 31/3/24)	Total
1	**G17 EVENTS ORGANISED**	20,000	40,000	40,000	1,00,000
	G69 RESEARCH STUDIES				

2	G20.1.3 VELTECH SCHOLARSHIP(PHD)				
3	G69.1.1 DC MEMBERS REMUNERATION- PHD	6,48,750	10,81,250	8,65,000	25,95,000
4	G69.1.2 INCIDENCIAL EXPENSES - PHD	0	0	0	0
5	G69.1.3 TRAVELLING ALLOWANCE -PHD [300 Km x Rs. 15 = Rs.4500]	6,53,625	10,89,375	8,71,500	26,14,500
6	G69.1.4 FULL TIME SCHOLARS STIPEND-PHD	53,10,000	1,09,55,000	1,00,27,000	2,62,92,000
7	G69.15 PRINTING AND STATIONERIES -PHD	10,000	20,000	20,000	50,000
8	G69.1.6 MISCELLANIOUS - PHD	10,000	20,000	20,000	50,000
Total (Rupees Three Crore Seventeen Lakhs and One Thousand Five Hundred Only)					**3,17,01,500**

Action:

The members of the research board approved the budget for the financial year 2023-24.

Item No.: 24.9 To approve and record the norms of Part-Time internal scholars conversion to Full-Time mode.

Discussion:

The Dean, Academic Research proposed the norms of Part-Time internal scholar's conversion to Full-Time mode.

Action:

The members of the research board approved the norms of Part-Time internal scholar's conversion to Full-Time mode.

Item for Ratification

Item No.: 24.10 To approve and ratify the decision taken with regard to recognition of faculty members to act as Research Supervisors as per the norms and Regulations.

Discussion:

Dean, Academic Research presented the list of faculty members who have submitted the applications for recognition of research supervisor and to consider them for Supervisorship to guide the Ph.D.scholars.The details of the submitted applications are given below in Table 7.

Table 7: Status of applications for supervisorship

S. No	Research Supervisor Recognition No.	Name of the Research Supervisor	Designation	Department	Remarks
1	37922.CV.23	Dr A Chithambar Ganesh	Associate Professor	Civil	Eligible
2	38023.CV.23	Dr K Nandhini	Assistant Professor	Civil	Eligible
3	36165.ME.22	Dr P Sathyaseelan	Assistant Professor	Mechanical	Eligible
4	37066.ME.23	Dr Harisivasri Phanindra K	Assistant Professor	Mechanical	Eligible
5	37167.ME.23	Dr B Murali	Assistant Professor	Mechanical	Eligible
6	39668.ME.23	Dr V Ramesh	Assistant Professor	Mechanical	Eligible
7	39769.ME.23	Dr S Jebarose Juliyana	Assistant Professor	Mechanical	Eligible
8	39870.ME.23	Dr V Balaji	Assistant Professor	Mechanical	Eligible
9	36258.CS.22	Dr N Rajkumar	Professor	CSE	Eligible
10	38463.CS.22	Dr M A Mukunthan	Professor	CSE	Eligible
11	36359.CS.22	Dr N K Senthil Kumar	Associate Professor	CSE	Eligible
12	36460.CS.22	Dr D Rajesh	Associate Professor	CSE	Eligible
13	36762.CS.22	Dr M S Arunkumar	Associate Professor	CSE	Eligible
14	38564.CS.22	Dr R Parthasarathy	Associate Professor	CSE	Eligible
15	38665.CS.22	Dr Ravikumar S	Associate Professor	CSE	Eligible
16	38766.CS.22	Dr K Seethalakshmi	Associate Professor	CSE	Eligible
17	38867.CS.22	Dr S Durai	Associate Professor	CSE	Eligible
18	39069.CS.22	Dr G Dhanabalan	Associate Professor	CSE	Eligible
19	39170.CS.22	Dr V Jeevanantham	Associate Professor	CSE	Eligible
20	39271.CS.22	Dr A Muthukrishnan	Associate Professor	CSE	Eligible
21	39372.CS.22	Dr M Sankar	Associate Professor	CSE	Eligible
22	39973.CS.22	Dr M Gokuldhev	Associate Professor	CSE	Eligible
23	40074.CS.22	Dr S Saravanan	Associate Professor	CSE	Eligible
24	40175.CS.22	Dr S N Manoharan	Associate Professor	CSE	Eligible
25	41679.CS.22	Dr M Arun	Associate Professor	CSE	Eligible
26	39473.CS.22	Dr Roselin Kiruba R	Assistant Professor	CSE	Eligible
27	39574.CS.22	Dr T Kamaleshwar	Assistant Professor	CSE	Eligible
28	41378.CS.22	Dr M Guru Vimal Kumar	Assistant Professor	CSE	Eligible
29	38968.CS.22	Dr M Thanjaivadivel	Associate Professor	CSE	Eligible
30	40203.IT.22	Dr U Vignesh	Associate Professor	IT	Eligible

31	41756.EC.22	Dr Hemakumar V S	Professor	ECE	Eligible
32	36548.EC.22	Dr Sreelakshmy R	Associate Professor	ECE	Eligible
33	36849.EC.22	Dr Nanmaran R	Associate Professor	ECE	Eligible
34	40350.EC.22	Dr B Ashvanth	Associate Professor	ECE	Eligible
35	40451.EC.22	Dr C Raja	Associate Professor	ECE	Eligible
36	40552.EC.22	Dr K Anandha Saravanan	Associate Professor	ECE	Eligible
37	41455.EC.22	Dr C Kanmani Pappa	Associate Professor	ECE	Eligible
38	41857.EC.22	Dr S Gopalakrishnan	Associate Professor	ECE	Eligible
39	369450.EC.22	Dr Aathmanesan T	Assistant Professor	ECE	Eligible
40	40653.EC.22	Dr Jency Rubia	Assistant Professor	ECE	Eligible
41	40754.EC.22	Dr Gulothungan G	Assistant Professor	ECE	Eligible
42	37215.EE.23	Dr S Sivakumar	Associate Professor	EEE	Eligible
43	41916.EE.22	Dr Pasupuleti Baburao	Assistant Professor	EEE	Eligible
44	40809.BI.22	Dr Jeyanthi Palanivelu	Assistant Professor	Biotechnology	Eligible
45	42010.BI.22	Dr S Chandramohan	Assistant Professor	Biotechnology	Eligible
46	38105.BT.23	Dr M Muthalakshmi	Assistant Professor	Biomedical	Eligible
47	38206.BT.23	Dr K Ganeshlenin	Assistant Professor	Biomedical	Eligible
48	37321.BS.23	Dr Aswathy M N	Assistant Professor	Chemistry	Eligible
49	37422.BS.23	Dr V Srinivasan	Assistant Professor	Chemistry	Eligible
50	37523.BS.23	Dr A Roniboss	Assistant Professor	Chemistry	Eligible
51	37624.BS.23	Dr A Silambarasan	Assistant Professor	Chemistry	Eligible
52	37725.BS.23	Dr S Sivakumar	Assistant Professor	Chemistry	Eligible
53	41522.BS.22	Dr C T Dora Pravina	Associate Professor	Mathematics	Eligible
54	38319.BS.23	Dr M Balamurugan	Assistant Professor	Mathematics	Eligible
55	41020.BS.22	Dr K Sathish Kumar	Assistant Professor	Mathematics	Eligible
56	41121.BS.22	Dr B Somasundaram	Assistant Professor	Mathematics	Eligible
57	42121.BS.22	Dr A Saranya	Assistant Professor	Physics	Eligible
58	42222.BS.22	Dr P Mohanraj	Assistant Professor	Physics	Eligible
59	37815.MS.23	Dr P Govindasamy	Associate Professor	Management	Eligible
60	NA	Dr. R Padmanaban	Associate Professor	CSE	Not Eligible
61	NA	Dr.S Saravanan	Associate Professor	CSE	Not Eligible
62	NA	Dr.P Govindasamy	Associate Professor	Management	Not Eligible
63	NA	Dr.S Alex David	Associate Professor	CSE	Not Eligible
64	NA	Dr.P Sivaprakash	Associate Professor	CSE	Not Eligible
65	NA	Dr.S Sridevi	Professor	CSE	Not Eligible
66	NA	Dr.A Bhagyalakshmi	Professor	CSE	Not Eligible
67	NA	Dr.V Kalpana	Associate Professor	CSE	Not Eligible
68	NA	Dr.Murali Dhar M S	Associate Professor	CSE	Not Eligible
69	NA	Dr.S Vinoth Kumar	Associate Professor	CSE	Not Eligible
70	NA	Dr.M Geetha Jenifel	Associate Professor	CSE	Not Eligible
71	NA	Dr.Dasari Naga Vinod	Assistant Professor	ECE	Not Eligible

Action:

It is submitted that out of 71 faculty members, 59 have fulfilled the eligibility norms as per the guidelines of Ph.D. Regulations. i.e. S.No 1 to 59. The faculty members S.No. from 60 to 71 have not fulfilled the norms. Therefore the faculty members from S.No. 60 to 71 are not considered for Supervisorship now.

The Board resolved to approve 59 faculty members by virtue of completion of norms be approved to be the research supervisors and the faculty members (S.No. 60 to 71) shall not be considered as research supervisors for not fulfilling the norms.

Any other items with the permission of the Chairperson.

Item No.: 23.14 Typo errors corrections in clause 12 VTDR 2021.

Discussion

With the permission of the Chairperson, the Dean, Academic Research discuss the typo errors corrections in clause 12 VTDR 2021.

Action:

After an elaborate discussion, the Board suggested carrying out the typo errors in Regulation VTDR 2021.

Item No.: 23.15 Possibility of first preference for research park faculty in allotting Ph.D. students.

Discussion

The Dean, Academic Research presented the first preference for research park faculty in allotting Ph.D. students.

Action:

After an elaborate discussion, the Board suggested it may be allowed based on their Research Area.

Item No.: 23.16 To discuss the Postdoc offering from the institute for exceptional candidates.

Discussion

The members have discussed the feasibility of starting the Post Doctoral Programmes at the Institution.

Action:

After an elaborate discussion, the Board suggested framing the eligibility norms for guides and post-doctoral fellows and submitting the same for discussion at the next meeting.

Item No.: 23.17 To discuss Allotment of additional scholars to the project awarded faculty.

Discussion

The members have discussed the Allotment of additional scholars to the project awarded faculty.

Action:

The Board resolved that one additional scholar may be allotted and guided by the faculty with one funded project.

Item No.: 23.17 To discuss Full-time Ph.D. scholars (all branches) stipend revision.

Discussion

The Dean, Academic Research presented the details as follows:

from Rs. 25000/- to Rs. 30000/- (with GATE/NET etc. score)

from Rs. 20000/- to Rs. 25000/- (non-GATE/SLET/NET score)

Action:

The Board resolved to take concern of the as Mangement to revise the stipend for Full Time Ph.D. Scholars. Mangement is planning for a revision in the winter session of the Academic Year 2023-24.

Policy for Identifying the Slow & Advanced Learners and Activities

Preamble:

In any educational institution, typically students who are having different learning abilities, say, slow learners and advanced learners. Identification of different level of learners is important for ensuring that all students receive a holistic education. The Institution needs to provide activities that support slow learners' learning and challenge advanced learners to ensure that both groups are engaged and making progress.

It is important to identify the strengths and weaknesses of students, and provide appropriate support & activities to help them to reach their potential. This will also aid teaching departments in providing effective mentoring and monitoring progress. By assessing the learning pace of each student, teacher can provide individualized support and guidance that meets student specific needs. It's important to recognize that different students learn at different speeds and in different ways, so a flexible and personalized approach to education is essential for ensuring student success.

Purpose

To ensure that all students receive a holistic education by, identifying the different level of learners and to provide them with appropriate activities.

Inputs Needed

The following inputs needs to be considered to identify the advanced and slow learners :

1. Pervious Semester End Examination (SE) Result
2. Performance in the current semester Continuous Evaluation Test 1 (CE)
3. Observation from the course faculty

Methods of Identification

By following a methodological approach to assess and identify the learning levels, a faculty can gain a better understanding of their students' strengths and weaknesses and provide targeted instruction to meet their needs.

The slow and advanced learners would be identified for each course separately by respective course faculty for all the programmes offered in the Institution.

- The Identification process can be done after the declaration of previous semester end examination (SE) result and the performance in the current semester Continuous Evaluation Test (CE) 1

The following parameters and weightages thereon would be considered

1. Performance in the current semester
   Continuous Evaluation Test – 1 : 50 %
2. Previous Semester End Examination Performance : 40 %
3. Observations by the Course Faculty : 10 %

A student who has secured 60% and above of total weightage will be considered as Advanced Learner and a student secured less than 50% weightage will be identified as Slow learner.

The weightage for the Semester End Examination (SE) may be calculated as follows:

If a student has cleared all registered courses, he/she will be given with full weightage ie., 40%. If he/she cleared 6 out 8 courses, he/she will be allotted with 30% ***((6/8) x 40%)*** and so on.

Activities for Slow Learners:

1. Peer learning model by forming a group 2 to 3 slow learners with one advanced learner in the particular course under the supervision of course faculty.
2. Provision of additional classes with min. of 10 – 12 periods for problem solving/ revision session.
3. Providing notes for easy understanding.
4. Makeup and demonstration classes for practical courses
5. Assignment in the form of solving previous semester end examination question papers of the same course
6. Counselling by senior faculty members in the department
7. Giving additional learning materials like question bank, university question papers etc.

Activities for Advanced Learners:

1. Enrichment activities: Guiding and encouraging to communicate research papers in Conferences/Seminars/Journals, and advanced coursework to provide opportunities to explore their interests and develop their skills.
2. Guiding the students for GATE/Competitive Examinations
3. Contribution in questionnaire preparation and conduction of case studies
4. Encouragement to complete NPTEL/Swayam and similar courses
5. Assistance for industry internships and field trainings
6. Provision to explore the talents through MoU's with reputed institutions

Roles and Responsibilities of Course faculty:

The course faculty is responsible for carrying out different aspects of Slow and Advanced learners of his/her course(s) including identification and activities to be conducted.

- ✓ Identification of slow and advanced learners
- ✓ Preparation of schedule for extra classes/problem solving sessions/revision
- ✓ Sessions for slow learners and maintenance of records
- ✓ Preparation of list of advanced assignments or task list for advanced learners
- ✓ Preparation of improvement reports
- ✓ Maintenance of activity outcome reports for slow and advanced learners

Documents to be maintained:

The following is the list of documents to be maintained:

- Course-wise list of slow learners and advanced learners
- Activity schedule and time table for slow learners
- List of activity task for advanced learners and the proof(s)
- Attendance records
- Question Bank and other materials provided
- Performance improvement reports

Measuring Outcome

It is important to measure the outcome of the activities provided to the different level of learners. The following methods shall be used to measure the outcome

Slow Learners

- Academic Progress in Continuous Evaluation Test 2 & 3
- Performance in the Semester End Examinations

Advanced Learners

- Participation/Winning awards in various events like Competitions/Seminar/ Workshop/Internship/Field Training/Industry or Research Project in campus or Abroad Universities, etc.,
- Publication of Research Papers in Journal
- Performance in GATE/Competitive Examinations
- Students entered in Higher Education in India or Foreign Universities
- Placement in Industries

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Date:
06-06-2023

The Academic Calendar for the Intensive Semester (June – August 2023)

B.Tech. – Final Year	INTENSIVE SEMESTER
Commencement of Intensive Semester Registration	10-Jun-23
Commencement of Course Registration	10-Jun-23
Commencement of Class Work	14-Jun-23
Last Date for Semester Registration	15-Jun-23
Last Instructional Day	23-Aug-23
Semester End Exam Timetable notification	01-Aug-23
Commencement of Semester End Practical	24-Aug-23
Commencement of Semester End Theory Examination	25-Aug-23
Declaration of Semester End Examination Results	One week from the date of Last Examination

*First and Third Saturday – Non Instructional day

9/6

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Dean - Academics
Vel Tech
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R&D Institute of Science and Technology
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S. Salivahanan

Prof. S. Salivahanan
Vice Chancellor
Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
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9/6/23
Prof. Dr. N. Lenin
Dean - School of Mechanical and Construction
Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
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Date: 06-06-2023

The Academic Calendar for the Academic Year 2023-24

ACADEMIC CALENDAR AY 2023-24		
B.Tech. – II & III YEAR (VTR UGE 2021)	**SUMMER SEMESTER**	**WINTER SEMESTER**
Commencement of Student Semester Registration	*15-Jun-23*	*15-Dec-23*
Commencement of Course Registration	*15-Jun-23*	*15-Dec-23*
Commencement of Class Work for III Year	*28-Jun-23*	*27-Dec-23*
Commencement of Class Work for II Year	*03 Jul-23*	
Last Date for Semester Registration	*05-Jul-23*	*03-Jan-24*
Last Date for Semester Registration with Late fee / Course Registration	*12-Jul-23*	*10-Jan-24*
Test - 1 (Theory Courses)	*07- Aug-23*	*05-Feb-24*
Mid Term Test - I (Integrated Courses)	*21-Aug-23*	*19-Feb-24*
Test -2 (Theory Courses)	*11-Sep-23*	*11-Mar-24*
Model-Practical Exam	*09-Oct-23*	*02-Apr-24*
Test-3 (Theory Courses) /	*16-Oct-23*	*12-Apr-24*
Mid Term Test - 2 (Integrated Courses)	*27-Oct-23*	*22-Apr-24*
Last Instructional Day	*02-Nov-23*	*27-Apr-24*
EXAMINATIONS		
Semester End Exam Timetable notification	*05-Oct-23*	*25-Mar-24*
Commencement of Semester End Practical/Viva-voce Examination	*06-Nov-23*	*30-Apr-24*
Commencement of Semester End Theory Examination	*15-Nov-23*	*09-May-24*
Declaration of Semester End Examination Results	*One week from the date of Last Examination*	*One week from the date of Last Examination*
HOLIDAYS		
LIST OF PUBLIC HOLIDAYS	AS PER TAMIL NADU STATE GOVERNMENT PUBLIC HOLIDAYS	
Commencement of the Next Academic Year (2024-25) is 27 June 2024 (Tentatively)		

*First and Third Saturday – Non Instructional day

Prof. Dr. N. Lenin
Dean - School of Mechanical and Construction

Prof. Dr. A.T. Ravichandran
Dean - Academics

Prof. S. Salivahanan
Vice Chancellor

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Date: 06.06.2023

The Academic Calendar for the Academic Year 2023-24

ACADEMIC CALENDAR		
AY 2023-24		
B.Tech. – IV YEAR (VTU R15)	**SUMMER SEMESTER**	**WINTER SEMESTER**
Commencement of Student Semester Registration	*15-Jun-23*	*15-Dec-23*
Commencement of Course Registration	*15-Jun-23*	*15-Dec-23*
Commencement of Class Work	*28-Jun-23*	*27-Dec-23*
Last Date for Semester Registration	*05-Jul-23*	*03-Jan-24*
Last Date for Semester Registration with late fee / Course Registration	*12-Jul-23*	*10-Jan-24*
Unit Test-1 / Project Review-1	*31-Jul-23*	*12-Feb-24*
Mid Term Test-1	*28-Aug-23*	-
Unit Test – 2 / Project Review – 2	*25-Sep-23*	*02-Apr-24*
Model Practical Exam	*16-Oct-23*	*15-Apr-24*
Mid Term Test – 2	*26-Oct-23*	-
Last Instructional Day	*02-Nov-23*	*27-Apr-24*
EXAMINATIONS		
Semester End Exam Timetable notification	*05-Oct-23*	*25-Mar-24*
Commencement of Semester End Practical/Viva-voce Examination	*06-Nov-23*	*30-Apr-24*
Commencement of Semester End Theory Examination	*15-Nov-23*	*09-May-24*
Declaration of Semester End Examination Results	One week from the date of Last Examination	One week from the date of Last Examination
HOLIDAYS		
LIST OF PUBLIC HOLIDAYS	AS PER TAMIL NADU STATE GOVERNMENT PUBLIC HOLIDAYS	
Commencement of the Next Academic Year (2023-24) is 27–JUNE-2024 (Tentatively)		

*First and Third Saturday – Non Instructional day

Prof. Dr. N. Lenin
Dean - School of Mechanical and Construction

Prof. Dr. A.T. Ravichandran
Dean - Academics

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Date: 07-06-2023

The Academic Calendar for the Academic Year 2023-24

ACADEMIC CALENDAR AY 2023-24		
M.B.A – Higher semester	**SUMMER SEMESTER**	**WINTER SEMESTER**
Commencement of Student Semester Registration	*02.08.23*	*11.01.24*
Commencement of Course Registration	*09.08.23*	*22.01.24*
Commencement of Class Work	*16.08.23*	*29.01.24*
Last Date for Semester Registration	*23.08.23*	*05.02.24*
Last Date for Semester Registration with Late fee / Course Registration	*30.08.23*	*12.02.24*
Test - 1	*29.09.23*	*19.02.24*
Test - 2	*15.11.23*	*11.03.24*
Test - 3	*06.12.23*	*25.03.24*
Summer internship/project review - 1	*20.09.23*	*22.04.24*
Summer internship/project review - 2	*25.11.23*	*16.05.24*
Model Viva-Voce	*14.12.23*	*24.05.24*
Last instructional day	*15.12.23*	*26.05.24*
EXAMINATIONS		
Semester End Exam Timetable notification	*14.11.23*	*12.04.24*
Commencement of Semester End Practical/Viva-voce Examination	*18.12.23*	*28.05.24*
Commencement of Semester End Theory Examination	*28.12.23*	*10.06.24*
Declaration of Semester End Examination Results	*One week from the date of Last Examination*	*One week from the date of Last Examination*
HOLIDAYS		
LIST OF PUBLIC HOLIDAYS	AS PER TAMIL NADU STATE GOVERNMENT PUBLIC HOLIDAYS	
Commencement of the Next Academic Year (2024-25) is 22 July 2024 (Tentatively)		

*First and Third Saturday – Non Instructional day

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Vice Chancellor

Prof. Dr.A.T. Ravichandran
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Date: 08-06-2023

The Academic Calendar for the Academic Year 2023-24

ACADEMIC CALENDAR AY 2023-24		
B. Sc. II & III YEAR (VTR UGAS 2021)	**SUMMER SEMESTER**	**WINTER SEMESTER**
Commencement of Student Semester Registration	*14-Jul-23*	*03-Jan-24*
Commencement of Course Registration	*19-Jul-23*	*08-Jan-24*
Commencement of Class Work	*24-Jul-23*	*18-Jan-24*
Last Date for Semester Registration	*31-Jul-23*	*22-Jan-24*
Last Date for Semester Registration with Late fee / Course Registration	*07-Aug-23*	*29-Jan-24*
Test - 1	*18-Sep-23*	*11-Mar-24*
Test -2	*13-Nov-23*	*29-Apr-24*
Model - Practical Exam	*27-Nov-23*	*20-May-24*
Test-3	*29-Nov-23*	*22-May-24*
Last Instructional Day	*01-Dec-23*	*31-May-24*
EXAMINATIONS		
Semester End Exam Timetable notification	*01-Nov-23*	*06-May-24*
Commencement of Semester End Practical/Viva-voce Examination	*04-Dec-23*	*03-Jun-24*
Commencement of Semester End Theory Examination	*18-Dec-23*	*19-Jun-24*
Declaration of Semester End Examination Results	*One week from the date of Last Examination*	*One week from the date of Last Examination*
HOLIDAYS		
LIST OF PUBLIC HOLIDAYS	AS PER TAMIL NADU STATE GOVERNMENT PUBLIC HOLIDAYS	
Commencement of the Next Academic Year (2024-25) is 22 July 2024 (Tentatively)		

*All Saturday – Non Instructional day

Prof. Dr. A.T. Ravichandran
Dean - Academics

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Date: 07-06-2023

The Academic Calendar for the Academic Year 2023-24

ACADEMIC CALENDAR		
AY 2023-24		
B. Com/B.B.A. – II YEAR & B.B.A. – III YEAR	**SUMMER SEMESTER**	**WINTER SEMESTER**
Commencement of Student Semester Registration	*14-Jul-23*	*03-Jan-24*
Commencement of Course Registration	*19-Jul-23*	*08-Jan-24*
Commencement of Class Work	*24-Jul-23*	*18-Jan-24*
Last Date for Semester Registration	*31-Jul-23*	*22-Jan-24*
Last Date for Semester Registration with Late fee / Course Registration	*07-Aug-23*	*29-Jan-24*
Test - 1	*18-Sep-23*	*11-Mar-24*
Test -2	*13-Nov-23*	*29-Apr-24*
Model - Practical Exam	*27-Nov-23*	*20-May-24*
Test-3	*29-Nov-23*	*22-May-24*
Last Instructional Day	*01-Dec-23*	*31-May-24*
EXAMINATIONS		
Semester End Exam Timetable notification	*01-Nov-23*	*06-May-24*
Commencement of Semester End Practical/Viva-voce Examination	*04-Dec-23*	*03-Jun-24*
Commencement of Semester End Theory Examination	*18-Dec-23*	*19-Jun-24*
Declaration of Semester End Examination Results	*One week from the date of Last Examination*	*One week from the date of Last Examination*
HOLIDAYS		
LIST OF PUBLIC HOLIDAYS	AS PER TAMIL NADU STATE GOVERNMENT PUBLIC HOLIDAYS	
Commencement of the Next Academic Year (2024-25) is 22 July 2024 (Tentatively)		

*All Saturday – Non Instructional day

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Date: 08-06-2023

The Academic Calendar for the Academic Year 2023-24

ACADEMIC CALENDAR AY 2023-24		
B. Com. – III YEAR	**SUMMER SEMESTER**	**WINTER SEMESTER**
Commencement of Student Semester Registration	*14-Jun-23*	*06-Dec-23*
Commencement of Course Registration	*21-Jun-23*	*11-Dec-23*
Commencement of Class Work	*28-Jun-23*	*27-Dec-23*
Last Date for Semester Registration	*05-Jul-23*	*03-Jan-24*
Last Date for Semester Registration with Late fee / Course Registration	*12-Jul-23*	*10-Jan-24*
Test - 1	*16-Aug-23*	*05-Feb-24*
Test - 2	*02-Oct-23*	*11-Mar-24*
Model-Practical Exam	*26-Oct-23*	*26-Apr-24*
Test - 3	*30-Oct-23*	*12-Apr-24*
Last Instructional Day	*08-Nov-23*	*06-May-24*
EXAMINATIONS		
Semester End Exam Timetable notification	*02-Oct-23*	*02-Apr-24*
Commencement of Semester End Practical/Viva-voce Examination	*01-Nov-23*	*08-May-24*
Commencement of Semester End Theory Examination	*20-Nov-23*	*20-May-24*
Declaration of Semester End Examination Results	*One week from the date of Last Examination*	*One week from the date of Last Examination*
HOLIDAYS		
LIST OF PUBLIC HOLIDAYS	AS PER TAMIL NADU STATE GOVERNMENT PUBLIC HOLIDAYS	
Commencement of the Next Academic Year (2024-25) is 12 June 2024 (Tentatively)		

*All Saturday – Non Instructional day

Prof. D. A. I. Ravichandran
Dean - Academics

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

S. Salivahanan

Prof. S. Salivahanan
Vice Chancellor

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

No.42, Avadi-Vel Tech Road, Vel Nagar, Avadi, Chennai – 600 062, Tamil Nadu, India. | Toll Free : 1800 212 7669
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06-06-2023

Date:

The Academic Calendar for the Academic Year 2023-24

ACADEMIC CALENDAR		
AY 2023-24		
B.A.LLB. / B.Com.LLB. – III, IV and V YEAR	**SUMMER SEMESTER**	**WINTER SEMESTER**
Commencement of Student Semester Registration	*19-Jun-23*	*13-Dec-23*
Commencement of Course Registration	*26-Jun-23*	*13-Dec-23*
Commencement of Class Work	*03 Jul-23*	*27-Dec-23*
Last Date for Semester Registration	*10-Jul-23*	*03-Jan-24*
Last Date for Semester Registration with Late fee / Course Registration	*17-Jul-23*	*10-Jan-24*
Unit Test	*07-Aug-23*	*11-Feb-24*
Mid Term Test	*18-Sep-23*	*18-Mar-24*
Project Work Presentation	*16-Oct-23*	*15-Apr-24*
Last Instructional Day	*02-Nov-23*	*27-Apr-24*
EXAMINATIONS		
Semester End Exam Timetable notification	*02-Oct-23*	*25-Mar-24*
Commencement of Semester End Practical/Viva-voce Examination	*06-Nov-23*	*29-Apr-24*
Commencement of Semester End Theory Examination	*15-Nov-23*	*09-May-24*
Declaration of Semester End Examination Results	*One week from the date of Last Examination*	*One week from the date of Last Examination*
HOLIDAYS		
LIST OF PUBLIC HOLIDAYS	AS PER TAMIL NADU STATE GOVERNMENT PUBLIC HOLIDAYS	
Commencement of the Next Academic Year (2024-25) is 27 June 2024 (Tentatively)		

*First and Third Saturday – Non Instructional day

S. Salivahanan

Prof. A. Subramaniyam
Dean School of Law

Prof. S. Salivahanan
Vice Chancellor

Vel Tech
Rangarajan Dr. Sagunthala
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Vel Tech
Rangarajan Dr. Sagunthala R&D Institute of Science and Technology
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Date: 06-06-2023

The Academic Calendar for the Academic Year 2023-24

ACADEMIC CALENDAR AY 2023-24		
B.A.LLB. / B.Com.LLB. – II YEAR	**SUMMER SEMESTER**	**WINTER SEMESTER**
Commencement of Student Semester Registration	*28-Jun-23*	*13-Dec-23*
Commencement of Course Registration	*28-Jun-23*	*13-Dec-23*
Commencement of Class Work	*12-Jul-23*	*03-Jan-24*
Last Date for Semester Registration	*19-Jul-23*	*10-Jan-24*
Last Date for Semester Registration with Late fee / Course Registration	*26-Jul-23*	*18-Jan-24*
Unit Test	*21-Aug-23*	*14-Feb-24*
Mid Term Test	*02-Oct-23*	*25-Mar-24*
Project Work Presentation	*25-Oct-23*	*15-Apr-24*
Last Instructional Day	*09-Nov-23*	*05-May-24*
EXAMINATIONS		
Semester End Exam Timetable notification	*02-Oct-23*	*08-Apr-24*
Commencement of Semester End Practical Examination	*13-Nov-23*	*07-May-24*
Commencement of Semester End Theory Examination	*23-Nov-23*	*21-May-24*
Declaration of Semester End Examination Results	*One week from the date of Last Examination*	*One week from the date of Last Examination*
HOLIDAYS		
LIST OF PUBLIC HOLIDAYS	AS PER TAMIL NADU STATE GOVERNMENT PUBLIC HOLIDAYS	
Commencement of the Next Academic Year (2024-25) is 27 June 2024 (Tentatively)		

*First and Third Saturday – Non Instructional day

Prof. A. Subramaniam
Dean School of Law

Prof. S. Salivahanan
Vice Chancellor
Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
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MINUTES OF THE 20th MEETING OF

INTERNAL QUALITY ASSURANCE CELL

Date: 29.04.2023

Time: 10.30 a.m.

Venue: International Conference Hall

Since 1997 25th ANNIVERSARY Vel Tech

No.42, Avadi-Vel Tech Road, Vel Nagar, Avadi, Chennai – 600 062

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MINUTES OF THE 20th MEETING OF THE INTERNAL QUALITY ASSURANCE CELL

Scheduled on 29.04.2023 at 10.30 A.M.

Venue: International Conference Hall

A. OPENING

20.1 Call to Order

Call to order for the 20th Meeting of the Internal Quality Assurance Cell (IQAC) on April 29, 2023.

20.2 To record the leave of absence of the members

Of the 25 members, one member, Mr. K. Venugopal, Six Sigma Leader, ZF Commercial Vehicle Control expressed his inability to attend the meeting.

Please refer to Appendix-1 (Page No. 13) for the members' attendance sheet.

20.3 To review the action taken on the decisions of the 19th Meeting of IQAC held on October 29, 2022

The Dean Quality Assurance has presented the action taken report of the 19th Meeting of IQAC. The following lists the findings and steps taken.

Agenda No.	Observations	Action Taken
19.4 (Faculty Feedback on Courses Handled)	❖ All the departments were informed to review, revise and update the relevance of course content and pre-requisites concerning learning outcome	❖ Based on revisions to the course content, a small number of courses had their course content changed and their prerequisites were updated and approved by the Board of Studies.
	❖ The library has to be expanded with a number of new volumes and titles in response to the implemented curriculum change. Likewise, to prepare the budget for the upcoming fiscal year, the	❖ Planned to procure required textbooks and reference books for the academic year 2023-24 and to propose the updated budget inclusive of the updated procurement to the Finance Committee.

	HoDs concerned must provide the librarian with the necessary information.	
	❖ To plan for additional classes with a special focus on handling problematic courses and completing the syllabus.	❖ Initiatives such as conducting additional classes and special sessions to handle problematic courses are implemented with a focus on completing the course content without affecting the regular class hours.
	❖ The provision of appropriate teaching aids for delivering the course as well as developing e-learning resources for the students has to be initiated.	❖ Faculty members are motivated to use different types of modern ICT tools to handle the courses for easy understanding of complex concepts. Measures have been initiated to develop the e-content.
	❖ Faculty should undergo FDP/ Workshop/ Seminar for handling the advanced courses as well as for those handling the course for the first time.	❖ The faculty members are motivated to undergo an advanced training program related to course handling during/before the start of the semester. Also, it is advised to complete the NPTEL certification related to the course
	❖ The effectiveness of continuous assessments w.r.t. measurement of Course Outcomes (COs) has to be continuously monitored	❖ The CO attainment calculation is carried out in every CIA and corrective action is taken for COs that are not attained
19.5 (Training &	❖ Placement training sessions including full	❖ Placement training sessions are being regularly carried out.

Placement)	stack development, and product development training are being conducted to train the students with focus on improving current year placement	More than 180 students were already placed in core companies with many dream offers for the 2022-23 batch. A few more company recruitment prospects are in progress.
	❖ It's important to collect and assess industry feedback on the students who were placed on campuses. Along with this, it is necessary to identify and welcome new industries who have not visited the campus for placement drives so far.	❖ Feedback is received from the industry about placed students and measures have been suggested for the current students who are recruited through campus placement drive. The recruiters who have not visited the institution earlier are being invited and measures are being taken to get in touch for regular placement in future.
	❖ To increase the perception of the institution, it has been decided to concentrate on informing the public about placement information all over the country through social media and national newspapers.	❖ The news and updates regarding the placements of the institution are circulated widespread in social media platforms and especially to the highly reputed organization personnels as well as national newspapers.
19.7 (Academic Research)	❖ Steps to initiate the increase in the admission of Ph.D. Scholars	❖ Measures are being taken to widen the perception of the institution inside and outside the country to attract the Full/Part time scholars.

20.4 Approval of Agenda of 20th Meeting of IQAC

The agenda of the 20th Meeting of IQAC was approved by the members.

Please refer to Appendix-2 (Page No. 14) for the Agenda of the 20th Meeting of IQAC.

B. ITEMS FOR DISCUSSION AND CONSIDERATION

20.5 To discuss and consider the guidelines to be followed for slow learners and fast learners

The Dean Academics (DA) has presented the guidelines to be followed for slow and fast learners. DA has informed the members that the guidelines are prepared based on the discussion with School Deans. The following inputs need to be considered to identify advanced and slow learners:

1. Previous Semester End Examination (SEE) Result / Performance in the qualifying Examination (Applicable for I Semester Only)

2. Performance in the current semester Continuous Evaluation Test 1 (CET)

3. Observations of the course faculty

Mr. A. Ranjith, Alumni representative, has enquired regarding how slow learners and fast learners are categorized in problematic and theoretical courses. He suggested splitting the students into several groups with a combination of fast learners and slow learners. The knowledge skills of slow learners will be improved by observing fast learners. Additionally, he insisted that group motivational discussions should be held in order to ensure that slow learners are never negatively impacted. According to DQA, students identified as slow learners are not isolated but rather given extra attention for their betterment. DA pointed out that the faculty members will receive the necessary training to care for all students. Mr. Viswanathan Venkata Subramanian suggested that providing proper recognition and confidence to students will further motivate them.

Mr. A. Ranjith enquired about students' participation in public forums like LinkedIn. He added that students have to be motivated to visit LinkedIn regularly and follow industry leaders to know industry updates. He stressed that

these interactions will surely make students choose their career path. Further, he described the importance of using chatGPT tool in research. DQA stated that although students are currently utilizing the technology, they must check the content's legitimacy. He stated that it is crucial to make sure the students do not adopt the mentality of blindly following the answers to their questions they get through chatGPT.

Please refer to Appendix-3 (Page No. 15) for the guidelines.

20.6 To discuss the Peer Team Report (PTR) of the NAAC second cycle held from January 31, 2023, to February 02, 2023

The Dean Quality Assurance has presented the Peer Team Report (PTR) of the NAAC second cycle held from January 31, 2023, to February 02, 2023. Based on the PTR, the gap analysis has been done and the person responsible for action to be taken on the identified gaps is also presented and provided below:

Sl. No.	Criterion	Comments	Plan of Action/ Action to be Taken Report	Person Responsible
1	I	The PEOs, POs, and COs need to be revised to fulfill the objectives of OBE and also to meet the local, regional, and global needs.	Appropriate measures are to be taken to revise and implement the curricula based on surveys conducted in relevance to local, national, regional, and global developmental needs. Likewise, an analysis of the implementation using various statistical tools to get the full advantage of OBE has to be done.	School Deans
2		Proper feedback mechanism in all aspects is not sufficiently visible	Measures to be taken to collect, analyze, and plan action on the feedback in all respect	DQA

3		Need to devise and implement a transparent and robust mechanism uniformly across all the departments for slow learners and fast learners.	An institutionalized mechanism to identify and follow-up actions for slow learners and fast learners across all the departments are being devised.	DA
4	II	The institute needs to ensure effective curriculum delivery and active involvement of a maximum number of students. The Problem-Based Learning and Experiential Learning methods need to be strengthened.	To ensure curriculum delivery and students participation. Action Plan needs to focus on strengthening Problem-Based Learning and Experiential Learning with the implementation of integrated courses.	School Deans
5		A computerized Examination Management System (EMS) is available in the Institution, however, it does not cover the entire process of examination including internal and end-semester exams.	To be focused & updated.	CoE

6	III	Several extension activities to spread awareness about social issues through various clubs, student forums, national schemes, celebrations of national & international days, etc., are organized. However, the impact of such activities needs to be analysed.	To create an impact on the student's participation in several extension activities, credits shall be awarded for community service projects and activities to be planned involving the public and to spread awareness on social issues.	DCA
7	IV	ICT facilities (multimedia projectors, Wi-Fi, Computer systems, etc.) need to be installed in all classrooms and should be functional and easy to use.	To install the required facilities and monitor the functioning with immediate effect	School Deans
8	V	Student council needs to be strengthened for its active participation in various academic and other related activities.	Measures to be taken to conduct periodic meetings for the student council and other related events to be organized.	DCA
9		The participation of alumni in the alumni association meets	To ensure and strengthen the active participation of alumni in organization	Dean Alumni

		needs to be strengthened along with compliance with its approved constitution	activities like curriculum revision, placement initiatives, academic and institutional decision-making process	
10	VI	IQAC cell must formulate effective policies and put them into practice for continuous monitoring and preparing periodic reviews of administrative and academic departments.	A plan of action for the academic year 2022-23 with the targets assigned for various metrics about national and international rankings is designed. A periodic review of the same is in progress.	DQA
11		Lack of awareness among various stakeholders – strategic plan.	Measures to be taken to create awareness of the institution's strategic plan through social media, brochures, and through other possible modes among the stakeholders.	Registrar

Please refer to Appendix-4 (Page No. 18) for the Peer Team Report (PTR) of NAAC second cycle.

20.7 To review the Placement Statistics for the AY 2022-23

The Dean Campus to Corporate (DCC) has presented the placement statistics for the AY 2022-23. DCC has informed the career choices of students as shown in the table below:

Career Choice	No. of Students Enrolled	Percentage
Placements	2039	72.02%

Higher Studies	432	15.25%
Entrepreneurship	25	0.88%
Competitive Exams/ Govt. Jobs	178	6.28%
Others	157	5.57%
Total	2831	100%

Mr. Viswanathan Venkata Subramanian enquired regarding how placement activities are going on between slow learners and fast learners and also informed the weakest spot of students is clearing exams and communication. DCC has informed us that proper training programs and regular classes are followed. Mr. Viswanathan Venkata Subramanian suggested taking care of all students and giving training for their betterment. DCC has reported a total of 247 recruiters have offered placements on the campus for which 1325 students out of 2039 students enrolled. In addition, the highlight was that about 94 students went abroad through an exchange programme. Mr. Viswanathan Venkata Subramanian has informed us to be ready with students for placements from September 2023 for the AY 2023-24. Mr. A. Ranjith at the same time inquired about conducting campus placements only for current final-year students or extending them further to the passed-out students. DCC has confirmed that placement drives are going on with both the batches. DCC has reported that out of 247 recruiters, 84 are IT/ ITES companies, 71 are core companies, 37 are IT product companies, and 55 are other companies. While comparing with AY 2021-22, there was a small dip in the AY 2022-23 placements concerning the IT/ITES sector.

Mr. A. Ranjith inquired the procedures for enrolling in Ph.D. and insisted that most of the industry officials might be unaware of the procedure for enrolling Ph.D. for which, if the institution arranges a meeting with industries then it will be beneficial for them to enroll for Ph.D. DQA has requested the DRD to take care of this concern.

C. <u>ITEMS FOR REPORTING</u>

20.8 To report the accreditation status of NAAC and NBA

Dean Quality Assurance presented the report on the accreditation status of NAAC and NBA, Peer Team visited the institution from 31.01.2023 to 02.02.2023. Vel Tech has been accredited with grade A++, CGPA of 3.53 out of 4, and validity up to 06.02.2028. The weightage, total marks, and marks obtained criterion-wise as shown in the table below.

	QlM			QnM			Overall		
	Weightage	**Total Marks**	**Marks Obtained**	**Weightage**	**Total Marks**	**Marks Obtained**	**Weightage**	**Total Marks**	**Marks Obtained**
Criteria I	25	100	80	125	500	500	150	600	580
Criteria II	52	208	172	148	592	473	200	800	645
Criteria III	23	92	85	227	908	790	250	1000	875
Criteria IV	39	156	131	61	244	234	100	400	365
Criteria V	7	28	21	93	372	316	100	400	337
Criteria VI	45	180	151	55	220	214	100	400	365
Criteria VII	73	292	257	27	108	104	100	400	361
TOTAL	**264**	**1056**	**897**	**736**	**2944**	**2631**	**1000**	**4000**	**3528**

Please refer to Annexure-1 (Page No. 28) for the detailed report of the NAAC Peer Team.

DQA has reported that alumni contribution is also a considerable factor in NAAC evaluation. Dr. A. Ranjith has confirmed that Institute has never asked for a contribution but as alumni, we are ready to give our contribution. The DQA has informed that the institution is in the process of getting contributions.

The National Board of Accreditation (NBA) Expert Team visited the institution from 03.03.2023 to 05.03.2023 for evaluating the following three B.Tech. Programmes:

- Aeronautical Engineering
- Mechanical Engineering
- Electrical and Electronics Engineering

DQA has reported that the accreditation status will be declared by NBA within 60 to 90 days from the day of the visit.

20.9 To report the Rankings Received and Participation

Rankings Received:

- ❖ Ranked 15th position overall, 8th position in South India, and 10th position

in Private categories in the Top T-School survey by DATAQUEST-CMR Digital Index Survey 2022.

- ❖ Ranked 26th position in India's best universities in the interdisciplinary domain by CAREERS360.

Ranking Participation

- ❖ The institutional data is pre-analyzed and submitted to the National Institutional Ranking Framework (NIRF) 2023 under the following Category
  - Engineering
  - Management
  - Overall
  - Research
- ❖ QS World University Ranking 2024
- ❖ Times Higher Education (THE) World University Rankings (WUR) 2024
- ❖ India Today Best College Ranking 2023
- ❖ The Week Hansa Research- Best University Survey 2023

20.10 To report the submission of institution data to the All India Survey on Higher Education (AISHE) for the Academic Year 2021-22

The institution data about parameters such as teachers, student enrolment, programmes, examination results, finance, and infrastructure is submitted to AISHE for the Academic Year 2021-22 on 15.02.2023.

20.11 Any other item(s) with the permission of the Chair

The DQA requested the members to discuss and give suggestions for improving Executive Development Programs (EDP)/ Management Development Programs (MDP). The Dean Industry Relations (DIND) has informed that the Center of Excellence (CoE) has introduced and implemented short-term courses with Industry professionals for the benefit of the students. Mr. Ranjith has suggested to promote technically oriented work-integrated courses and Joint projects for both students and faculty with industry-institute collaboration. Mr. A. Ranjith has also suggested developing and introducing a cost-effective one-year-long (EDP)/MDP for working professionals which will help both the institution and working professionals since the courses offered by IIT-M are costly. He has informed the members that the suggestions will be taken forward and placed for the approval of the Board of Management (BoM). Ms. Sneha Paul. J (Student Nominee) has suggested having remedial classes can be two hours per week, to have faculty students' friendly campus and to know what's happening in our institution.

20.12 To consider and approve the date for conducting the next IQAC meeting.

The next meeting of IQAC will be during the last week of July 2023.

20.13 To conclude with, the Vote of Thanks by Director (IQAC)

Dr. M. Rajeev Kumar (DQA) proposed the vote of thanks.

Appendix 1	Members Present/ Absent

Members attended the meeting

Chairman			
1.	Prof. S. Salivahanan Vice Chancellor		
Management Representation			
2.	Mrs. Rangarajan Mahalakshmi K. Chairperson and Managing Trustee		
Senior Administrator		16.	Dr. E. Suresh Paul, Professor & Dean/ SoMTC
3.	Dr. E. Kannan Professor & Registrar	17.	Dr. Mathew Alphonse, Assistant Professor (Mech.)
4.	Dr. R. Sivaraman Controller of Examinations	**Employer Representation**	
5.	Dr. A. T. Ravichandran, Professor & Dean (Academics)	18.	Mr. Viswanathan Venkata Senior Manager, Talent Acquisition, Wipro Limited, Chennai.
6.	Dr. E. Balasubramanian Professor & Dean (R&D)	**Academic Expert**	
7.	Dr. P. Chandrakumar Professor & Dean (Industry Relations &TBI)	19.	Dr. S. Muttan Professor, Department of ECE Anna University, Gundy, Chennai.
8.	Dr. P. Suresh, Professor & Dean (International Relations & HRDC),	**Local Society Nominee**	
9.	Mr. P. Vijayaraman Dean (Campus to Corporate) i/c	20.	Mr. J. E. Simon Station Manager Railways (Retired)
Senior Faculty		**Alumni Representation**	
10.	Dr.V.Srinivasa Rao Professor & Dean (SoC)	21.	Mr. Ranjith A (VT No. 071), Partner Cloud Solution Architect, Microsoft Corporation.
11.	Dr. R. S. Valarmathi, Professor & Dean (SoEC)	**Student Nominee**	
12.	Dr. N. Lenin, Professor & Dean (SoMC)	22.	Ms. Pasupuleti Rekha Shanmukhi, (VtU19523), 2nd Year CSE.
13.	Dr. A. Subrahmanyam Professor & Dean (SoL)	23.	Ms. Sneha Paul. J (VtA1179), 3rd Year B.A. LL.B.
14.	Dr. M. Siva Kumar Professor & Dean (FME)	**Member Secretary**	
15.	Dr. M. S. R. Mariyappan Professor & Dean (SoM)	24.	Dr. M. Rajeev Kumar Professor & Dean (Quality Assurance)

Members not attended the meeting

Mr. K. Venugopal, Six Sigma Leader, ZF Commercial Vehicle Control Systems India Limited, Chennai

Appendix 2	Agenda of the 20th Meeting of IQAC

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology

Office of Quality Assurance

20th MEETING OF INTERNAL QUALITY ASSURANCE CELL

Date & Time: 29/04/2023 @ 10.30 am Venue: Video Conference Hall

Draft Agenda

A. Opening

Item No.		Presenter
20.1	Call to Order	Chair
20.2	To record leave of absence of the members	Chair
20.3	To review the action taken on the decisions of the 19th Meeting of IQAC held on October 29, 2022	Chair
20.4	Approval of Agenda of 20th Meeting of IQAC	DQA

B. Items for Discussion and Consideration

Item No.		Presenter
20.5	To discuss and consider the guidelines to be followed for slow learners and fast learners	DA
20.6	To discuss the Peer Team Report (PTR) of NAAC second cycle held during January 31, 2023 to February 02, 2023	DQA
20.7	To review the Placement Statistics for the AY 2022-23	DCC

C. Items for Reporting

Item No.		Presenter
20.8	To report the accreditation status of NAAC and NBA	DQA
20.9	To report the Rankings Received and Participation	DQA
20.10	To report the submission of institution data to All India Survey on Higher Education (AISHE) for the Academic Year 2021-22	DQA
20.11	Any other item(s) with the permission of Chair	
20.12	To consider and approve the date for conducting the next IQAC meeting.	
20.13	To conclude with the Vote of Thanks by Director (IQAC)	

Appendix 3	Guidelines to be followed for slow learners and fast learners

Policy for Identifying the Slow & Advanced Learners and Activities

Preamble:

In any educational institution, students have varied learning abilities, so to provide effective education, they are classified as slow and advanced learners. Identification of different level of learners is important for ensuring that all students receive a holistic education. The Institution needs to provide activities that support slow learners' learning and challenge advanced learners to ensure that both groups are engaged and making progress.

It is important to identify the strengths and weaknesses of the students, and provide appropriate support & activities to help them to reach their potential. This will also aid teaching departments in providing effective mentoring and monitoring progress. By assessing the learning pace of each student, teacher can provide individualized support and guidance that meets student specific needs. It is important to recognize that different students learn at different speeds and in different ways, so a flexible and personalized approach to education is essential for ensuring student success.

Purpose

To ensure that all students receive a holistic education and to assign them necessary tasks in order to make sure that all students acquire a comprehensive education.

Inputs Needed

The following inputs needs to be considered to identify the advanced and slow learners:

1. Pervious Semester End Examination (SE) Result
2. Performance in the current semester Continuous Evaluation Test 1 (CE)
3. Observation from the course faculty

Methods of Identification

By following a methodological approach to assess and identify the learning levels, faculty can gain a better understanding of their students' strengths and weaknesses and provide targeted instruction to meet their needs.

The slow and advanced learners would be identified for each course separately by respective course faculty for all the programmes offered in the Institution.

- The Identification process can be done after the declaration of previous semester end examination (SE) results and the performance in the current semester Continuous Evaluation Test (CE) 1

The following parameters and weightages thereon would be considered

1. Performance in the current semester
   Continuous Evaluation Test – 1 : 50 %
2. Previous Semester End Examination Performance : 40 %
3. Observations by the Course Faculty : 10 %

A student who has secured 60% and above of total weightage will be considered as advanced learner and a student who secures less than 50% weightage will be identified as slow learner.

The weightage for the Semester End Examination (SE) may be calculated as follows:

If a student has cleared all registered courses, he/she will be given with full weightage ie., 40%. If he/she cleared 6 out 8 courses, he/she will be allotted with 30% ***((6/8) x 40%)*** and so on.

Activities for Slow Learners:

1. Peer learning model by forming a group of 2 to 3 slow learners with one advanced learner in the particular course under the supervision of the course faculty.
2. Provision of additional classes with min. of 10 – 12 periods for problem solving/ revision session.
3. Providing notes for easy understanding.
4. Makeup and demonstration classes for practical courses
5. Assignment in the form of solving previous semester end examination question papers of the same course
6. Counselling by senior faculty members in the department
7. Giving additional learning materials like question bank, university question papers etc.

Activities for Advanced Learners:

1. Enrichment activities: Guiding and encouraging student to communicate through research paper presentation in Conferences/ Seminars/ Journals, and advanced coursework to provide opportunities to explore their interests and develop their skills.
2. Guiding the students for GATE/ Competitive Examinations
3. Contribution in questionnaire preparation and in the conduction of case studies
4. Encouragement to complete NPTEL/ Swayam and similar courses
5. Assistance for industry internships and field trainings
6. Provision to explore the talents through MoU's with reputed institutions.

Roles and Responsibilities of Course faculty:

The course faculty is responsible for carrying out different aspects of Slow and Advanced learners of his/her course(s) including identification and activities to be conducted.

- ✓ Identification of slow and advanced learners
- ✓ Preparation of schedule for extra classes/problem solving sessions/revision
- ✓ Sessions for slow learners and maintenance of records
- ✓ Preparation of list of advanced assignments or task list for advanced learners
- ✓ Preparation of improvement reports
- ✓ Maintenance of activity outcome reports for slow and advanced learners

Documents to be maintained:

The following is the list of documents to be maintained:

- Course-wise list of slow learners and advanced learners
- Activity schedule and time table for slow learners
- List of activity task for advanced learners and the proof(s)
- Attendance records
- Question Bank and other materials provided
- Performance improvement reports

Measuring Outcome

It is important to measure the outcome of the activities provided to the different level of learners. The following methods shall be used to measure the outcome

Slow Learners

- Academic Progress in Continuous Evaluation Test 2 & 3
- Performance in the Semester End Examinations

Advanced Learners

- Participation/ Winning awards in various events like Competitions/ Seminar/ Workshop/ Internship/ Field Training/ Industry or Research Project in campus or Abroad Universities, etc.
- Publication of Research Papers in Journal
- Performance in GATE/Competitive Examinations
- Students aspiring for Higher Education in India or Foreign Universities
- Placement in high profile Industries

Appendix 4	Peer Team Report (PTR) of NAAC second cycle

Peer Team Report (PTR) of NAAC second cycle held during January 31, 2023 to February 02, 2023

INSTITUTIONAL ASSESSMENT AND ACCREDITATION
(Effective from July 2017)

Accreditation - (Cycle - 2)

PEER TEAM REPORT ON

INSTITUTIONAL ACCREDITATION OF
VEL TECH RANGARAJAN DR. SAGUNTHALA R&D INSTITUTE OF SCIENCE AND TECHNOLOGY
U-0489

Chennai
Tamil Nadu
600062

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
An Autonomous Institution of the University Grants Commission
P.O. Box No. 1075, Nagarbhavi, Bengaluru - 560 072, INDIA

Section I:GENERAL INFORMATION		
1.Name & Address of the institution:	VEL TECH RANGARAJAN DR. SAGUNTHALA R&D INSTITUTE OF SCIENCE AND TECHNOLOGY Chennai Tamil Nadu 600062	
2.Year of Establishment	1997	
3.Current Academic Activities at the Institution(Numbers):		
Faculties/Schools:	7	
Departments/Centres:	17	
Programmes/Course offered:	56	
Permanent Faculty Members:	753	
Permanent Support Staff:	238	
Students:	11119	
4.Three major features in the institutional Context (Asperceived by the Peer Team):	1. A Deemed-to-be University offering modern engineering courses 2. Good Infrastructure and extension activities 3. Substantial Research Funding from the Government	
5.Dates of visit of the Peer Team (A detailed visit schedule may be included as Annexure):	From : 31-01-2023 To : 02-02-2023	
6.Composition of Peer Team which undertook the on site visit:		
	Name	Designation & Organisation Name
Chairperson	DR. MANIMALA DAS	FormerVice Chancellor,NETAJI SUBHAS OPEN UNIVERSITY
Member Co-ordinator:	DR. RAMESH KUMAR	Professor,DEENBANDHU CHHOTU RAM UNIVERSITY OF SCIENCE AND TECHNOLOGY
Member:	DR. PROF KC SUNNY	Professor,Central University of Kerala
Member:	DR. MANISH SHRIMALI	Professor,Central University of Rajasthan
Member:	DR. SUJATHA PEELA	Professor,Dr B R Ambedkar University Srikakulam
Member:	DR. PROF. MEMCHA LOITONGBAM	Professor,Manipur University
Member:	DR. UPENDRA PATEL	Professor,Faculty of Technology and Engineering The Maharaja Sayajirao University of Baroda

Section I:GENERAL INFORMATION	
NAAC Co - ordinator:	Dr. Jagannath Patil

Section II:CRITERION WISE ANALYSIS
Observations (Strengths and/or Weaknesses) on each qualitative metrices of the key Indicator under the respective criterion(This will be a qualitative analysis of descriptive nature aimed at critical analysis presenting strength and weakness of HEI under each criteria)

Criterion1 - Curricular Aspects (Key Indicator and Qualitative Metrices(QlM) in Criterion1)	
1.1	Curriculum Design and Development
1.1.1 QlM	**Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific Outcomes(PSOs) and Course Outcomes(COs) of the Programmes offered by the Institution.**
1.2	Academic Flexibility
1.3	Curriculum Enrichment
1.3.1 QlM	**Institution integrates crosscutting issues relevant to Professional Ethics ,Gender, Human Values ,Environment and Sustainability into the Curriculum**
1.4	Feedback System

Qualitative analysis of Criterion 1
VelTech Rangarajan, Dr. Sagunthala R&D Institute of Science and Technology, established as an Engineering college in 1997, got the "Deemed to be University" status in 2008 and AICTE recognition. The Institution provides undergraduate, postgraduate, doctoral programmes in various fields of Engineering & Technology, Sciences, Management, Law and Media. The college offers Mahatma Gandhi Merit Scholarships to the students. The institute has its own curriculum in line with the guidelines of the regulatory bodies. In addition to the curriculum prescribed by the university, institute is encouraging students to take some value-added education through leadership, entrepreneurship, and skill development programs to enrich the curriculum. Peace and tranquility is well maintained in the institute campus. The institute is yet to develop an action plan for effective implementation of outcome based teaching learning. Proper feedback mechanism in all respect is not sufficiently visible. The institute has defined rubrics for the evaluation of Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (COs). The pattern of the question paper is in accordance with Bloom's Taxonomy and in line with the COs and POs. The PEOs, POs, COs need to be revised to fulfil the objectives of OBE and also to meet the local, regional and global needs. The Institute adopted the Choice Based Credit System (CBCS) in the academic year 2015–16. The Institute's Conceive-Design-Implement-Operate (CDIO) lab helps in Project-Based Learning (PBL) and TLP and enables the students to work on real-world projects from the first year. However, the Problem-Based Learning and experiential learning methods need to be strengthened. The Institute encourages industries to use the Centers of Excellence and TBI, enhancing the industry-institute relationship. The connections with businesses and overseas institutions have increased the mobility of students. The value-based courses are integrated into the curriculum as electives and focus on ethics, culture, society, environment, tolerance, human rights, and service. Students imbibe human values through events, including blood donation drives, health check-ups, cleanliness campaigns, and volunteer work at old-age homes and orphanages. Nevertheless, more focus on co-curricular and extra-curricular activities is necessary. Every student at the Institute can take a foundation course in environmental studies that covers topics such as resource management, biodiversity, ethics, and concerns relating to society and the environment. For the students' overall growth, the Induction cum Acquaintance Programme is a bridge course where Gender Sensitization & Psychology and Universal Human Values form essential parts. Male to female ratio in the faculty is 2:1, and amongst the students is 4:1. The SPARSH committee of the Institute addresses matters involving harassment of women, and outside experts are also invited for lectures to help prevent such malpractices. Nonetheless, more gender sensitization

activities are necessary.

Criterion2 - Teaching-learning and Evaluation (Key Indicator and Qualitative Metrices(QlM) in Criterion2)	
2.1	Student Enrollment and Profile
2.2	Catering to Student Diversity
2.2.1 QlM	**The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners**
2.3	Teaching- Learning Process
2.3.1 QlM	**Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences**
2.3.2 QlM	**Teachers use ICT enabled tools including online resources for effective teaching and learning process.**
2.4	Teacher Profile and Quality
2.5	Evaluation Process and Reforms
2.5.3 QlM	**IT integration and reforms in the examination procedures and processes (continuous internal assessment and end-semester assessment) have brought in considerable improvement in examination management system of the institution**
2.6	Student Performance and Learning Outcomes
2.6.1 QlM	**The institution has stated learning outcomes (generic and programme specific)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents**
2.6.2 QlM	**Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution**
2.7	Student Satisfaction Survey

Qualitative analysis of Criterion 2
The Institute uses Continuous Internal Assessments (CIA) to evaluate and monitor the students and the teaching-learning process regularly. Identification of slow and fast learners is made through the CIA, comprising assignments, Unit Tests, Mid Tests, Semester- End Examinations, and active class participation. Students with low CIA scores, low attendance, backlogs, and inability to follow lectures are identified as slow learners. Though the Institute practices identification of the slow learners and advanced learners, there is a need to devise and implement a transparent and robust mechanism uniformly across all the departments. Besides, the curriculum has the flexibility for slow Learners to register a minimum of 18 credits and flexible timings to attend the classes as per the student interest. Fast learners can register for a more credits, facilitating them to do full-time internships in Industry/Abroad. The students of all the programmes are involved in experiential learning through various activities like laboratory experiments, internships, fieldwork, research, team project, hackathons, study abroad, studio work, Moot Court, project competitions, etc. Faculty members deliver the course using appropriate active learning methods. Students participate in seminars, peer training, events coordination, project based learning, etc. The institute need to ensure effective curriculum delivery and active involvement of maximum students. The Institute uses ICT-enabled tools such as PowerPoint Presentation, Video Clippings, e-learning resources such as NPTEL videos, and e-learning. A number of multimedia projectors have been installed in various classrooms, laboratories and seminar halls. Interactive smart boards are also available with sufficient internet bandwidth. However, the ICT facilities (multimedia projectors/electronic lectern, WiFi, Computer system, etc.) need to be installed in all classrooms and should be functional and easy to use. Proper Internet facilities with LAN and WI-FI are available in all learning spaces. Microsoft Team Classroom facility is used to deliver online lectures, sharing of e-content, and other critical interactive features for e-learning. Digital library, V-Learn a Learning Management System (LMS), and

EDUSAT live broadcast facility are also available. A computerized Examination Management System (EMS) is available in the Institution, however, it does not cover the entire process of examination including internal and end semester eaxams. The grivance redressal system need to be revised. Around 50% of the question papers are sourced from external experts, and utmost care is taken to design effective question papers pertaining to the appropriate levels of Bloom's Taxonomy and course outcomes. The Institution permits the transfer of credits for the courses undergone by the students in universities abroad and the credits earned through SWAYAM - NPTEL courses. A One-Time on-Demand exam is also permitted. The Teaching-Learning process is based on Outcome Based Education by defining and implementing Program Outcomes (POs) and Program Specific Outcomes (PSOs) as per Bloom's Taxonomy and has a mechanism of mapping COs with POs and PSOs. Indirect surveys are also carried out about the POs and PSOs attainment. Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution. The PEOs, POs, Cos may be revised to fulfil the objectives of OBE and to be implemented and analyzed using various statistical tools to get its full advantage.

Criterion3 - Research, Innovations and Extension (Key Indicator and Qualitative Metrices(QIM) in Criterion3)	
3.1	Promotion of Research and Facilities
3.1.1 QIM	**The institution's Research facilities are frequently updated and there is a well defined policy for promotion of research which is uploaded on the institutional website and implemented**
3.2	Resource Mobilization for Research
3.3	Innovation Ecosystem
3.3.1 QIM	**Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge.**
3.4	Research Publications and Awards
3.5	Consultancy
3.5.1 QIM	**Institution has a policy on consultancy including revenue sharing between the institution and the individual and encourages its faculty to undertake consultancy.**
3.6	Extension Activities
3.6.1 QIM	**Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the last five years.**
3.7	Collaboration

Qualitative analysis of Criterion 3
The Institute has a proper structure for cross-disciplinary and innovative research activities. All the departments have labs and other resources for handling high-impact research. The Institution's research activities include projects on academic and applied research in the disciplines of engineering and technology, science, and management. Creating a Research Park, Centres of Excellence, and Cutting - Edge Laboratories are significant strides toward promoting interdisciplinary research. Vel Tech has received funds from government agencies like the DRDO, DST, ISRO, DBT, CSIR, etc. Faculty members collaborate on research projects with foreign partners. With Memorandums of Understanding signed with various universities/research organizations and industries, Vel Tech has established various laboratories and testing facilities that encourage business-collaborated research with the active involvement of faculty and students. Quality of some of the research papers is very good. The Vel Tech Technology Business Incubator (TBI), with various facilities that supports early-stage start-ups, has been recognized as a Centre of Excellence under the NIDHI Scheme of DST. Some of the start-ups it has assisted since its beginning have completed the incubation programmes. Start-up India Seed Fund Scheme and DST–SSS Seed Loan are financial support for start-ups. The Institution

has a research policy with code of ethics, seed fund support, incentive schemes, and financial support. The Institution established an Industry-Academia Cell and actively promotes industry-academia collaboration. It has a consultancy policy aiming to promote research and consultancy collaboration between academia and industry. Industry-sponsored centres established through collaborations include WABCO CoE, an Engine testing Facility by (Ashok Leyland, ARAI, Greeves Cottan, and TAFE), a High-Speed Bearing test (Dynaspeed Systems), a PCB facility supported by AUCKUM and 3D Printing lab (RP3D Private limited), etc. Vel Tech motivates students to contribute their ideas/ innovative projects by organizing events at the national and international levels. Faculty members are motivated to take up consultancy projects by sharing revenue and reducing their academic workload. Furthermore, six Centres of Excellence are established that execute various job orders from major Automobile Original Equipment Manufacturers (OEMs). The institute should apply sincere efforts extensively to take the full advantage of their research facilities for resource genberation through consultancy. Several extension activities to spread awareness about social issues through various clubs, student forums, national schemes, celebrations of national & international days, etc., are organized. However, the impact of such activities needs to be analyzed. The Institute has three NCC (Army, Navy and Air Force) units , 2 NSS units, Unnat Bharat Abhiyan among the extension activities. The cadets are performing with credit and have also been recruited by the Army. They regularly participate in different activitiues related to upliftmen t of neighbouring area. National Cadet Corps with students are encouraged in the institute to develop the leadership, character, comradeship, spirit of sportsmanship and the ideal of service among the students. National Service Scheme is also emboldened in the institute enabling the student to participate in social service activities like organizing blood donation, rural health & sanitation, adult education, and environmental awareness camps. Such awareness activities may be further enhanced particularly in the neighboring areas as a social responsibility. The students are participating in Swachh Bharat and Unnat Bharat Abhiyan scheme activities, hovewer, no the impact is not clearily visible.

Criterion4 - Infrastructure and Learning Resources (Key Indicator and Qualitative Metrices(QlM) in Criterion4)	
4.1	Physical Facilities
4.1.1 QlM	**The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc.**
4.1.2 QlM	**The institution has adequate facilities for cultural activities, yoga, games and sports (indoor & outdoor); (gymnasium, yoga centre, auditorium, etc.,)**
4.1.3 QlM	**Availability of general campus facilities and overall ambience**
4.2	Library as a Learning Resource
4.2.1 QlM	**Library is automated using Integrated Library Management System (ILMS) and has digitisation facility**
4.3	IT Infrastructure
4.3.2 QlM	**Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility**
4.4	Maintenance of Campus Infrastructure
4.4.2 QlM	**There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.**

Qualitative analysis of Criterion 4
The University has developed adequate infrastructural facilities for its academic, research and extension programmes in about 1.5 Lakh sqm of built-up area. The important facilities of the university include lecture

halls, smart classrooms, discussion rooms, examination halls, air-conditioned auditoriums, conference halls, faculty cabins, well-equipped laboratories for academics, research laboratories funded by various agencies, EDUSAT hall, 24x7 Wi-Fi and internet facility, CCTV camera monitoring Audio-Video recording facility. The ICT facilities (multimedia projectors/electronic lectern, etc.) need to be installed in all classrooms and should be functional and easy to use. The essential requirements like canteen, cafeteria, post office, bank, ATM, transport, staff quarters, Guest house also exist. The institute has solar power however major power backup is achived through DG sets. The University has ground facilities for outdoor sports (Cricket/Football, Volleyball, etc.) and indoor games (Badminton, Kabaddi, Table Tennis, Chess, Carrom, etc.), however, the sports infrastructure need to be improved for its proper utization. The institute has created facilities for various extra-curricular activities including Yoga, NSS and NCC, etc. Such activities are being organized through various clubs. Formulation of constitution for clubs will further enhance the participation of the students. The University has separate Girls and Boys hostels with amenities like WiFi, Washing Machines, Gym and Dining Hall, etc. The provision for AC rooms also exists in the hostels. The hostels need to be properly maintained. The library is spacious and has a provision for separate sections for different disciplines, thesis, news and magzines, along with a reading hall. The reading hall needs to be refurbished to cater the needs of the students. The departments have also separate library facilities in their own premises. The security is maintained with the deployment of security staff and CCTV surveillance. The mandatory certifications to ensure the safety of systems deployed in the campus such as building safety, electrical safety, fire safety and lift safety are procured. The number of washrooms need to be enhanced and they may be equipped with hand-dryers, sanitary napkin vending machines, etc.

Criterion5 - Student Support and Progression (Key Indicator and Qualitative Metrices(QlM) in Criterion5)	
5.1	Student Support
5.2	Student Progression
5.3	Student Participation and Activities
5.3.2 QlM	**Presence of Student Council and its activities for institutional development and student welfare.**
5.4	Alumni Engagement
5.4.1 QlM	**The Alumni Association / Chapters (registered and functional) contributes significantly to the development of the institution through financial and other support services.**

Qualitative analysis of Criterion 5
The institute provides curricular, co-curricular and extra-curricular activities for the development of students. The institute provides the Mahatma Gandhi Merit Scholarship and Founders' Foreign Scholarship to eligible students. The University has Vel Tech Clubs including literary club, Dance & Music club, Creative arts club, Dramatics club, Photography & Short Film Shooting club. Religion & national festivals, and sports activities are conducted to imbibe national integration among students. The Institution has established Prevention and Redressal of Sexual Harassment committee to combat all forms of discrimination. VISAI (an International Project Competition and Exhibition) and Lavaza (an annual cultural and Technical intercollegiate event) are conducted every year. Overall, there are significant student level activities for institutional development and students' welfare however student council need to be strengthened for their more active participation in various academic and other activities. Vel Tech Alumni Association is registered under the Tamil Nadu Registration of Societies Act with Registration no. 374 of 2014 dated 21st July 2014. Vel Tech alumni are dynamic, taking up various lofty positions in various organizations, proving their mettle in diverse fields of Technologies, Sciences, Management, etc. Presently, there are 15,000+ Alumni in India and other countries. Vel Tech Alumni Association has regional chapters in India and Abroad. Alumni-Student Interaction programmes are conducted regularly in which our Alumni enlighten the students in various aspects such as

career guidance, higher studies, and competitive exams. The participation of alumni in the alumni meets need to be strengthened alongwith the compliance of its approved constitution. The Alumni may have the potential to contribute significantly for the financial growth of the Institute.

Criterion6 - Governance, Leadership and Management (Key Indicator and Qualitative Metrices(QlM) in Criterion6)	
6.1	Institutional Vision and Leadership
6.1.1 QlM	**The institution has a clearly stated vision and mission which are reflected in its academic and administrative governance.**
6.1.2 QlM	**The effective leadership is reflected in various institutional practices such as decentralization and participative management.**
6.2	Strategy Development and Deployment
6.2.1 QlM	**The institutional Strategic plan is effectively deployed.**
6.2.2 QlM	**The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment, service rules and procedures, etc.**
6.3	Faculty Empowerment Strategies
6.3.1 QlM	**The institution has a performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff .**
6.4	Financial Management and Resource Mobilization
6.4.1 QlM	**Institutional strategies for mobilisation of funds and the optimal utilisation of resources**
6.4.4 QlM	**Institution conducts internal and external financial audits regularly**
6.5	Internal Quality Assurance System
6.5.1 QlM	**Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals.**
6.5.3 QlM	**Incremental improvements made for the preceding five years with regard to quality (in case of first cycle), Post accreditation quality initiatives (second and subsequent cycles).**

Qualitative analysis of Criterion 6
The institute has clearly stated vision and mission statements and they are being incorporated in to the academic and administrative activities. The vision and mission of few departments may be relooked to ensure proper alignment to the vision and mission of the institute. Various statutory and non-statutory bodies such as, Board of Management, Academic Council, Finance Committee, etc. are constituted and regular meetings of these bodies are conducted. The Institute practices participative management and decentralization in various academic activities with representation various constituent members such as Registrar, Deans, HODs, etc. in appropriate bodies. An organizational hierarchical structure exists in the institution. The delegation of financial powers may be further improved. Various academic and administrative issues like curriculum, introduction of new subjects and programs, budget, recruitment, purchases, admissions, promotions, conduct of examinations, time-to-time changes in student intake etc., are discussed in the meeting of various bodies and thereafter implemented. IQAC cell must formulate effective policies and put in practice for continuous monitoring and preparing periodic review of administrative and academic departments. Clear guideline with regard to service rules, recruitment, promotional and procurement policies need to be made available to all stakeholders. The institute has made strategic plan keeping in view the vison and mission with an attempt to

improve Teaching Learning and excellence in Research and Innovation; however, there is a lack of awareness among various stakeholders restricting its effective deployment. The faculty members are given seed money for research and encouraged to publish in Scopus and WoS journals. The institute has shown improvement in Scopus indexed and SCI research papers, funded research projects, and grant of patents. The institution has adopted a self-appraisal system for reviewing the performance of faculty. Students' Feedback on the course is also reflected in the appraisal. Pay structure being followed is the limited sixth pay commission and the salary structure need to be enhanced. Faculty and staff are entitled to EPF and gratuity. All faculty and staff are entitled for various types of leaves. Institution conducts internal and external financial audits regularly. Students' fees are the main source of income for the Institute. Strategies for mobilisation and utilisation of funds are in place. Financial statements are made available on institute website. Some income from consultancy projects is generated but it has considerably decreased in the last year. The institute needs to look into opportunities to increase their revenue generations through consultancy. IQAC has taken certain initiatives for the quality enhancement of teaching learning process and learning outcomes however they need to devise a robust documented mechanism.

Criterion7 - Institutional Values and Best Practices (Key Indicator and Qualitative Metrices(QlM) in Criterion7)	
7.1	Institutional Values and Social Responsibilities
7.1.1 QlM	**Measures initiated by the Institution for the promotion of gender equity during the last five years.**
7.1.3 QlM	**Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 500 words)** • **Solid waste management** • **Liquid waste management** • **Biomedical waste management** • **E-waste management** • **Waste recycling system** • **Hazardous chemicals and radioactive waste management**
7.1.8 QlM	**Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities (within 500 words).**
7.1.9 QlM	**Sensitization of students and employees of the Institution to the constitutional obligations: values, rights, duties and responsibilities of citizens (within 500 words).**
7.1.11 QlM	**Institution celebrates / organizes national and international commemorative days, events and festivals (within 500 words).**
7.2	Best Practices
7.2.1 QlM	**Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.**
7.3	Institutional Distinctiveness
7.3.1 QlM	**Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words**

Qualitative analysis of Criterion 7
Vel Tech University has developed certain institutional values and following best practices in tune with the vision and mission of the institution. The mentor – mentee system appears to be effective. The students are using this facility for the decision making in academic matters like selecting elective courses, shaping future

career plan and for sharing their concerns. The Institution has counselling centre for providing free counselling for any issues. Adequate measures have been adopted to ensure the safety and security. There are activities for women empowerment and welfare intending to promote the causes of women. The focus of the activities seems to be sensitisation. However, no attempt has been made to address the causes of third gender. Though the institution has facilities for alternate sources of energy like solar energy plant, bio gas plant, Wind Mill and energy conservation methods yet the potential for solar energy generation is not yet fully tapped. Certain steps have been taken for the management of solid waste, liquid waste, e-waste. The Sewage treatment Plants has more than 2400 KLD capacity. However adequate measures need to be taken to ensure the effective operation of the plant. There are water conservation facilities and green campus initiatives. There is rain water harvesting system in place using recharge wells however the system need to be upgraded to ensure effective utilization. There are separate Green Audit, Energy Audit and Environment Audit done by an independent agency approved by the Government of India. For ensuring the easy access to the physically challenged persons to classrooms, ramps have been provided. The institue has four lifts however more lifts may be installed to ensure easy access to all academic blocks and central facilities. Various measures have been adopted for sensitization of students and employees of the institution to the constitutional obligations through NSS, NCC and other clubs under various schemes. Institution celebrates national and international commemorative days, events and festivals. Matribhasha Diwas, The Constitution Day, Independence, Republic Day, Teacher's Day, Engineers Day, National Sports Day is worth enough to mention. Important national and regional religious festivals are celebrated with the involvement of all the stakeholders of the institution. Promoting Translational Research and Enrichment of Research Quality is one of the best practices of the institute. The success of this new initiative is reflected in the number of patent granted, number of research labs, number of research projects, the nature of collaborative research and number of publications. The facilities have been created with grants from the Central Government Deaprtments. The usage and access of such facilities need to be enhanced for the students. The facility can contribute significantly for resource generation for the institute. The institute claims "Project Based Learning" as its second best practice. Implementation of underlying principles and concepts of this practice appears in its initial phase. Proper planning, guidance and effective monitoring on the part of the faculty members are essential to ensure the involvement of good number of students and to make it more effective.

Section III:OVERALL ANALYSISbased on Institutional strengths.Weaknesses,Opportunities & Challenges(**SWOC**)**(up to 500 words)**

Overall Analysis

Strength:

- Availability of ample land for further development
- Good Existing infrastructure
- Technology Business Incubator program to support innovations and technology-driven startups.
- Research laboratories and Centre of Excellences in thrust and emerging areas
- Student diversity
- Funding through Collaborative research projects from Government Departments/Bodies

Weaknesses:

- Low placements in core engineering fields
- Faculty Retention and Pay Scales

Opportunities:

- Introduction of new programs addressing emerging fields.
- Encouragement to researchers to conduct cutting-edge research within the institute.
- Resource Generation through Consultancy and Finding solutions for industrial problems being surrounded by several industrial clusters utilizing research facilities.
- Good Alumni base which can be tapped for various financial, training and polacement support.
- Better implementation of project-based learning

Challenges:

- Sustaining the inflow of research funds from Government and Nongovernment organizations.
- Commercialization and Technology Transfer of research outputs and patents.
- Sustaining the student enrolment in some programs.
- Full Implementation of NEP 2020

Section IV:Recommendations for Quality Enhancement of the Institution
(Please limit to **ten major ones** and use telegraphic language) (It is not necessary to indicate all the ten bullets)

- Implementation of better pay scale and allowances and Career Advancement Scheme for the faculty
- Preparation of Long Term Strategic Plan and Its effective deployment
- Resource generation through consultancy, research and development activities and donations.
- To reduce dependence on conventional energy sources through installation of renewable energy supply viz. Solar Power.
- Improvement in implementation of Outcome Based Education

I have gone through the observations of the Peer Team as mentioned in this report

Signature of the Head of the Institution

Seal of the Institution

SLNo	Name		Signature with date
1	DR. MANIMALA DAS	Chairperson	
2	DR. RAMESH KUMAR	Member Co-ordinator	
3	DR. PROF KC SUNNY	Member	
4	DR. MANISH SHRIMALI	Member	
5	DR. SUJATHA PEELA	Member	
6	DR. PROF. MEMCHA LOITONGBAM	Member	
7	DR. UPENDRA PATEL	Member	
8	Dr. Jagannath Patil	NAAC Co - ordinator	

Place

Date

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

Ph.D. Awarded List - ACM - JUNE 2023

S.No	Reg.No	Name	Dept	Circular Date	Viva-voce Date	Supervisor Name	Title	Foreign Examiner	Indian Examiner	No. of Scopus indexed Journals	No. of SCI/ESCI/WoS indexed Journals	Others	Total No. of Papers Published	Patents	List of Publications
1	17RECS1002	S. Alex David	CSE	01.03.2023	17.03.2023	Dr. C. Mahesh	*Retinal Blood Vessel Segmentation using Deep Learning*	Dr. Giedrimas Vaidas Associate Professor Department of Computer Science Siauliai University Lithuania	Dr. A.K. Sampath Associate Professor Department of Computer Science and Engineering, Presidency University, Bangalore	2	1	-	3	-	1. Alex David, S., Mahesh, C., (2022), Retinal Blood Vessels and Optic Disc Segmentation Using U-Net. Mathematical Problems in Engineering, Article ID. 8030954. (SCI & Scopus Indexed). 2. Alex David, S., Mahesh, C., (2022), Comparative analysis on U-Net based Retinal Blood Vessel Segmentation, International Conference on Advances in Computing, Communication and Applied Informatics, ACCAI. (Scopus Indexed). 3. Alex David, S., Mahesh, C., (2019), Retinal blood vessel and optic disc segmentation. International Journal of Recent Technology and Engineering, 2019, 8(2), pp. 833–838. (Scopus Indexed).
2	19RECV1008	Cici Jennifer Raj J	CIVIL	01.03.2023	23.03.2023	Dr. M. Vinod Kumar	*Seismic Analysis of Various Types of RC Framed Buildings with Scrap Tyres as Base Isolator*	Dr. Sayed Bateni,Associate Professor,Department of Civil and Environmental Engineering,University of Hawaii at Manoa / College of Engineering,Holmes Hall, 2540 Dole St., Honolulu,HI 96822, United States	Dr. K. Rajesh Kumar,Associate Professor & Centre Head of Centre for Methods and Materials,Department of Civil Engineering,SR University,Ananthasagar, Hasanparthy Hanumakonda – 506371,Telangana	4	2	1	7	-	1. Cici Jennifer Raj, J. and Vinod Kumar, M. (2022), 'Performance evaluation of eco- friendly scrap tyre base isolation technology in distinct construction quality RC framed buildings located in seismic risk zone', Elsevier: Sustainable Energy Technologies and Assessments, Article ID: 102511, Vol. 53, Part B, pp.1-9. (Scopus and SCIE). 2. Cici Jennifer Raj, J. and Vinod Kumar, M. "Performance of Sand Tyre Mix as the Base Isolation Material under Cyclic Loading", Romania Journal of Materials, 2022, 52 (3), 258 – 264. (Scopus and SCIE). 3. Raj, J.C.J. and Kumar, M.V. (2022), 'Seismic response of low-to high peak ground acceleration earthquakes in RC framed buildings with scrap tyre as base isolator using fast nonlinear analysis technique', Springer, Asian Journal of Civil Engineering, Vol. 23, pp. 425-441. (Scopus) 4. Cici Jennifer Raj, J. and Vinod Kumar, M. (2022), 'Nonlinear Modal Time History Analysis on RC framed buildings with scrap tyre as the base isolator for Past Indian earthquakes', Springer, Journal of Build Pathology and Rehabilitation, Article ID: 24, Vol. 7, pp. 1-16. (Scopus) 5. Raj, J.C.J. and Kumar, M.V. (2022), 'Investigation on sand-tyre mix base isolation system subjected to static loading', Springer, Journal of Building Pathology and Rehabilitation, Article ID: 54, Vol.7, pp. 1-9. (Scopus) 6. Cici Jennifer Raj, J. and Vinod Kumar, M. (2022), 'Seismic Protection with Different Isolation Materials, Indian Journal of Environmental Protection", Vol. 42, No.1, pp. 71-79. (Scopus) 275 7. Cici Jennifer Raj, J. and Vinod Kumar, M.(2021), 'Influence at Mass of the Base IsolationSystem in Affecting the Higher Modes of Vibration,' Turkish Journal of Computer and Mathematics Education, Vol. 12, No. 2, 2021, pp. 1809-1815. (UGC approved)
3	17RECS1023	Aparna Shashikant Joshi	CSE	08.03.2023	25.03.2023	Dr. M. Shyamala Devi	*Design of Hybrid Dynamic Degree Balanced Scheduling Method for Heterogeneous Tasks in Public Cloud*	Dr. Seifedine Kadry,Professor,Department of Applied Data Science,Noroff University College,Kristiansand,Norway	Dr. Kannan Shanmugam,Associate Professor,Department of Computer Science and Engineering,VIT University, Bhopal,Kothri Kala, Bhopal-Indore Highway, Sehore,Madhya Pradesh	4	2	2	8	-	1. Aparna S Joshi and Shyamala Devi Munisamy, 2022. In-Depth Analysis of Dynamic Degree Load Balancing Technique in Public Cloud for Heterogeneous Cloudlets. Indonesian Journal of Electrical Engineering and Computer Science, 27(2), pp. 1119-1126 2. Aparna S Joshi and Shyamala Devi Munisamy, 2022. Evaluating the performance of load balancing algorithm for heterogeneous cloudlets using HDDB algorithm. International Journal of System Assurance Engineering and Management, 13, pp. 778–786 3. Aparna S Joshi and Shyamala Devi Munisamy, 2020. Dynamic Degree Balanced with CPU Based VM Allocation Policy for Load balancing. Journal of Information & Optimization, 41(2), pp. 543-553. 4. Aparna S Joshi and Shyamala Devi Munisamy, 2021. Enhancement of cloud performance metrics using dynamic degree memory balanced allocation algorithm. Indonesian Journal of Electrical Engineering and Computer Science, 22(3), pp. 1697-1707 5. Aparna S Joshi and Shyamala Devi Munisamy, 2020. Enhancement of Performance Parameter of Cloud Using Dynamic Degree Balanced with Membership Value Algorithm. International Journal of Advanced Research in Engineering and Technology, 11(8), pp. 664-676 6. Aparna Joshi and M. Shyamala Devi, 2019. Task Scheduling Performance Evaluation of Unreliable Virtual Machines and Cloudlets. Springer Book Series "Learning and Analytics in Intelligent Systems, 3, pp. 671–678 7. Aparna Joshi and M. Shyamala Devi, 2018. A Survey of Job Scheduling Algorithms for Load Balancing in Hadoop Environment. International Journal of Pure and Applied Mathematics, 119(16), pp. 5033-5046 8. M. Shyamala Devi and Aparna Joshi, 2018. Performance Parameter Review of Workflow Scheduling in Public Cloud. International Journal of Pure and Applied Mathematics, 119(16), pp. 5005-5017
4	15REME1016	D. Yogaraj	MECH	13.03.2023	31.03.2023	Dr. M. Amala Justus Selvam	*An Experimental Investigative Analysis of a Single Cylinder Diesel Engine Powered by Quaternary Fuel Blends using Matrix Hybrid Composites*	Dr. Ing. Habil. Ali Cemal Benim,Professor,Department of Mechanical and Process Engineering,Duesseldorf University of Applied Sciences,Munsterstr. 156, D-40476 Dusseldorf Germany	Dr. Gujjala Raghavendra,Associate Professor,Department of Mechanical Engineering,National Institute of Technology,Warangal, Telangana	1	1	-	2	-	1. Yogaraj, D. and Jaichandar, S., 2021. An assessment of various nanoadditives and tribocorrosion with waste cooking biodiesel fueled in a diesel engine. Transactions of the Canadian Society for Mechanical Engineering, 46(2), pp.249-270. [Scopus] 2. Dhanasekaran, Y. and Sriramulu, J., 2022. An outcome of quaternary fuel blended Fe3O4-doped reduced graphene oxide nanocomposite on the diesel engine. Heat Transfer, 51(5), pp.4741-4767. [IF- 0.720]
5	12RECS1004	R. Jeena	CSE	15.03.2023	31.03.2023	Dr. V. Srinivasa Rao	*Design and Implement Metaheuristic Optimization Algorithms for Optimal Selection of VM and Load Balancing in Cloud Environment*	Dr. Nilgun Sengoz,Professor,Department of Computer Engineering,Burdur Mehmet Akif Ersoy University,Burdur/Turkey	Dr. H. Azath,Associate Professor,Computer Science and Engineering,VIT Bhopal University,Bhopal-Indore Highway, Kothrikalan - 466114,Madhya Pradesh	3	-	-	3	-	1. R.Jeena, Dr.Logesh R. (2022). Optimum Selection of Virtual Machine using Improved PSO in Cloud Environment. International Journal of Computer Networks and Applications (IJCNA), Vol.9(1), pp. 125-134. 2. R.Jeena, P.Sarasu (2019). POPD Disease Diagnosing and Predictions Using Data Mining Algorithms. International Journal of Engineering and Advanced Technology (IJEAT),Vol.8, pp. 258-262. 3. R.Jeena, P.Sarasu (2018). Innovative Protocols Providing Personalized Privacy Protections of Data in Medical Area Cloud Network (Mac-N). Jour. of Adv. Research in Dynamical & Control Systems, Vol. 10, 13-Special Issue, pp.1848-1859

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S.No	Reg.No	Name	Dept	Circular Date	Viva-voce Date	Supervisor Name	Title	Foreign Examiner	Indian Examiner	No. of Scopus indexed Journals	No. of SCI/ESCI/WoS indexed Journals	Others	Total No. of Papers Published	Patents	List of Publications
6	13RECS1014	Karthick S	CSE	15.03.2023	31.03.2023	Dr. Gomathi N	*Resource Allocation in IoT using Optimization Technique in Real and Virtual Environment*	Dr. Danilo Pelusi,Associate Professor,Department of Communication Sciences,University of Teramo,Teramo, Italy 64100	Dr. Arup Kumar Pak,Associate Professor,Associate Dean (Automation),Department of Computer Science & Engineering,Indian Institute of Technology (ISM),Dhanbad, Jharkhand -826004.	2	1	-	3	-	1. S. Karthick, N.Gomathi "Sparrow Search Algorithm-based Resource Management in Internet of Things (IoT)", EAI Endorsed Transactions on Energy Web, ew 22(37): e2, 13-May2021.https://eudl.eu/doi/10.4108/eai.13-5-2021.169915. [Indexing: Scopus; SNIP: 0.336] 2. S. Karthick, N. Gomathi "Galactic Swarm Improved Whale Optimization Algorithm-based Resource Management in Internet of Things (IoT)", International Journal Of Communication Systems (Wiley Pub.), 22-October-2021. https://doi.org/10.1002/dac.5006. [Indexing: Science Citation Index; Impact factor: 2.047] 3. S Karthick S., Gomathi N. (2021), "Resource Management in Wireless IoT Using Gray Wolf Optimisation Framework", In: Proc. Advances in Intelligent Systems and Computing, vol 1172. Springer, Singapore. https://doi.org/10.1007/978-981-15-5566-4_62 [Indexing: Scopus]
7	13RECS1059	P. Sumathi	CSE	24.03.2023	08.04.2023	Dr. N. Malarvizhi	*Recommendation of Medical Mobile Application for Healthcare using Machine Learning Paradigms and Software Engineering Practices*	Dr. Xiaolei Wang,Professor,Department of Automation and Systems Technology,Aalto University,AALTO Post Code 02150,Espoo, Finland	Dr. Vishal Goyal,Professor,Department of Computer Science,Punjabi University,Patiala – 147002,Panjab	4	-	-	4	-	1. P.Sumathi and N.Malarvizhi, "Whale Optimization Algorithm with Deep Learning Based Usability Recommendation Model for Medical Mobile" Published in the International journal of Engineering Trends and Technology- ISSN: 2231-5381 Vol.7, No.5, May 2022, pp.251-257 2. P.Sumathi and N.Malarvizhi, "An attention towards software engineering practices on medical mobile Applications", published in the European journal of Molecular & Clinical Medicine ISSN: 2515- 8260, Vol.07, Issue 10, 2020. 3. P.Sumathi and N.Malarvizhi, "Software Quality Assurance Practices for Medical Mobile Applications", Published in Design Engineering ISSN:0011- 9342 ,Year 2021, Issue:5 , Pages:1351-1356. 4. P.Sumathi and N.Malarvizhi, "A Review on Software Engineering Approaches in health care sector and Challenges in Medical Mobile Applications", published in Turkish Journal of Physiotherapy and Rehabilitation – ISSN 2651-4451, e- ISSN 2651-446X
8	13REEE1015	T. RameshKumar	EEE	03.04.2023	24.04.2023	Dr. P. Chandrasekar	*Computational Analysis and Performance Enhancement of Horizontal Axis Wind Turbine System*	Dr. Amjad Anvari-Moghaddam,Associate Professor, Energy Technology,Aalborg University,Pontoppidanstraede 11, Room 1.028,9920,Aalborg East, Denmark	Dr. Ashwin Kumar Sahoo,Dean-Academic and Professor, EEE,C.V. Raman Global University, Bhubaneswar, Odisha – 752054	3	-	-	3	-	1. Rameshkumar, T., Chandrasekar, P., Kannadasan, R., Alsharif, M.H., Kim, J.H. Electrical and Mechanical Characteristics Assessment of Wind Turbine System Employing Acoustic Sensors and Matrix Converter. Sustainability (Switzerland), 2022, 14(8), 4404. 2. Rameshkumar, T., Chandrasekar, P., Analysis of wind power quality disturbances due to mechanical defects in gearbox using acoustic sensor and current transformer. International Journal of Recent Technology and Engineering, 2019, 8(1), pp. 1707–1712. 3. Rameshkumar, T., Chandrasekar, P. The power quality analysis in gearbox using acoustic sensor by empirical wavelet transform. Journal of Advanced Research in Dynamical and Control Systems, 2018, 10(8 Special Issue), pp. 1348–1357
9	17REEC1029	Reshma Begum Shaik	ECE	17.04.2023	04.05.2023	Dr. G. Sasikala	*Design and Simulation of Fifth-Generation RF network planning for base station Antennas by using MU-MIMO*	Dr. Popa Rustem,Associate Professor,Department of Electronics and Telecommunications, "Dunarea de Jos" University in Galati,Stiintei Str., No. 2,Y building, 800 146, Galati,Romania	Dr. Rakesh Vaid Professor Department of Electronics University of Jammu Jammu 180006 Jammu and Kashmir	2	-	2	4	-	1. Reshma Begum.Shaik, G. Sasikala. "Radio Frequency Network Designing for Earlier and 4G Mobile Communications Generation Systems by Exploitation Prediction Software". Jour of Adv Research in Dynamical & Control Systems, Vol. 11, No. 2, 2019. 2. Reshma Begum.Shaik, G. Sasikala. "Simulation of Fifth Generation RF Network Planning for Base Station Antennas by Using 4x4 MU MIMO". International Journal of Advanced Science and Technology, Vol. 29, No. 03, (2020), (pp. 2163 – 2178). 3. Reshma Begum.Shaik, G.Sasikala. "Performance Improvement of The Base Station Antenna by Using Mimo in Mobile Communication System". Journal of Critical Review, Vol. 7, No: 4, 2020, (pp.243- 251). 4. Reshma Begum.Shaik, Dr. G.Sasikala. "Improvement of 5G Network Coverage and Capacity by Using MIMO-A/B Antenna Planning in Prediction Software". Mathematical statistican and Engineering applications, Vol. 71, No. 3S, 2022, (pp. 1000 – 1013)
10	17REEC1026	V. Padmajothi	ECE	26.04.2023	13.05.2023	Dr. Iqbal	*Hybrid Scheduler Design for Cyber Physical Systems*	Dr. Jiankun Hu,Professor,Cyber Security Lab, School of Engineering and IT,The University of New South Wales,Building 15, Room 106,Defence Force Academy, P.O. Box 7916,Canberra BC ACT 2610,Australia	Dr. G. Nagarajan, Professsor & Dean (Accreditation and Academic Ranking),Department of ECE,Puducherry Technological University,Puducherry – 605 014	1	2	1	4	-	1 Padmajothi, V. and Iqbal, J.L., (2020), —Adaptive neural fuzzy inference system-based scheduler for cyber–physical system‖, Soft Computing, Vol.24, No.22, pp.17309-17318. (SCI indexed IF – 3.6) 2 Padmajothi, V., Iqbal, J.M. and Ponnusamy, V., (2022), —Load aware intelligent multiprocessor scheduler for time-critical cyber physical system applications‖, Computers & Electrical Engineering, Vol.97, p.107613. (SCI indexed IF – 3.8) 3 Padmajothi, V. and Iqbal, J.L., (2022), —Review of machine learning and deep learning mechanism in cyber-physical system‖, International Journal of Nonlinear Analysis and Applications, Vol.13, No.1, pp.583-590. (Scopus indexed) 4 Padmajothi, V. and Iqbal, J.L., (2021), —Decision Tree-based Hybrid Multiprocessor Task Scheduling for the Cyber-Physical System‖, Webology, Vol.18, No.2, pp.1047-1054
11	19RECS1015	T. Kujani	CSE	29.04.2023	18.05.2023	Dr. V. Dhilip Kumar	*Development of NonVerbal Communicational Approaches for Human Behavior Analysis using Deep Learning*	Dr. Mario Molinara Associate Professor Department of Electrical and Information Engineering University of Cassino and Southern Lazio University Avenue, Italy	Dr. Debdatta Kandar Professor Department of Information Technology North Eastern Hill University (A Central University of India) Umshing Mawkynroh Shillong 793022, Meghalaya	3	-	-	3	-	1. Kujani, T. and Kumar, V.D., (2021). Head movements for behavior recognition from real time video based on deep learning ConvNet transfer learning. Journal of Ambient Intelligence and Humanized Computing, pp.1-15. 2. Kujani. T and D. Kumar.V, (2022). Multiple Deep CNN models for Indian Sign Language translation for Person with Verbal Impairment, Int J Intell Syst Appl Eng, Vol. 10, No. 3, pp. 382–389. 3. T. Kujani, V. Dhilip Kumar, (2022). Emotion Understanding from Facial Expressions using Stacked Generative Adversarial Network (GAN) and Deep Convolution Neural Network (DCNN), International Journal of Engineering Trends and Technology, Vol. 70, No. 10, pp. 98-110.

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S.No	Reg.No	Name	Dept	Circular Date	Viva-voce Date	Supervisor Name	Title	Foreign Examiner	Indian Examiner	No. of Scopus indexed Journals	No. of SCI/ESCI/WoS indexed Journals	Others	Total No. of Papers Published	Patents	List of Publications
12	18RHMA1001	M. Lakshmi Priya	MATHS	21.04.2023	22.05.2023	Dr. N. Kalaivani	*Analysis of Single Server Queueing Models Subject to Vacation and Disaster*	Dr. Khalifa Zayid Khalifa AL Shaqsi,Professor,Department of Mathematics,Nizwa College of Technology,Sultanate of Oman,Oman	Dr. Anamika Jain,Professor,Department of Mathematics,Manipal University,Jaipur	6	-	-	6	-	1. B. Janani and M. Lakshmi Priya, (2019), "Time Dependent Probabilities of Queue with Working Vacation subject to Disasters and Repair", International Journal of Innovative Technology and Exploring Engineering, Vol. 8, pp. 3585-3590. 2. B. Janani and M. Lakshmi Priya, (2019), "Transient Analysis of Single Server Finite Capacity Markovian Queue with Multiple Exponential Working Vacation", International Journal of Control and Automation, Vol. 12, pp. 296-309. 3. M. Lakshmi Priya and B. Janani, (2020), "Steady State Queue Size Distribution of an M/M/1 Queue with Disasters and Repairs under Bernoulli Working Vacation Schedule", Journal of Mathematical and Computational Science, Vol. 10, pp. 2674-2685. 4. B. Janani and M. Lakshmi Priya, (2020), "Time–Sensitive Probabilities of a Single Server Markovian Queueing Model with Multiple Working Vacation and Threshold Policy", Advances in Intelligent Systems and Computing, Springer Publication, Vol. 11, pp. 331-335. 5. B. Janani and M. Lakshmi Priya, (2021), "Transient Analysis of a Single Server Queue with Disasters and Repairs under Bernoulli Working Vacation Schedule", Journal of Mathematical and Computational Science, Vol. 11, pp. 312-329. 6. M. Lakshmi Priya and N. Kalaivani, (2021), "Impact of Bernoulli and non-Bernoulli working vacation schedule on single server Markovian queue with disaster", J. Math. Comput. Sci., Vol. 11, pp. 6629-6637.

SOM

SCHOOL OF MANAGEMENT

Progression and Achievements for the AY 2022-23

DATE: 10.06.2023

By

Prof. M. S. R. MARIYAPPAN

DEAN – SCHOOL OF MANAGEMENT

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OVERVIEW OF THE DEPARTMENT

VISION

To be a renowned business school to meet ***industry requirements*** by inculcating ethical values, leadership qualities and entrepreneurial spirit.

MISSION

1. To equip the students with ***knowledge, skill and ability*** for understanding the contemporary functional areas of commerce, management and entrepreneurship.
2. To make the students to recognize the ***global competency level*** in all aspects of their profession.
3. To establish ***industrial platform*** to meet out the needs and requirements of the modern technology driven business world.

PROGRAMMES OFFERED

M.B.A. (1999)	• Finance • Human Resource • Digital Marketing • Business Analytics • Logistics and Shipping Management
Ph.D. (2009)	• Management (FT/PT)
B.Com. (2016)	• General • Accounting & Finance • Corporate Secretaryship • Professional Accounting
B.B.A. (2017)	• Finance • Marketing • Human Resource • Systems

SOM

STUDENTS STRENGTH

Programme	Year	Admitted Strength	Programme Total
B.B.A.	I Year	60	108
	II Year	26	
	III Year	22	
B.Com.	I Year	214	430
	II Year	105	
	III Year	111	
M.B.A.	I Year	138	228
	II Year	90	
		Total Strength	**766**

Ph.D. Scholars	
Full Time – National	5
Full Time – International	2
Part Time	22
Total Strength	**29**
Awarded	**05**

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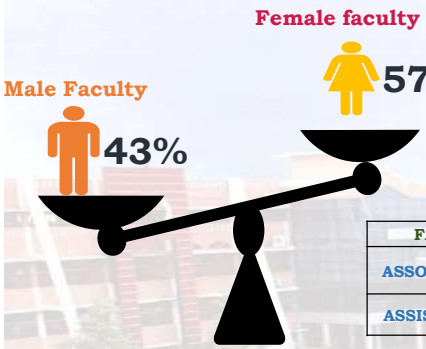
FACULTY DEMOGRAPHICS - DoCBA

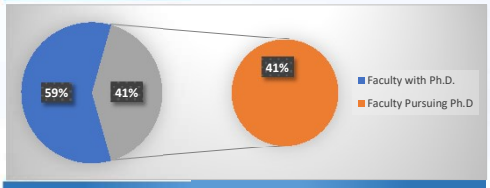
TOTAL NO. OF FACULTY IN DEPARTMENT : 21

Faculty Gender Percentage

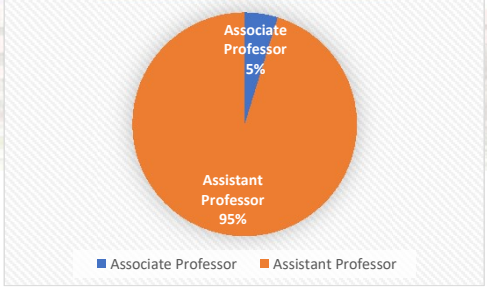


FACULTY CADRE	COUNT
ASSOCIATE PROFESSOR	1
ASSISTANT PROFESSOR	20

Faculty Qualification



Faculty Cadre



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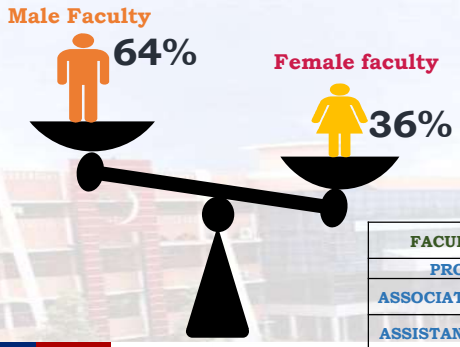
FACULTY DEMOGRAPHICS - DoMS

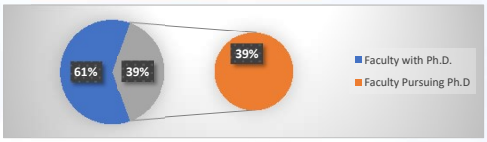
TOTAL NO. OF FACULTY IN DEPARTMENT : 17

Faculty Gender Percentage

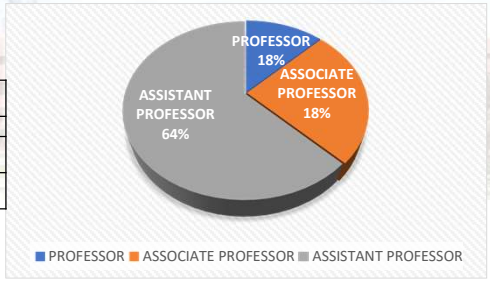


FACULTY CADRE	COUNT
PROFESSOR	3
ASSOCIATE PROFESSOR	3
ASSISTANT PROFESSOR	11

Faculty Qualification



Faculty Cadre



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PLACEMENT 2021-23 PASSEDOUT

B.COM.	B.B.A.	M.B.A.
No. of Students Placed : 58/111	No. of Students Placed : 12/22	No. of Students Placed : 28/88
Placement % : 52	Placement % : 55	Placement % : 32
Highest Package: 7.9 LPA	Highest Package: 7.9 LPA	Highest Package: 9 LPA
Average Package: 3.5 LPA	Average Package: 3 LPA	Average Package: 4.8 LPA

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aptean HDB FINANCIAL SERVICES From the trusted family of HDFC Bank pickyourtrail unwrap the world

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INTERNSHIP WITH STIPEND

B.COM.

No. of Students in Internship : 06

Highest Stipend: 7000

Average Stipend: 6000

M.B.A.

No. of Students in Internship : 12

Highest Stipend: 20000

Average Stipend: 7500

OM LOGISTICS LTD Making Business Simple (An ISO 9001: 2008, 14001:2004 Certified Company) BRUHAT DISYS SAVIC ICICI Securities IntelliPaat

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology (Deemed to be University Estd. u/s 3 of UGC Act, 1956) aptean HDB FINANCIAL SERVICES From the trusted family of HDFC Bank pickyourtrail unwrap the world

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ORIENTATION PROGRAM 2022-23

138 students attended PG Orientation
274 Students attended UG Orientation

PG ORIENTATION

FROM 16.09.2022 TO 24.09.2022

UG ORIENTATION

FROM 26.08.2022 TO 02.09.2022

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TEACHING-LEARNING METHODS IN PRACTICE

SOM

Experiential learning

- Market survey
- Rural Development Program
- Securities Market

Internships
•Laboratory experiments
Alumni Interaction
•Team Project
Inplant training
•Fieldwork

Participative Learning

Role Play | Group Discussion | Workshop | Presentation | Case Study Discussion

- Human Resource Management
- Business Research Methods
- Stress Management and Self Development

Problem Based Learning

- Applied Operation Research
- Quantitative Techniques
- Business Statistics

Applying mathematical concepts → Solving complex problems

Project-Based Learning (PBL)

PBL in the Teaching Learning Process → Develop knowledge and skills

- Summer Internship
- Project Work

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9

TEACHING PEDAGOGIES (SAMPLES)

Project Based – PROJECT WORK/SUMMER INTERNSHIP

Active Experimentation – IT FOR LAB,INTRODUCTON TO MS OFFICE

Watching NPTEL video – LOGISTICS & SUPPLY CHAIN, INTRODUCTION TO DIGITAL MARKETING

Field survey – MARKET SURVEY/RDP

Case study discussion - OPERATION MANAGEMENT, STRESS MANAGEMENT, HRM

Creating Art Work

Group Discussion - HRM, MARKETING MANAGEMENT

Classroom Activities – POM, OB, EVENT MANAGEMENT, RURAL MARKETING

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10

SOM

Overall Pass Percentage

SOM - Overall Pass Percentage			
Year	Batch	Semester	% of Pass
I B.COM	2022-2025	I Sem	86.4%
II B.COM	2021-2024	III Sem	66.5%
III B.COM	2020-2023	V Sem	**81.7%**
I BBA	2022-2025	I Sem	81.36%
II BBA	2021-2024	III Sem	100%
III BBA	2020-2023	V Sem	**100%**
I MBA	2022-2024	I Sem	98.4%
II MBA	2021-2023	III Sem	**100%**

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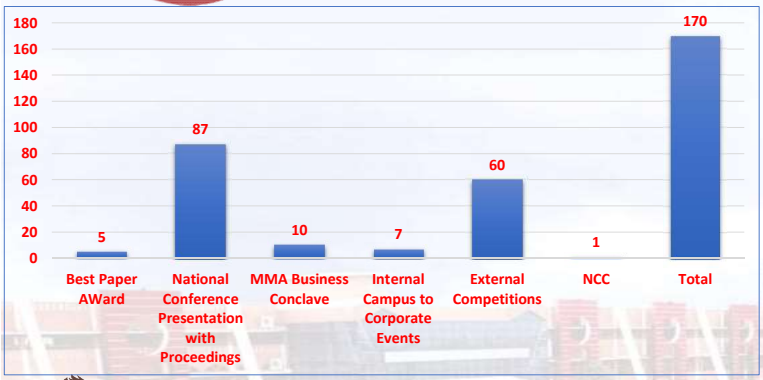
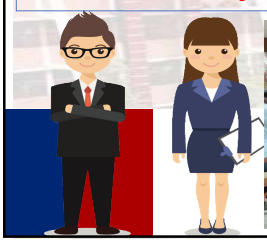
SOM

STUDENTS ACHIEVEMENTS

TOTAL CASH PRIZE RECEIVED Rs.39,000/-

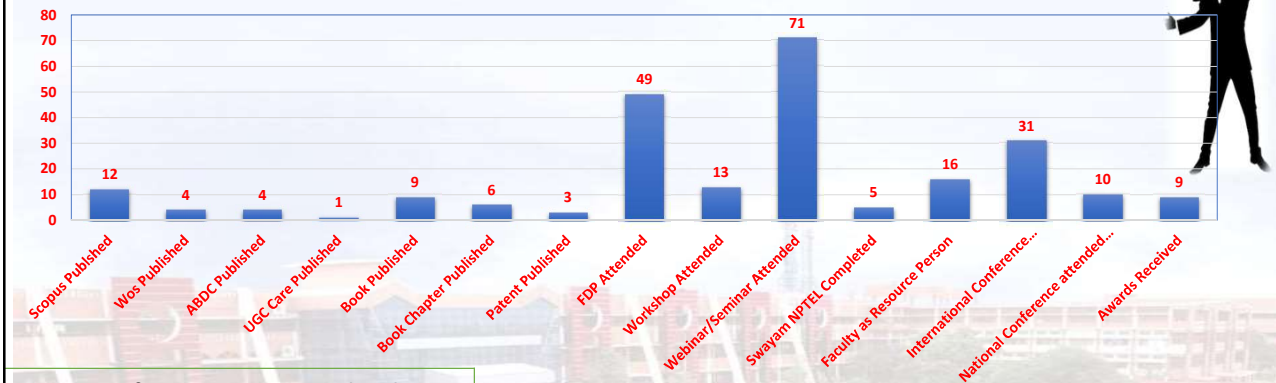


CASH PRIZES	
VELTECH GD PRO (C2C)	5000
VELTECH QUIZ PRO (C2C)	14000
VELTECH PERSONAL INTERVIEW PRO (C2C)	5000
VELTECH APTIMIND PRO (C2C)	5000
Chancellor Appreciation Amount for Chess Olympiad	5000
Best Paper Award	5000
Total	39000



SOM

FACULTY ACHIEVEMENTS



No. of MSME Course Completed
01

Name of the Agency	No. of Proposal submitted
TNSCST	12
CMRG	01
ICSSR	03
UNESCO	01

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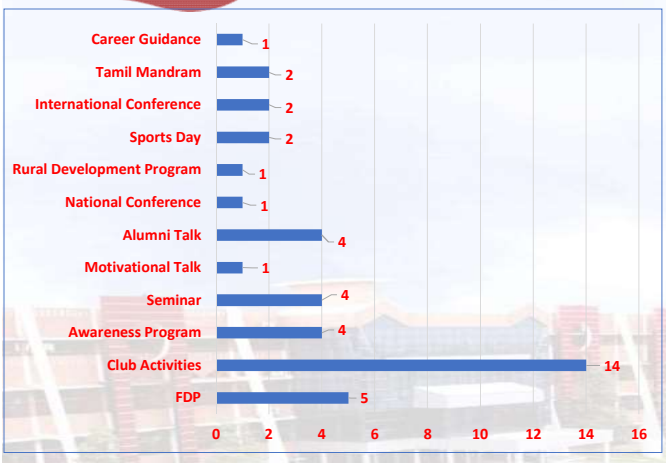
SOM

EVENTS ORGANISED



FDP on "Advanced Research Methodology on Social Science Research

Sports Day

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SOM

INDUSTRAL INTERACTIONS

S.No.	DATE	FACULTY NAME
1	20.09.2022 to 24.09.2022	Dr. G. Manoj Dr. C. Vijai
2	01.11.2022 to 05.11.2022	Dr. G. Chandramowleeswaran Mr. Murali R
3	23.01.2023 to 28.01.2023	Dr. Elantheraiyan.P
4	01.05.2023 to 05.05.2023	Dr. S. Thandayuthapani
5	30.03.2023	Dr. M .S .R. Mariyappan
6	06.05.2023	Dr. K. Ravishankar Dr. G. Manoj
7	25.04.2023	Dr. M. S. R. Mariyappan Dr. K. Ravishankar

School of Design Thinking
Amalgamation Group
Delphi TVS
Kerry Indev

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SOM

STUDENTS OUTREACH PROGRAMME

RURAL DEVELOPMENT PROGRAMME

S.NO.	PROGRAMME	BATCH	VILLAGE NAME	NO. OF STUDENTS BENEFITTED	NO. OF CREDIT	OUTCOME
1.	M.B.A.	2022 – 23	Karlapakkam	138	1	To engage the students in understanding rural realities

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16

SOM

INNOVATION AMBASSADOR TRAINING PROGRAMME

DR.LEENA JENEFA
ASSOCIATE PROFESSOR
DEPARTMENT OF MANAGEMENT STUDIES

No. of Events Organized :09

Ms.ASHLIN
ASSISTANT PROFESSOR
DEPARTMENT OF MANAGEMENT STUDIES

No. of Events Organized :03

DR.G.CHANDRAMOWLEESWARAN
ASSISTANT PROFESSOR
DEPARTMENT OF COMMERCE AND BUSINESS ADMINISTRATION

No. of Events Organized :01

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DoMs - VEL PRABANDAM

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25 ANNIVERSARY Vel Tech

NAAC HIGHEST GRADE A++

SCHOOL OF MANAGEMENT

DEPARTMENT OF MANAGEMENT STUDIES

VEL PRABANDAM

March - 2023

NITHISHKUMAR R

- He comes to college in proper dress code.
- He is an active listener of all classes.
- He has participated in QUIZ PRO conducted by Vel Tech Campus to corporate and won First Prize.
- His overall performance is good in all ways.

Test – I & II Marks (Out of 30)		
Marketing Management	26	26
Applied Operation Research	17	08
Financial Management	22	20
Human Resource Management	24	24
Business Research Methods	26	25
Operations Management	17	25
Business Ethics & Corporate Social Responsibility	25	28

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STUDENTS INDUSTRIAL VISIT

S. NO.	PROGRAMME	BATCH	COMPANY VISITED	NO. OF STUDENTS BENEFITTED	OUTCOME
1.	M.B.A.	2022 – 23	Modern Bakers (Madras) Pvt Ltd., C/ O Parle products Pvt. Ltd., Chennai -600060	138	Students received Real Time Exposure about Different Functional Areas of the company

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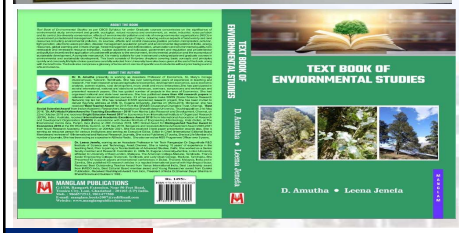
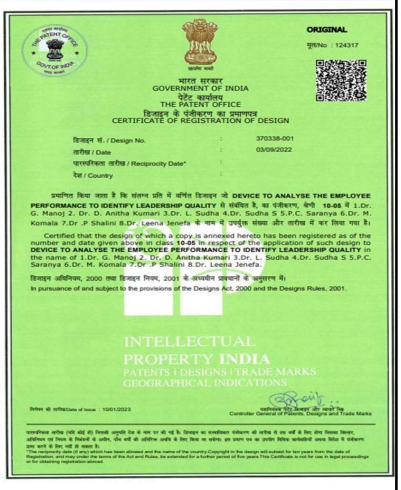
SOM

FACULTY ACHIEVEMENTS- GLIMPSES





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SOM

CLUB ACTIVITIES- GLIMPSES

- LOGISTICS CLUB
- MONEYMOVERS CLUB
- HR CLUB
- BUSINESS ANALYTICS CLUB
- DIGITAL MARKETING CLUB
- BUSINESS CLUB

Expert Talk on New Trends & Opportunities in Logistics

Money Movers Club Inauguration

Business Analytics Club Inauguration

Digital Marketing Club Inauguration

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CLUB ACTIVITIES- GLIMPSES

- WOMEN CLUB
- COMMERCE CLB
- FINANCE CLUB
- FACULTY RECREATION CLUB
- ENTREPRENEURSHIP CUM SKILL DEVELOPMENT CENTRE (ESDC)
- COMMUNICATION CLUB
- SPORTS CLUB

Women's Day Celebration

Commerce Club Inauguration

Finance Club Inauguration

Faculty Recreation Activities

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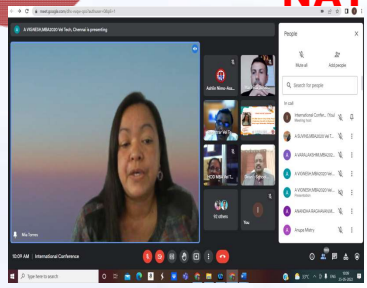
SOM

INTERNATIONAL E-CONFERENCE & NATIONAL CONFERENCE 2023

ICETM 2022



- ✓ Chief Guest address delivered by **Dr. Mia Torres – Dela Cruz, Faculty of Business, Holy Angel University, Philippines**
- ✓ The International Speaker : **Dr. Marinică Tiberiu Șchiopu, Ph.D, University of Craiova, Romania**
- ✓ **Dr.G. M. Shaju, Registrar, MIANZ International College, Maldives**
- ✓ No. of contributed papers : **235**
- ✓ International delegates : Malawi, Zambia, Sri Lanka
- ✓ National Delegates : Maharashtra, U.P, Haryana, Srinagar, Tamil Nadu and Gujarat

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23

SOM

EVENTS ORGANISED - GLIMPSES

Women's Day Celebration

Tamil Mandram

ENTREPRENEURSHIP CUM SKILL DEVELOPMENT CENTRE (ESDC)

Sports Day

Vel Tech
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SOM

ALUMNI INTERACTIONS- GLIMPSES

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SOM

THANK YOU

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Annual Progress of Academic Year 2022 -2023

Freshman Engineering (FME) & School of Sciences and Humanities

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OUTLINE

FME Students
1

- ☑ Strength (Branch wise, Gender wise)
- ☑ Performance

Faculty
2

- ☑ Designation
- ☑ Qualification
- ☑ Research
- ☑ Book Publication
- ☑ Awards & Achievements
- ☑ Events

Events Organized
3

- ☑ IcA
- ☑ TSF
- ☑ Vel Tech Science Fest
- ☑ CDIO
- ☑ Student Achievements

PG Prog
4

- ☑ PG courses
- ☑ Enrollment
- ☑ Performance
- ☑ Internship
- ☑ Extension Activities

Infrastructure
5

- ☑ Equipment

FRESHMAN ENGINEERING & SCHOOL OF SCIENCE AND HUMANITIES

Student Strength		
S.No	Particulars	Counts
1	FME Students	2516
2	PG Students	140

Ph.D. Research Scholars	
Fll Time	39
Part Time	94
Total	133

AY 2022-23	
Joined	40
Awarded	12

Faculty	
PDF	8
Ph.D.	110
M.Phil.	16
M.Tech.	45
Total	171

SEED Funded Projects	
No. of SEED Fund	5
Amount (Rs.)	5.4 Lakhs

Faculty Cadre Details	
Professor	14
Associate Professor	33
Assistant Professor	124
Total	171

Research Highlights	
WoS/SCI Journals	163
Scopus Journals	153
UGC	76
Patents Published	35

Infrastructure	
Cost of Equipment/Devices Purchased (Rs.)	Rs. 12,94,763

Male	110
Female	61

Project Competition
27 Students
3 Institutions
5 Project Expo
5 Prizes

Research Supervisors	
SSH	49
FME	14
Total	63

FDP/Workshop/Conference/Webinar		
Particulars	Attended	Organized
FDP	278	4
Workshop	49	2
Conference	37	1
Webinar	88	17

Student Internship
62 Students
10 Industries
6 Institutes

Student Participation
48 Students
10 Institutions
20 Events

Events/Awards	
No. of Events organized	27
No. of Awards by Faculty	17

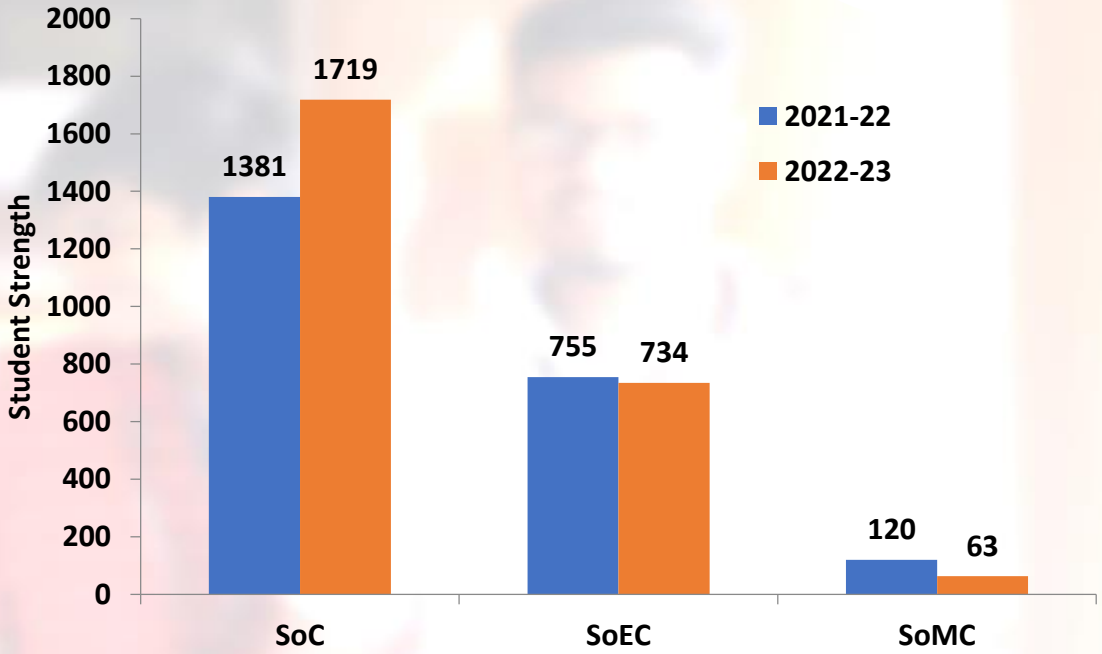
Books/Book Chapter – AY 2022-23	
Books	17
Book Chapter	21

FME STUDENTS

ENROLEMENT & PERFORMANCE

FRESHMAN ENGINEERING – STUDENTS DIVERSITY (2021-22 & 2022-23)

S.No	Branch	Admitted 2021-22	Admitted 2022-23
1	Aeronautical Engineering	34	26
2	Artificial Intelligence(ai) And Data Science	69	69
3	Artificial Intelligence And Machine Learning	69	69
4	Computer Science and Design	69	69
5	Computer Science and Engineering (Data Science)	-	59
6	Computer Science and Engineering (Cyber Security)	-	59
7	Computer Science and Engineering (Artificial Intelligence and Machine Learning)	-	60
8	Bio Medical	23	69
9	Bio Technology	54	69
10	Civil Engineering	32	14
11	Computer Science and Engineering	1104	1266
12	Electrical and Electronics Engineering	24	46
13	Electronics and Communication Engineering	655	550
14	Information Technology	69	68
15	Mechanical Engineering	54	23
	Total	2256	2516



Total Strength: 2516
Dept.: 15

FRESHMAN ENGINEERING - STUDENTS DIVERSITY (2022 -23)

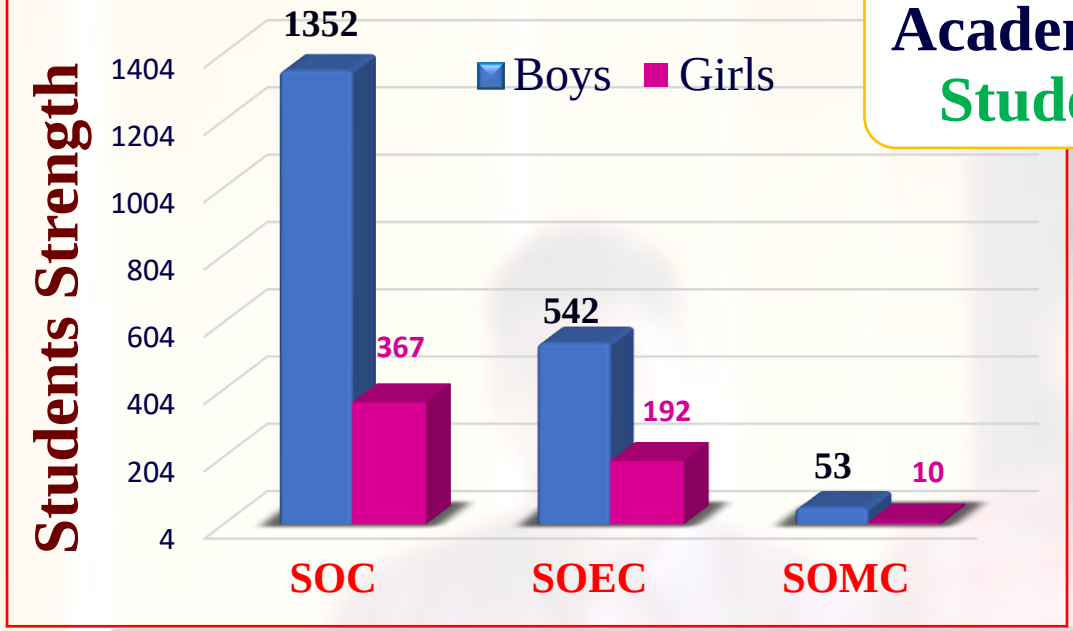
No. of Specialization: Total 35; SoC-17; SoEC-10; SoMC-8

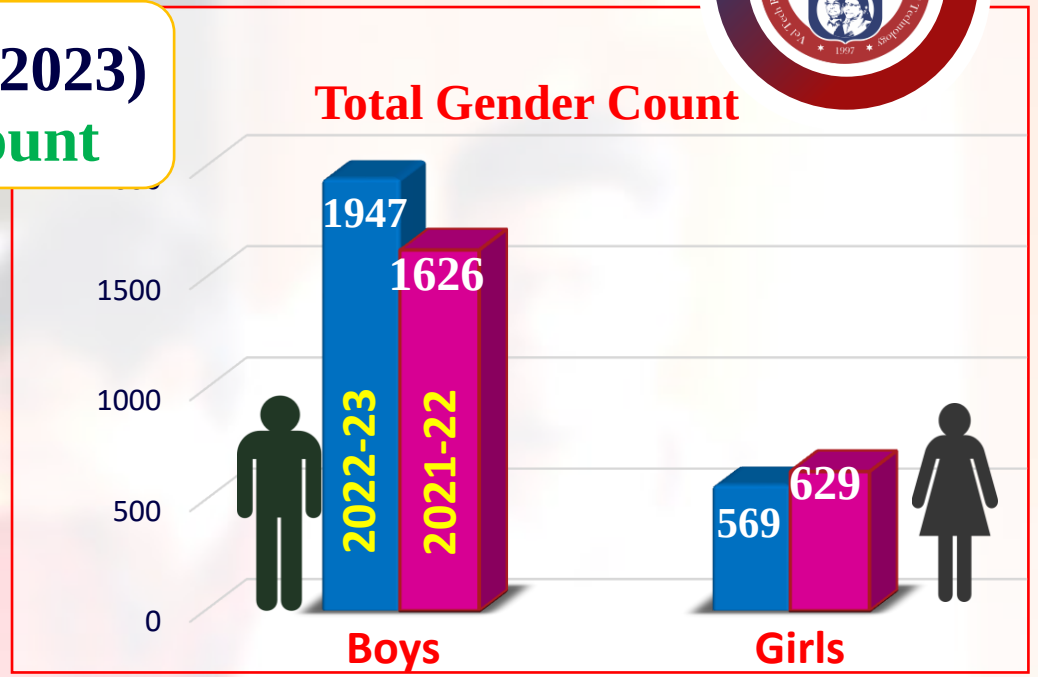
Sl. No	SCHOOL	BRANCH	STRENGTH
1	SoC	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	69
2		ARTIFICIAL INTELLIGENCE(AI) AND DATA SCIENCE	69
3		COMPUTER SCIENCE AND DESIGN	69
4		COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)	60
5		COMPUTER SCIENCE AND ENGINEERING (CYBER SECURITY)	59
6		COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)	59
7		COMPUTER SCIENCE AND ENGINEERING	772
8		COMPUTER SCIENCE AND ENGINEERING WITH SPECIALIZATION IN ANIMATION AND GAME DESIGN	10
9		COMPUTER SCIENCE AND ENGINEERING WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE	25
10		COMPUTER SCIENCE AND ENGINEERING WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	134
11		COMPUTER SCIENCE AND ENGINEERING WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	292
12		COMPUTER SCIENCE AND ENGINEERING WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND ROBOTICS	6
13		COMPUTER SCIENCE AND ENGINEERING WITH SPECIALIZATION IN CYBER SECURITY	10
14		COMPUTER SCIENCE AND ENGINEERING WITH SPECIALIZATION IN DATA SCIENCE	5
15		COMPUTER SCIENCE AND ENGINEERING WITH SPECIALIZATION IN IOT AND CYBER SECURITY INCLUDING BLOCK CHAIN TECHNOLOGY	12
16		INFORMATION TECHNOLOGY	58
17		INFORMATION TECHNOLOGY WITH SPECIALIZATION IN CLOUD COMPUTING	10

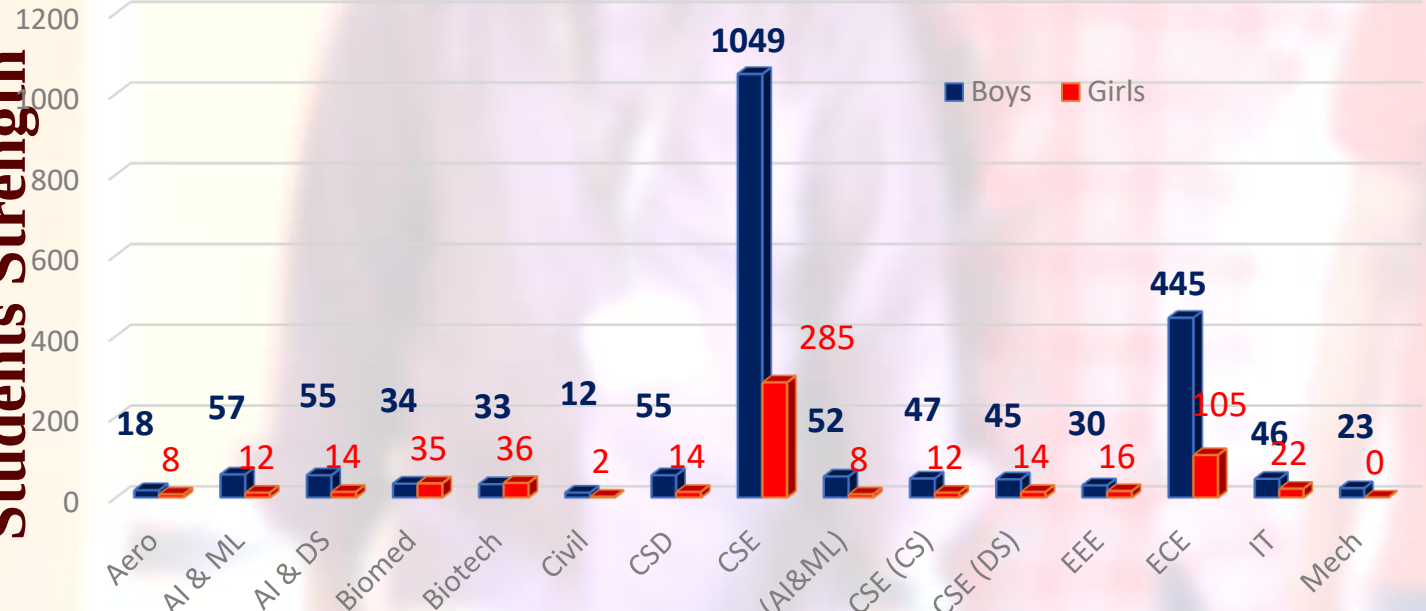
Sl. No	SCHOOL	BRANCH	STRENGTH
18	SoEC	BIO TECHNOLOGY	66
19		BIOTECHNOLOGY WITH SPECIALIZATION IN FOOD AND PRECISION AGRICULTURE	3
20		ELECTRICAL AND ELECTRONICS ENGINEERING	34
21		ELECTRICAL AND ELECTRONICS ENGINEERING WITH SPECIALIZATION IN COMPUTER SYSTEMS	12
22		ELECTRONICS AND COMMUNICATION ENGINEERING	323
23		ELECTRONICS AND COMMUNICATION ENGINEERING WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	91
24		ELECTRONICS AND COMMUNICATION ENGINEERING WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	115
25		ELECTRONICS AND COMMUNICATION ENGINEERING WITH SPECIALIZATION IN CYBER SECURITY	21
26		BIO MEDICAL ENGINEERING	54
27		BIO MEDICAL ENGINEERING WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE IN HEALTHCARE TECHNOLOGY	15
28	SoMC	AERONAUTICAL ENGINEERING	20
29		AERONAUTICAL ENGINEERING WITH SPECIALIZATION IN AUTONOMOUS DRONE TECHNOLOGY	4
30		AERONAUTICAL ENGINEERING WITH SPECIALIZATION IN COMPUTATIONAL ENGINEERING	2
31		CIVIL ENGINEERING	13
32		CIVIL ENGINEERING WITH SPECIALIZATION IN COMPUTER AIDED INFRASTRUCTURE ENGINEERING	1
33		MECHANICAL ENGINEERING	17
34		MECHANICAL ENGINEERING WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND ROBOTICS	4
35		MECHANICAL ENGINEERING WITH SPECIALIZATION IN MECHATRONICS	2

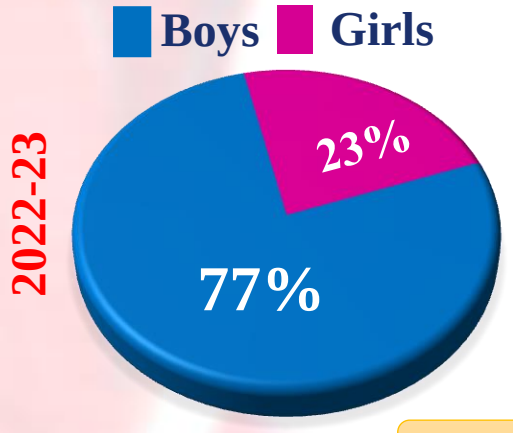
FRESHMAN ENGINEERING - STUDENTS DIVERSITY

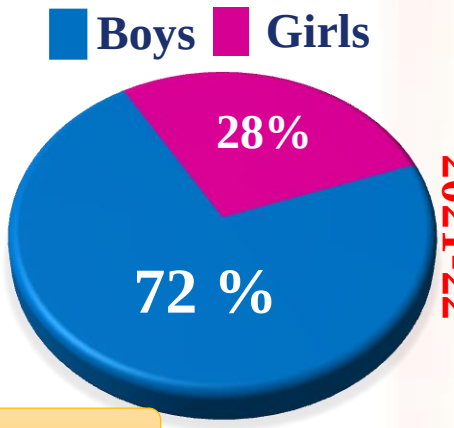
Academic year (2022-2023)
Students Gender Count











Overall percentage

STUDENT ENROLLMENT & ACADEMIC PERFORMANCE

2020-21

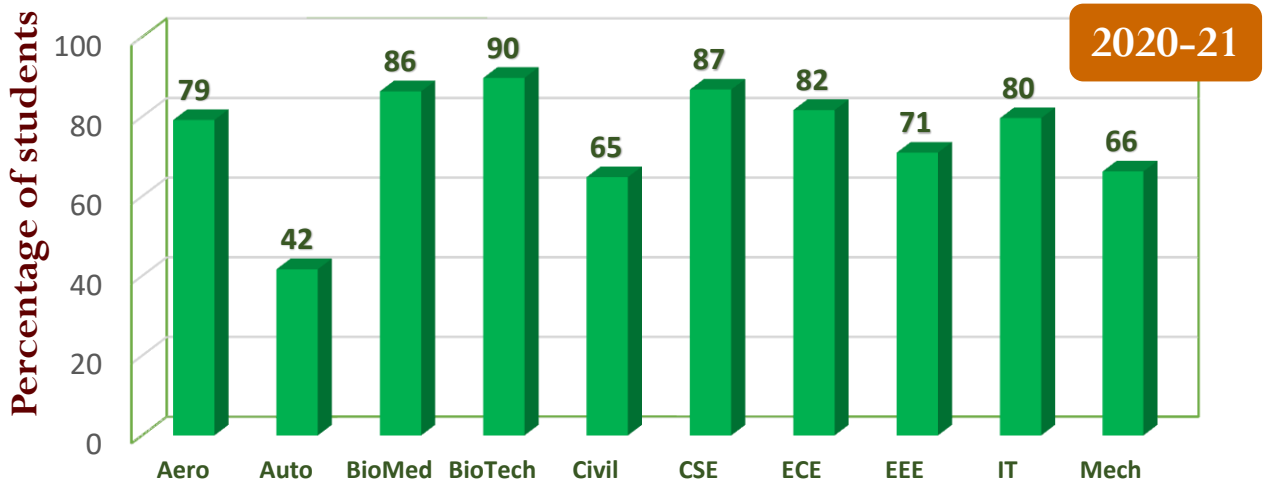
S.No	Branch	Appeared	Passed
1	Aeronautical Engineering	48	38
2	Automobile Engineering	12	5
3	Bio Medical	22	19
4	Bio Technology	39	35
5	Civil Engineering	54	35
6	Computer Science and Engineering	1062	922
7	Electronics and Communication Engineering	376	307
8	Electrical and Electronics Engineering	31	22
9	Information Technology	54	43
10	Mechanical Engineering	77	51
	Total	1775	1477

2021-22

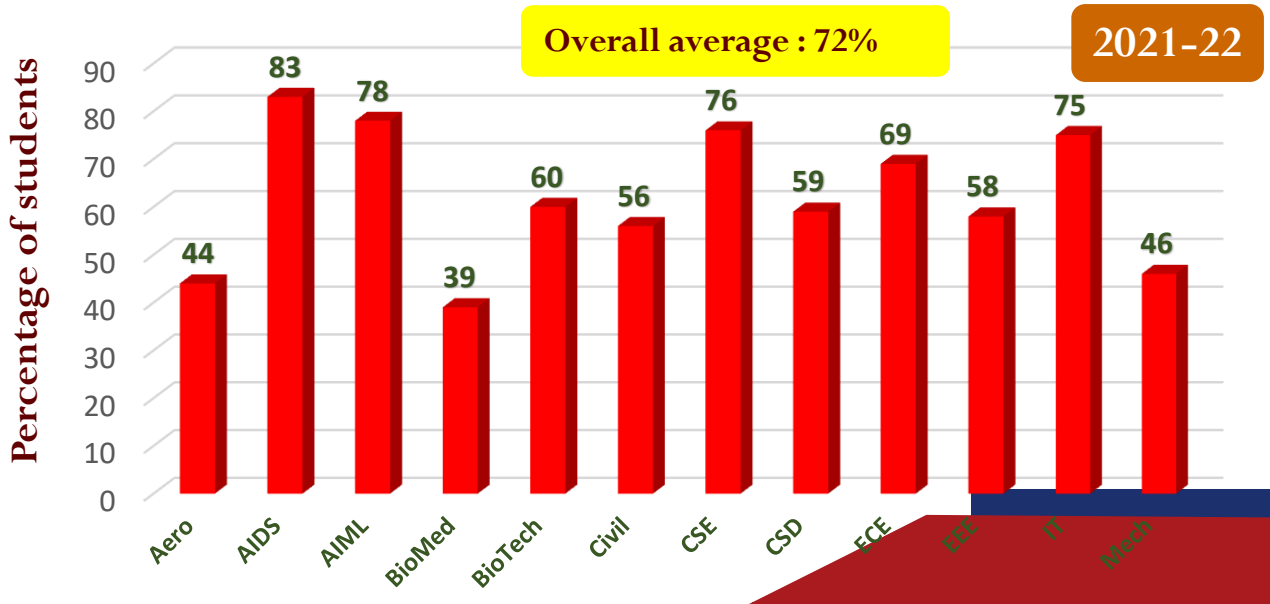
S.No	Department	Appeared	Passed
1	Aeronautical Engineering	34	15
2	Artificial Intelligence and Data Science	69	57
3	Artificial Intelligence and Machine Learning	69	54
4	Biomedical Engineering	23	9
5	Biotechnology	53	32
6	Civil Engineering	32	18
7	Computer Science & Engineering	1104	843
8	Computer Science and Design	69	41
9	Electrical and Electronics Engineering	24	14
10	Electronics & Communication Engineering	656	454
11	Information Technology	69	52
12	Mechanical Engineering	54	25
	Total	2256	1614

Overall average: 83%

Successful Students %



Overall average : 72%



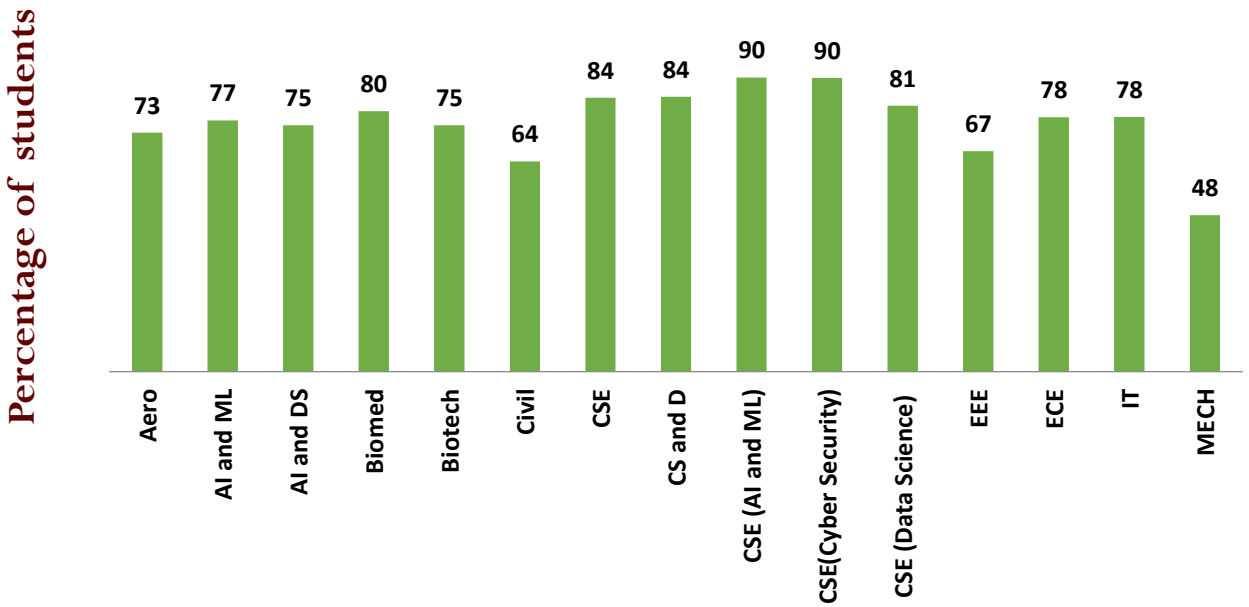
STUDENT ENROLLMENT & ACADEMIC PERFORMANCE

S.No	Department	Appeared	Passed
1	Aeronautical Engineering	26	19
2	Artificial Intelligence and Machine Learning	69	53
3	Artificial Intelligence(AI) and Data Science	69	52
4	Biomedical Engineering	69	55
5	Biotechnology	69	52
6	Civil Engineering	14	9
7	Computer Science & Engineering	1266	1061
8	Computer Science and Design	69	58
9	Computer Science and Engineering (Artificial Intelligence and Machine Learning)	60	54
10	Computer Science and Engineering (Cyber Security)	59	53
11	Computer Science and Engineering (Data Science)	59	48
12	Electrical and Electronics Engineering	46	31
13	Electronics & Communication Engineering	550	428
14	Information Technology	68	53
15	Mechanical Engineering	23	11
	Total	2516	2307

Overall average: 81%

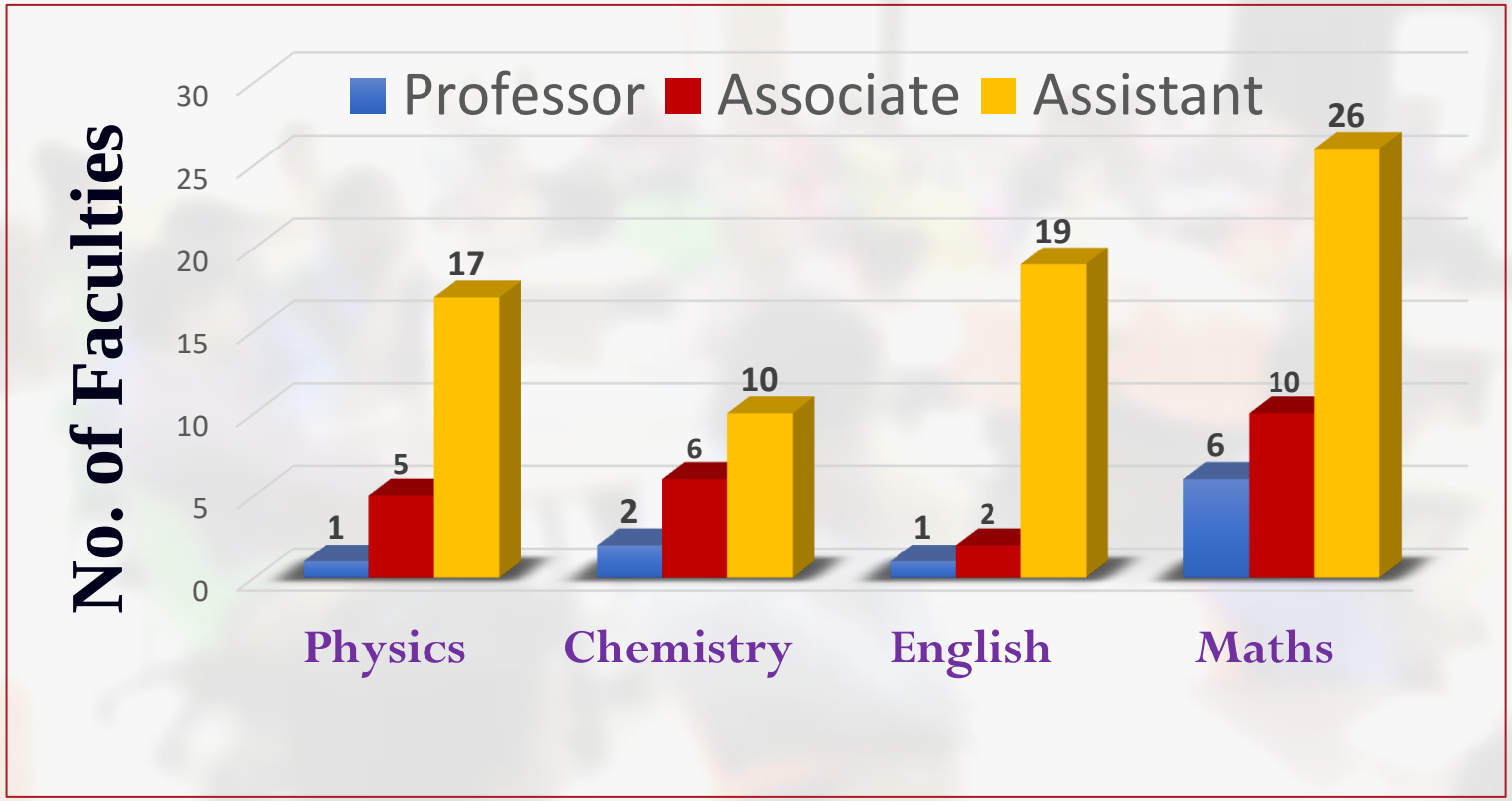
2022-2023

Successful Students %



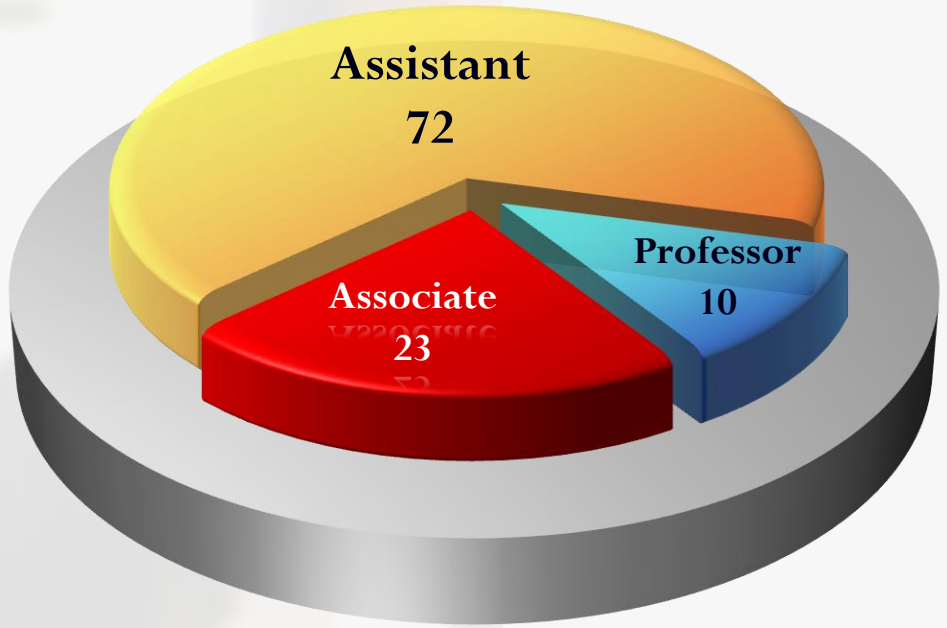
FACULTY DETAILS

S & H - Faculty Cadre Details

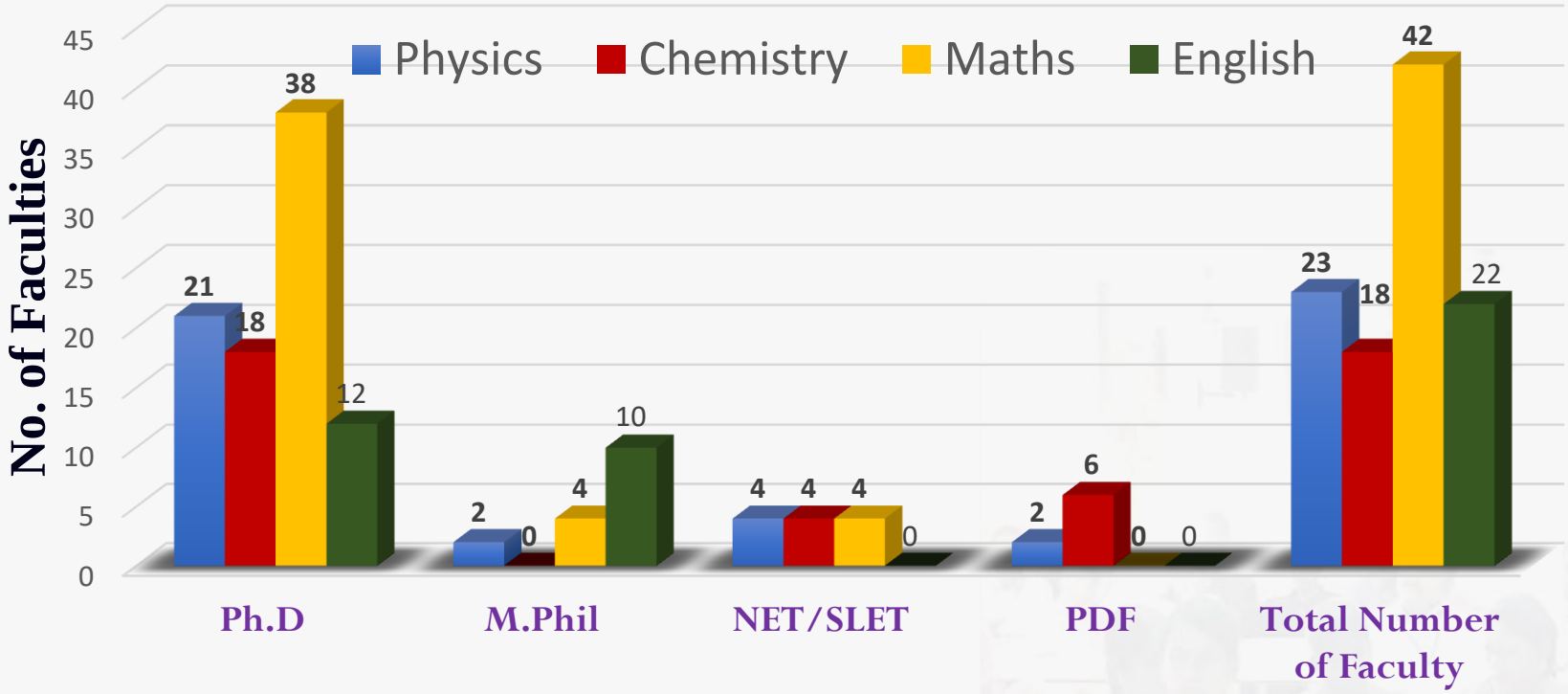


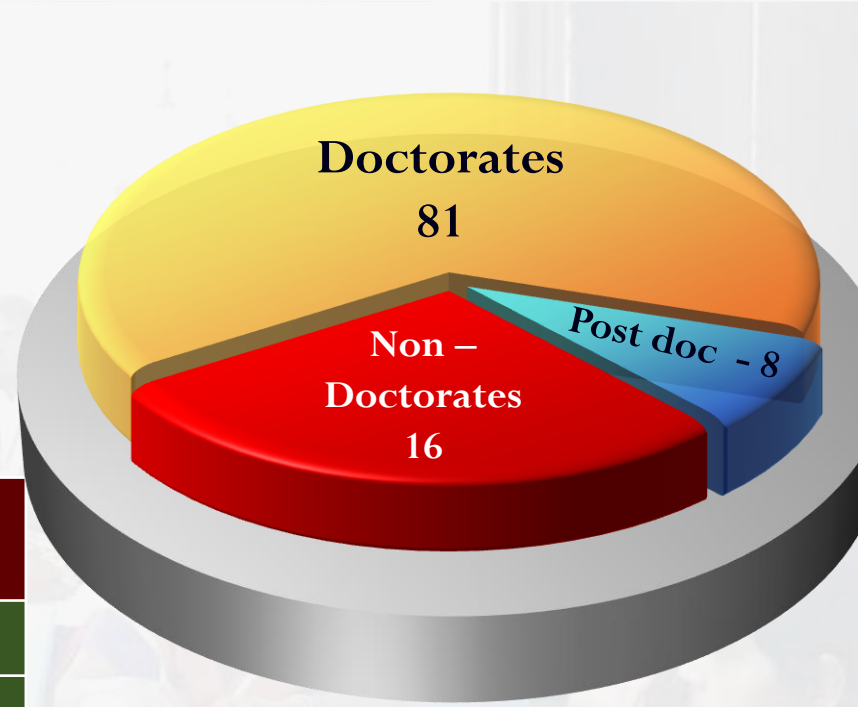
Total : 105

Total S & H Faculties



S & H - Faculty Qualification Details



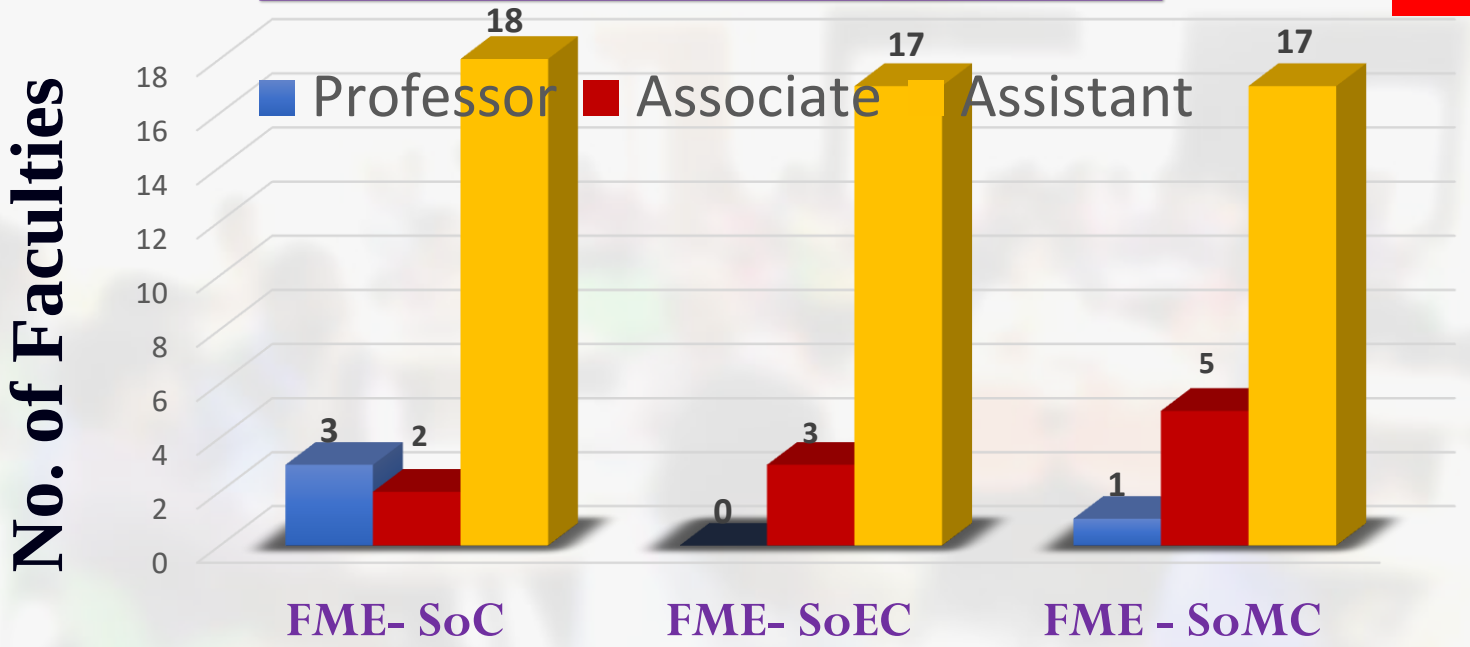


Department	Professor	Associate Professor	Assistant Professor	Ph.D	M.Phil	Total
Physics	1	5	17	21	2	23
Chemistry	2	6	10	18	0	18
English	1	2	19	12	10	22
Maths	6	10	26	38	4	42
				Total		105

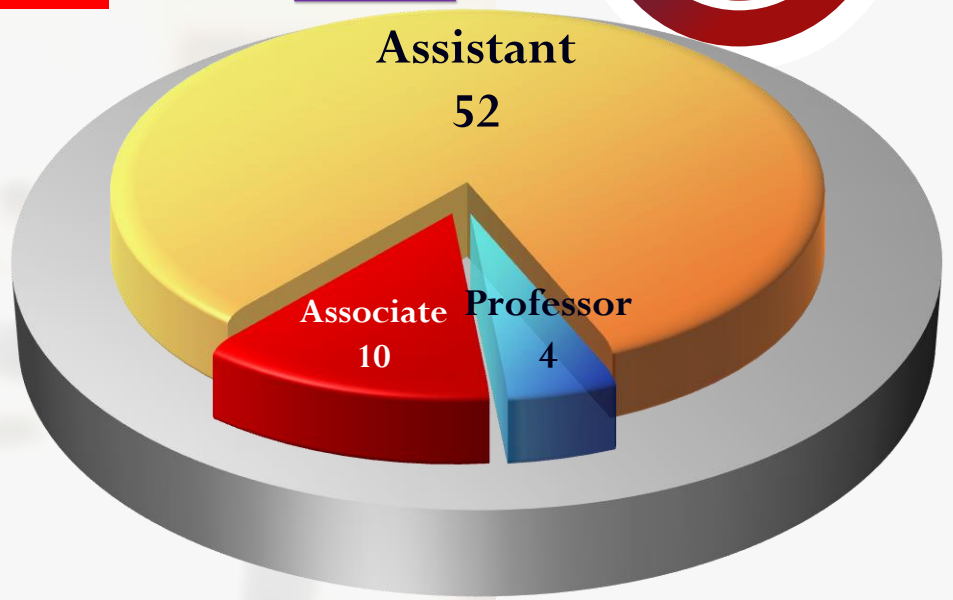
FME –FACULTY DETAILS

FME – ENGINEERING DEPTS

Total : 66

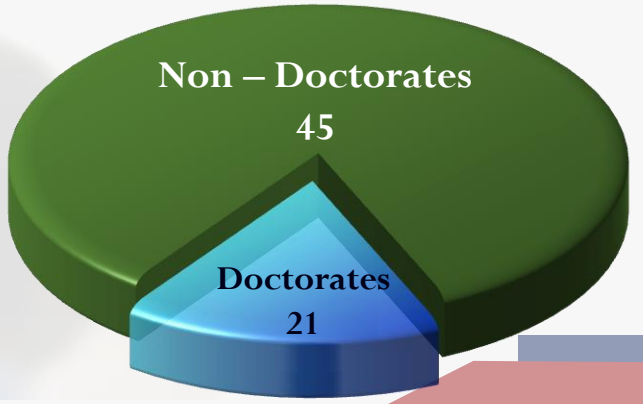


Cadre



Department	Professor	Associate Professor	Assistant Professor	Ph.D	Non - PhD
FME- SoC	3	2	18	5	18
FME- SoEC	0	3	17	5	15
FME - SoMC	1	5	17	11	12
Total	4	10	52	21	45

Qualification



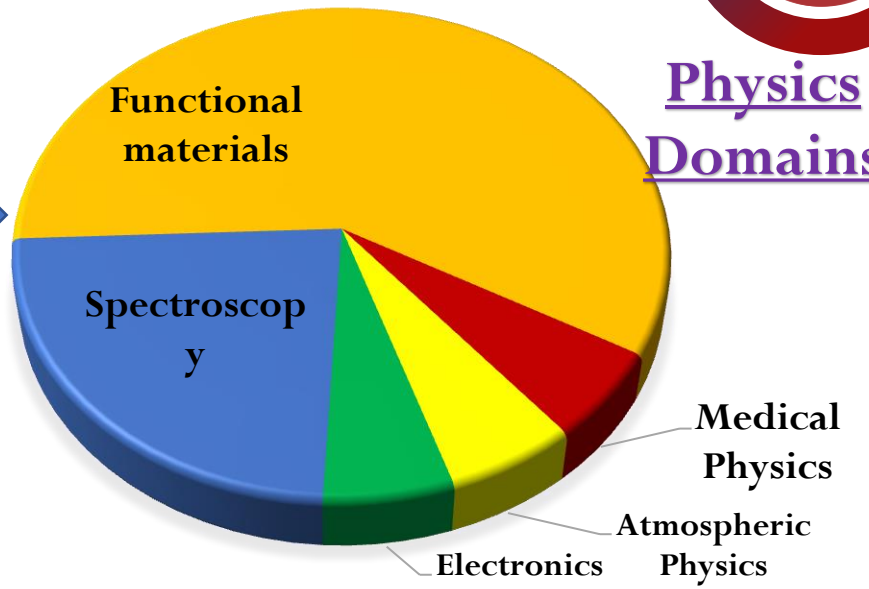
Domain wise classification of faculty

Spectroscopy	Functional Materials	Medical Physics	Atmospheric Physics	Electronics
4	16	1	1	1

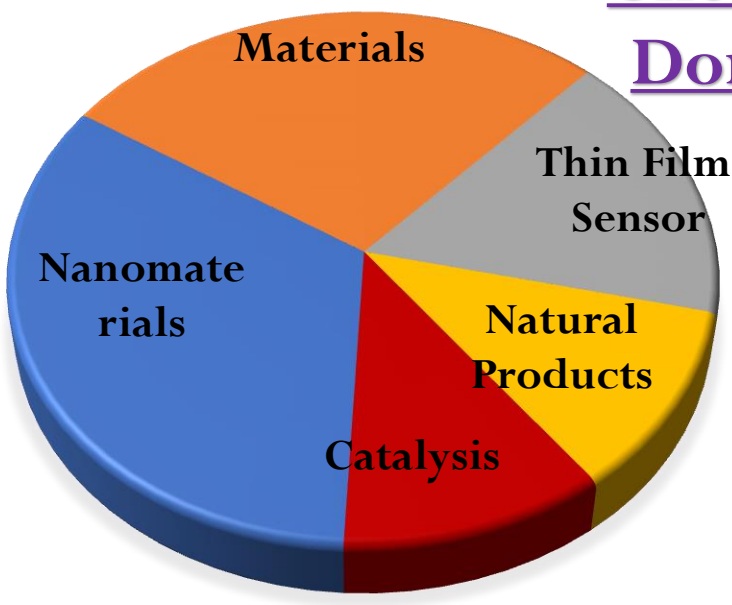
Physics

No. of Faculties

Physics Domains



Chemistry Domains



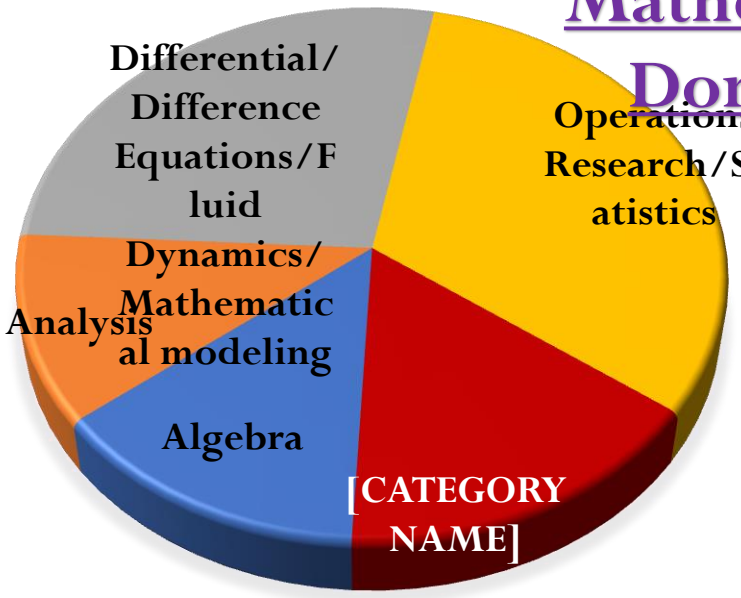
Nanomaterials	Materials	Thin Film, Sensor	Natural Products	Catalysis
6	5	3	2	2

Chemistry

No. of Faculties

Domain wise classification of faculty

Mathematics Domains



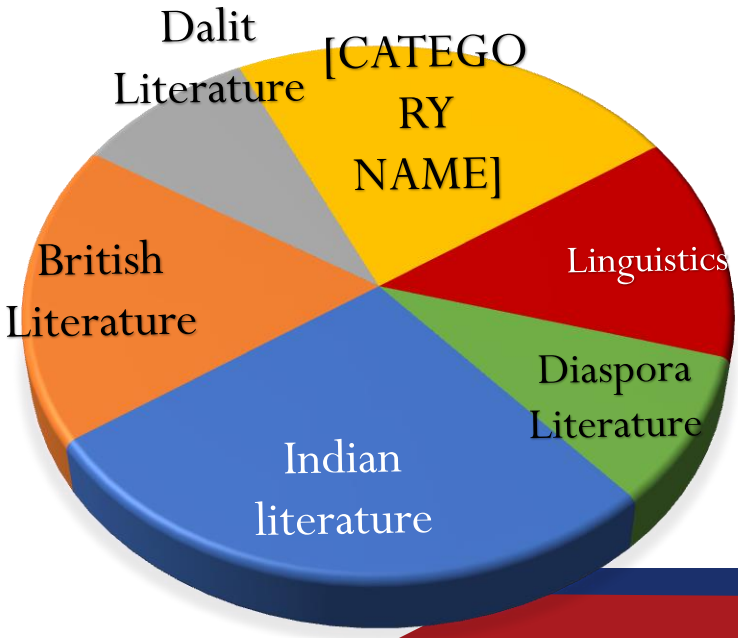
Algebra	Analysis	Differential/ Difference Equations/ Fluid Dynamics/ Mathematical modeling	Operations Research/ Statistics	Fuzzy Mathematics/ Computational Mathematics
6	5	11	12	9

Mathematics

English Domains

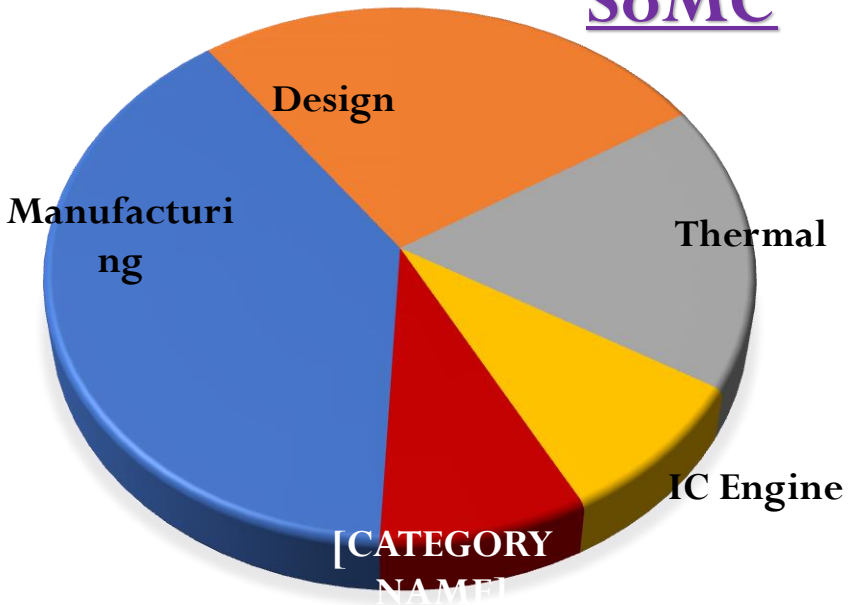
Indian Literature	British Literature	Dalit Literature	English Language & Teaching	Linguistics	Diaspora Literature
6	4	2	5	3	2

English



Domain wise classification of faculty

SoMC



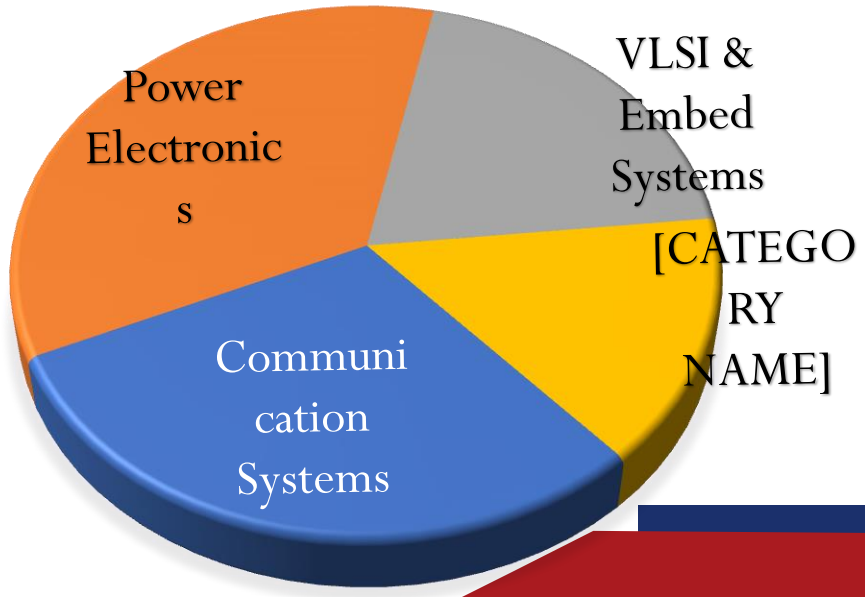
Manufacturing	Design	Thermal	IC Engines	Structural Design
9	6	4	2	2

Mathematics

SoEC

Communication Systems	Power Electronics	VLSI & Embed Systems	Renewable Energy
6	7	4	3

SoEC

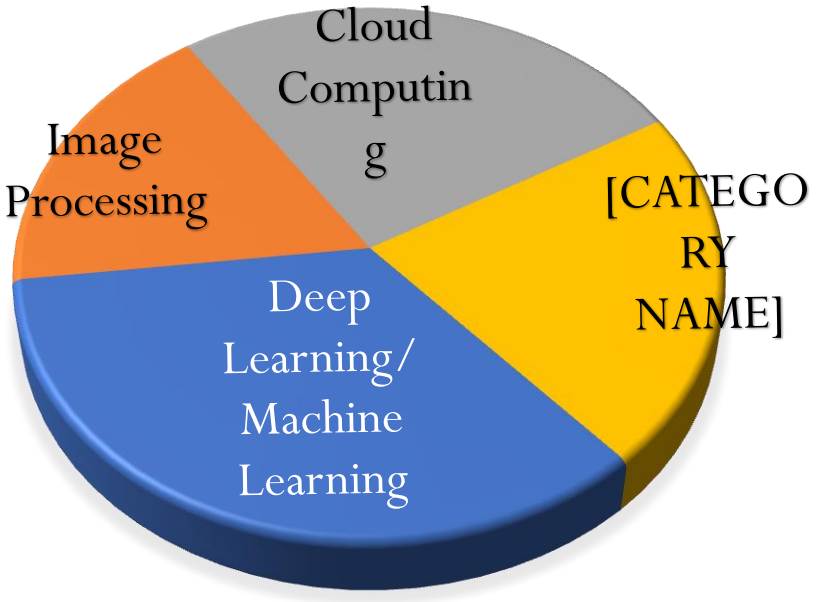


Domain wise classification of faculty

SoC

Deep Learning/Machine Learning	Image Processing	Cloud Computing	IoT/Big Data
8	4	6	5

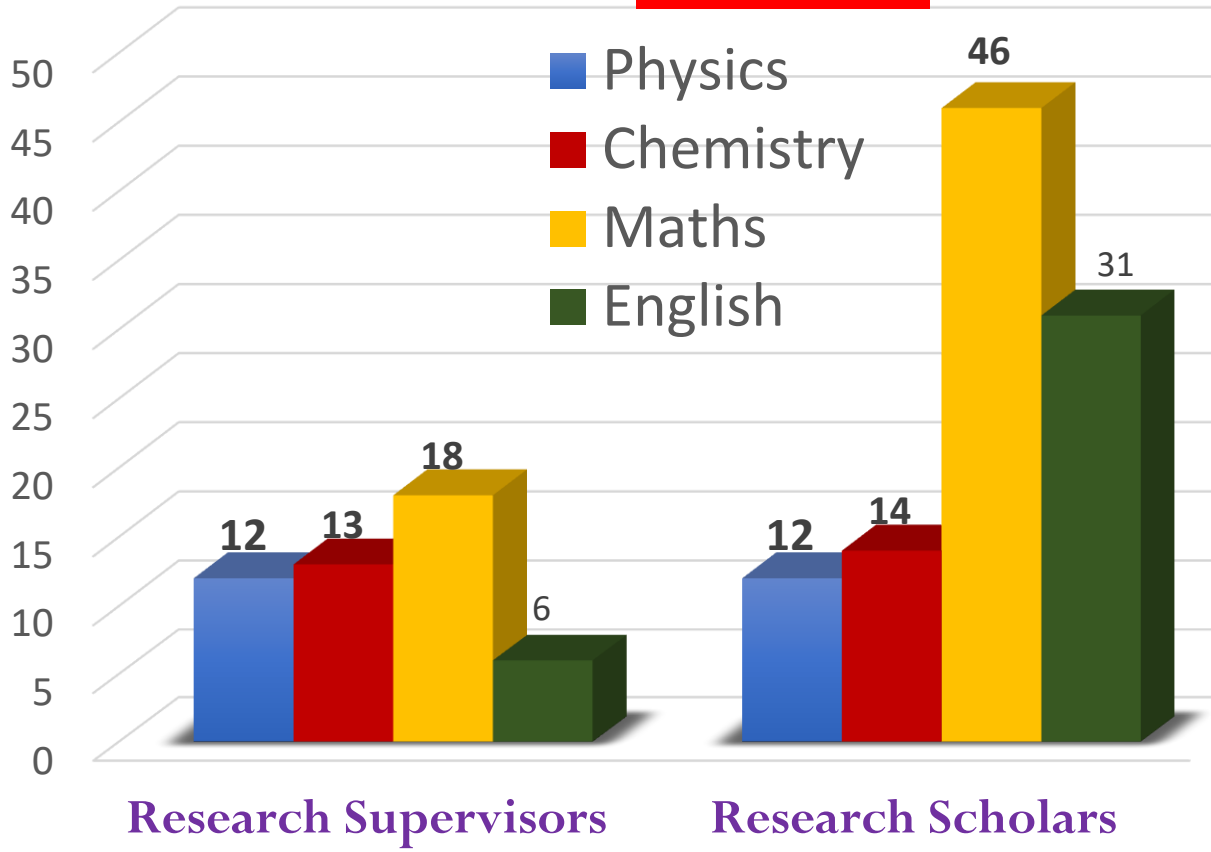
SoC



RESEARCH & DEVELOPMENT PROGRESS

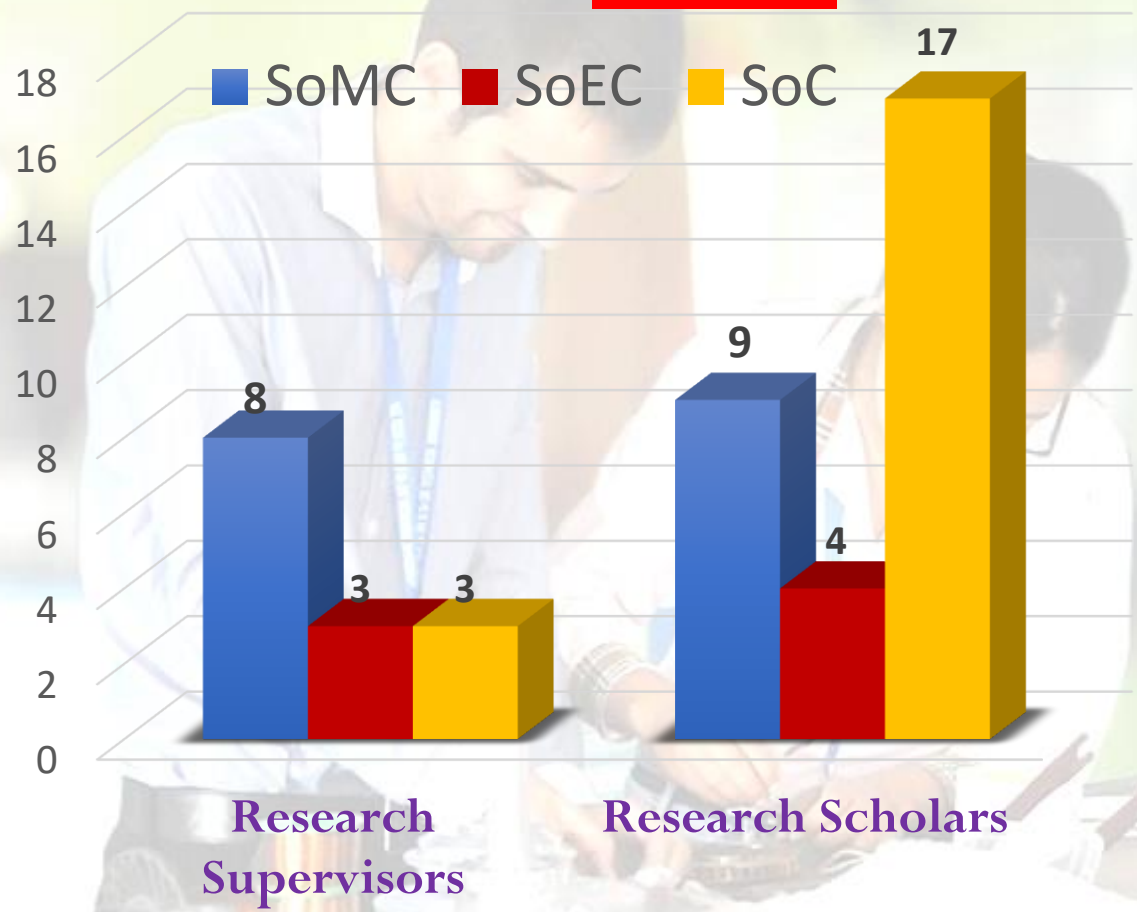
SSH

49/105 - 103



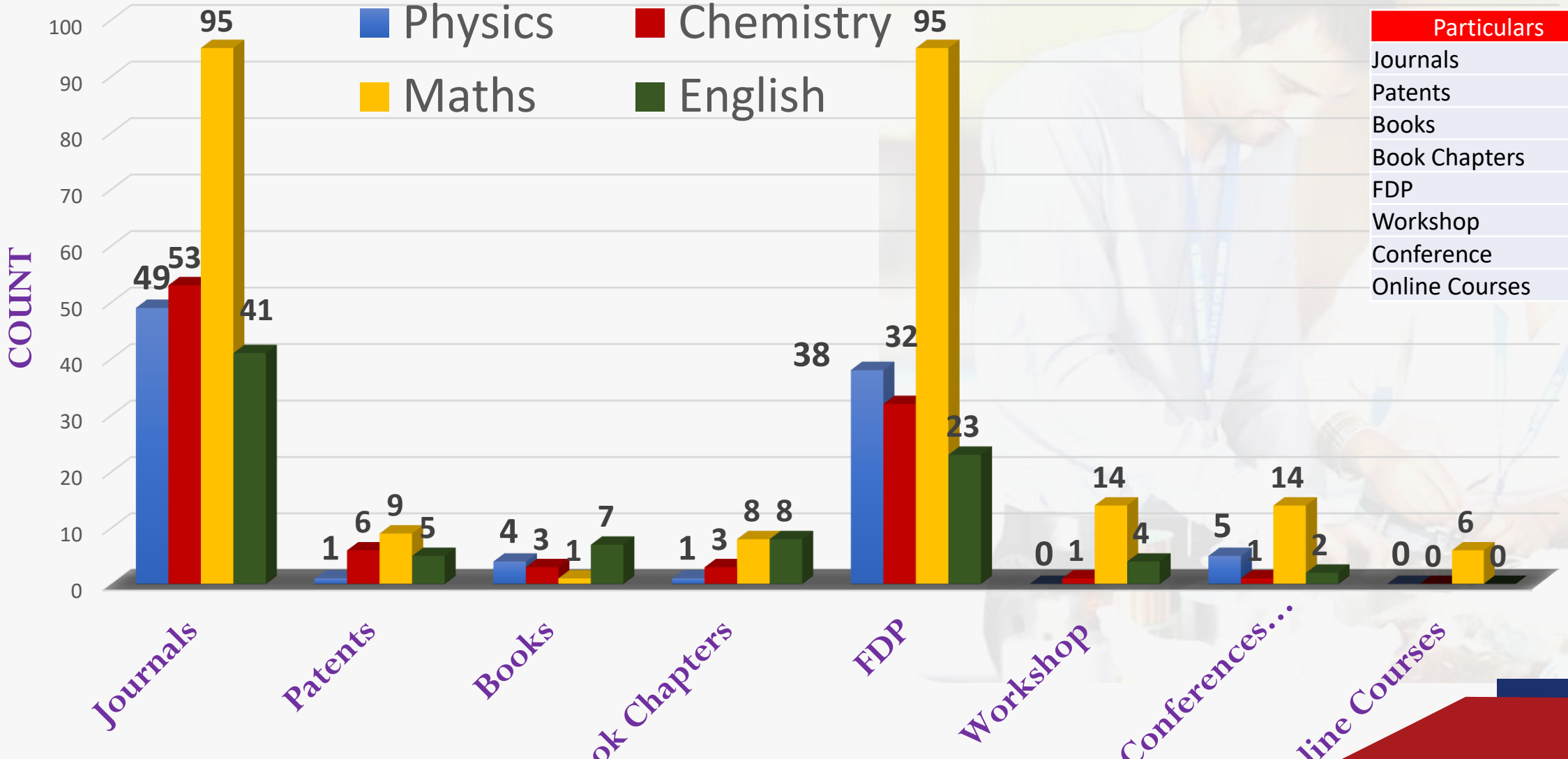
FME

14/66 - 30



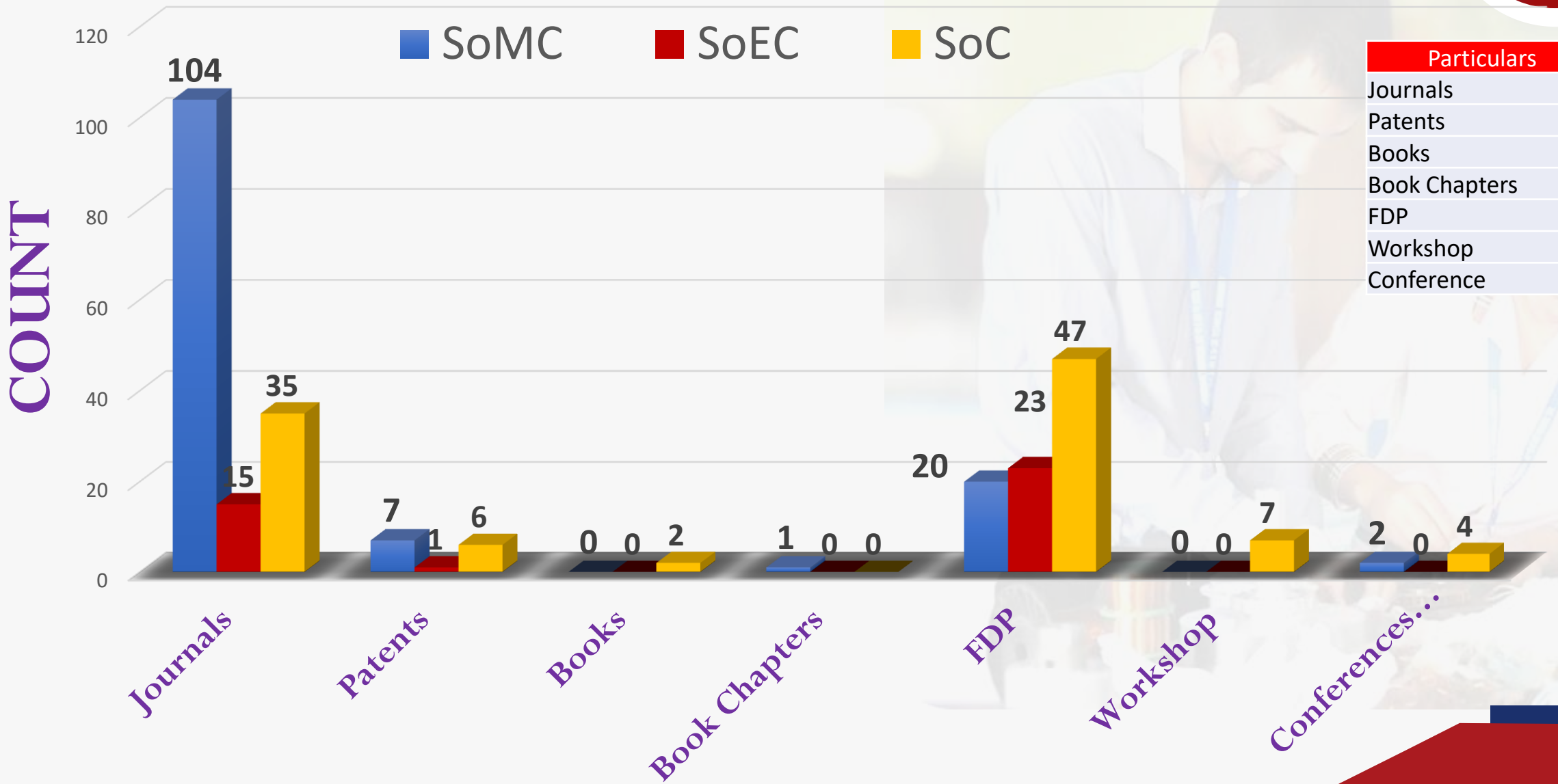
RESEARCH ACTIVITIES

RESEARCH & DEVELOPMENT PROGRESS



Particulars	Count
Journals	238
Patents	21
Books	15
Book Chapters	20
FDP	188
Workshop	19
Conference	22
Online Courses	88

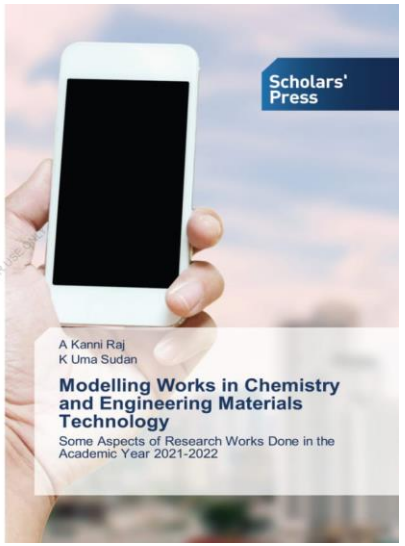
RESEARCH & DEVELOPMENT PROGRESS

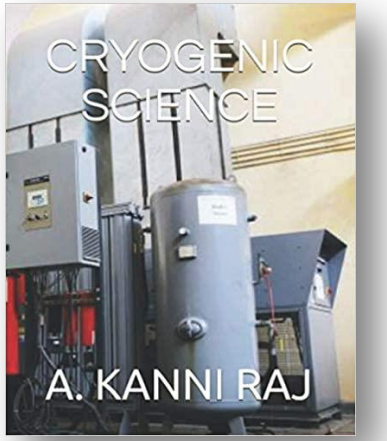


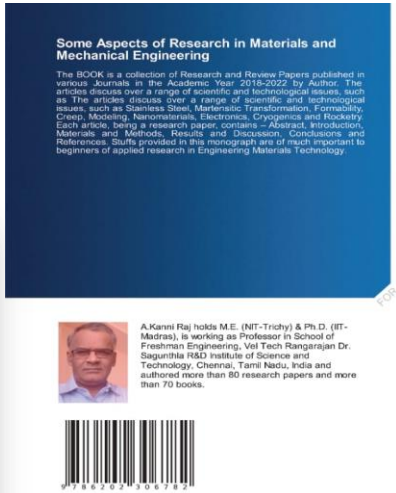
Particulars	Count
Journals	154
Patents	14
Books	2
Book Chapters	1
FDP	90
Workshop	7
Conference	6

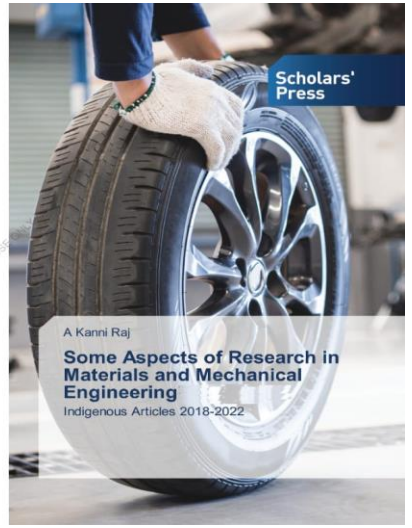
BOOKS PUBLISHED

BOOKS PUBLISHED – DEPARTMENT OF CHEMISTRY

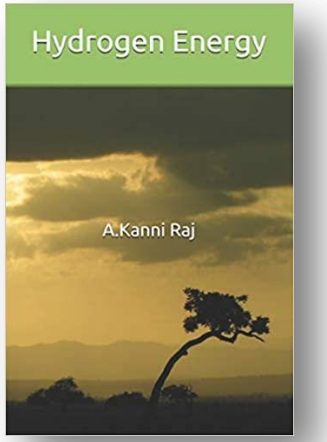


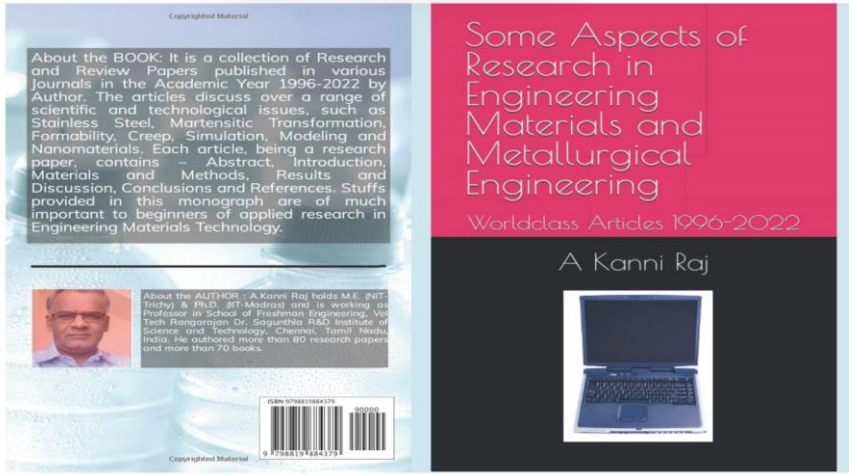


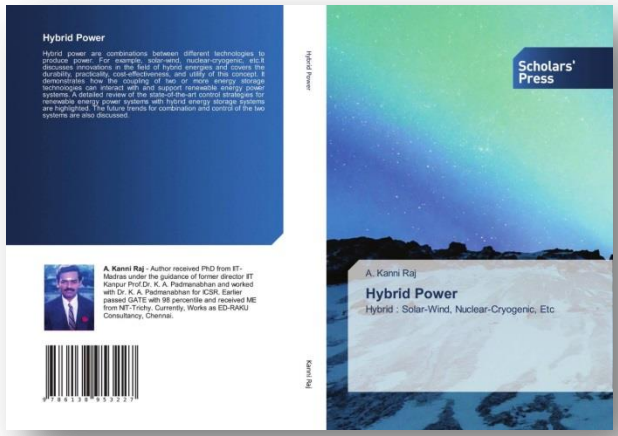




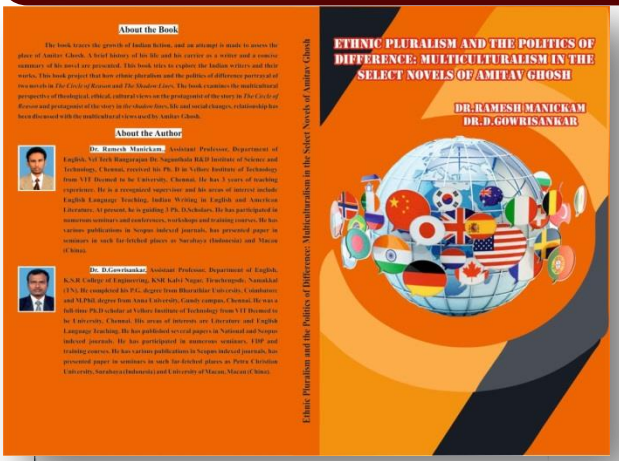
Total : 17

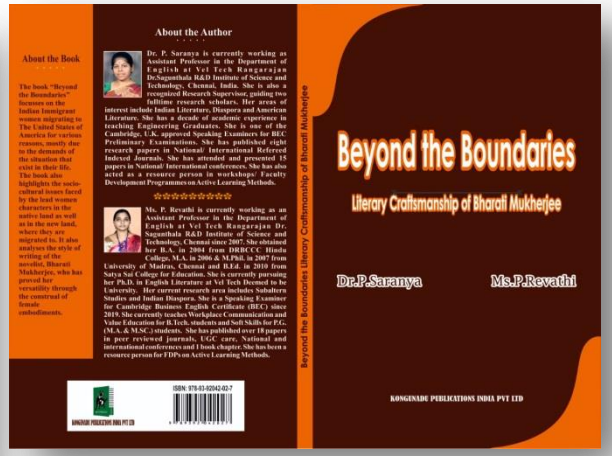


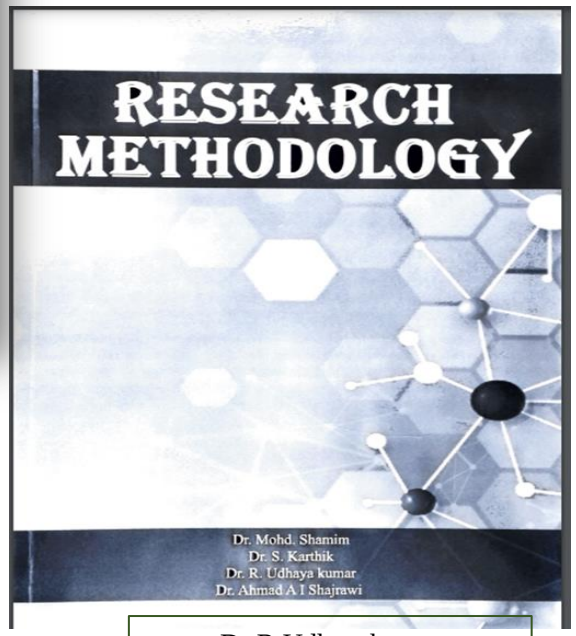




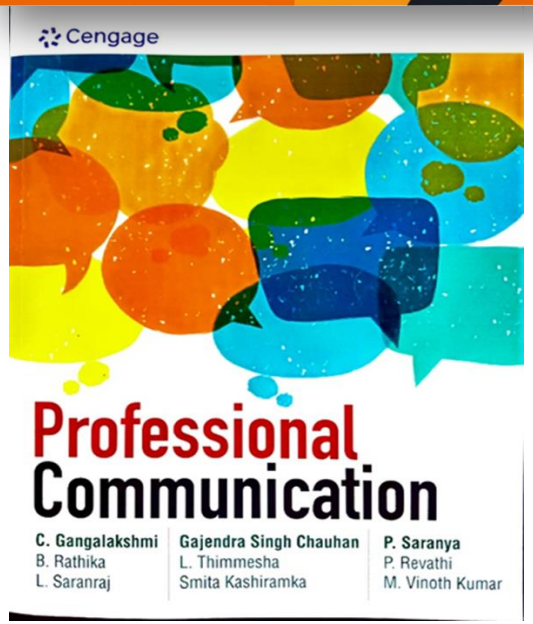
BOOKS PUBLISHED – DEPARTMENT OF ENGLISH





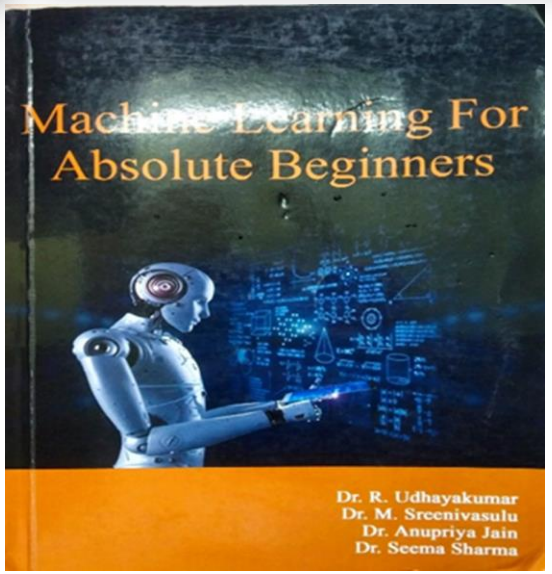


Dr.R.Udhayakumar
"Research Methodology



Dr. P. Saranya, Dr. P. Revathi and Dr. M. Vinoth Kumar "Professional Communication in the year 2022.

Dr. M. Vinoth Kumar
"7575 POEMS."



Dr.R.Udhayakumar
Edwin Group of Journals since 2021.

FACULTY AWARDS & RECOGNITIONS

AWARDS AND RECOGNITIONS – DEPARTMENT OF PHYSICS

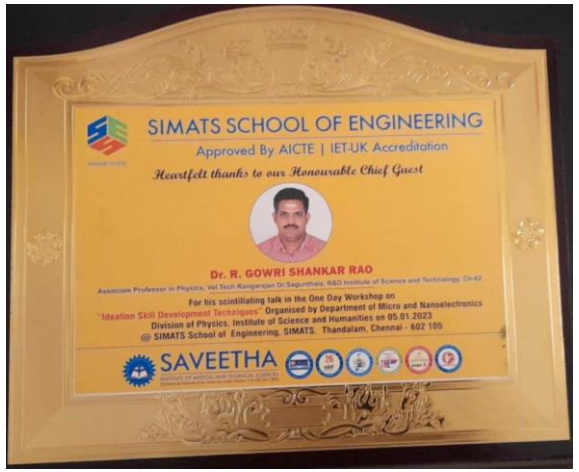
Student's Award - 1st Prize in Essay Writing

Faculty Award - Best Paper

Faculty Award - Academic Achiever

Total : 17

Faculty Award - Associate Board Member



Faculty Award - Workshop Chief Guest

AWARDS AND RECOGNITIONS – DEPARTMENT OF CHEMISTRY

IGMSC 2023

SIMATS ENGINEERING

Approved By AICTE | IET-UK Accreditation

Best Paper Award

This is to certify that

Is here by granted to ~~Dr~~ / Mr / ~~Miss~~ / ~~Mrs~~: PACHAIYAPPAN V

For the paper (Poster)

entitled: Electrochemical studies of green synthesis of Nio-syzgium cumini complex as corrosion inhibitor on mild steel in low pH environment

in the International Conference on **"Innovative Green Materials for Sustainable Engineering"**

(IGMSE - 2023) Organised by Division of Chemistry on 27.02.2023 & 28.02.2023

@ SIMATS Engineering, SIMATS, Thandalam, Chennai - 602 105.

Convenor

Principal
Dr. B. Ramesh

IGMSC 2023

SIMATS ENGINEERING

Approved By AICTE | IET-UK Accreditation

Best Paper Award

This is to certify that

Is here by granted to ~~Dr~~ / ~~Mr~~ / Miss / ~~Mrs~~: SWETHA M

For the paper (Poster)

entitled: Electrochemical behaviour of green synthesis of CuO-Syzgium cumini complex as corrosion inhibitor on mild steel in low pH environment.

in the International Conference on **"Innovative Green Materials for Sustainable Engineering"**

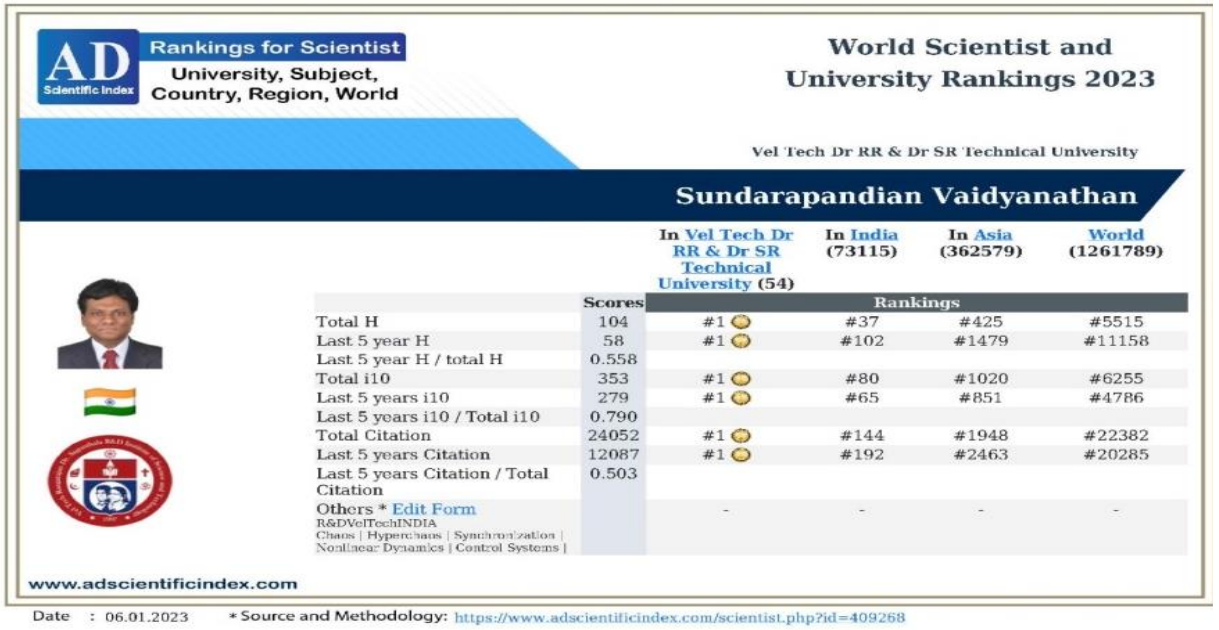
(IGMSE - 2023) Organised by Division of Chemistry on 27.02.2023 & 28.02.2023

@ SIMATS Engineering, SIMATS, Thandalam, Chennai - 602 105.

Convenor

Principal
Dr. B. Ramesh

AWARDS AND RECOGNITIONS – DEPARTMENT OF MATHEMATICS



AD Scientific Index — Rankings for Scientist
University, Subject, Country, Region, World

World Scientist and University Rankings 2023

Vel Tech Dr RR & Dr SR Technical University

Sundarapandian Vaidyanathan

	Scores	In Vel Tech Dr RR & Dr SR Technical University (54)	In India (73115)	In Asia (362579)	World (1261789)
		Rankings			
Total H	104	#1	#37	#425	#5515
Last 5 year H	58	#1	#102	#1479	#11158
Last 5 year H / total H	0.558				
Total i10	353	#1	#80	#1020	#6255
Last 5 years i10	279	#1	#65	#851	#4786
Last 5 years i10 / Total i10	0.790				
Total Citation	24052	#1	#144	#1948	#22382
Last 5 years Citation	12087	#1	#192	#2463	#20285
Last 5 years Citation / Total Citation	0.503				
Others * Edit Form R&DVelTechINDIA Chaos | Hyperchaos | Synchronization | Nonlinear Dynamics | Control Systems |		-	-	-	-

www.adscientificindex.com

Date : 06.01.2023 * Source and Methodology: https://www.adscientificindex.com/scientist.php?id=409268

AD Scientific Index has released Scientists Rankings – 2022 & 2023

Resurchify.com (Computer Scientists Rankings)

World Rank	National Rank	Name	Country	Citations	H-Index
220	1	Sundarapandian Vaidyanathan VEL Tech University	India	18429	88
293	2	Phalguni Gupta Indian Institute of Technology Kanpur	India	43626	82
393	3	Sankar Kumar Pal Indian Statistical Institute	India	31617	77
405	4	Krithi Ramamritham Indian Institute of Technology, Bombay	India	22293	77
897	5	Swagatam Das Indian Statistical Institute	India	16278	61

2022-23 India - Rank 1, World - Rank 220

AWARDS AND RECOGNITIONS – DEPARTMENT OF ENGLISH

Dr.R.Udhayakumar –
Resourse Person –
Vel tech Ranga Sanku Arts College

Dr. Vinoth Kumar - Resource person-
Sri Vidya Mandir Arts and Science College

Dr. Vinoth Kumar - Resource person-
Thiruthangal Nadar College

Dr. Vinoth Kumar - Resource person
Sree Muthukumaraswamy College

Dr. Bindu M.R
Resource Person
Vel Tech Multi tech

Dr. Bindu M.R
Resource Person
Vel Tech

Dr. P. Revathi
Chief Guest
Hindu College

AWARDS AND RECOGNITIONS – DEPARTMENT OF ENGLISH

Dr. Udhay kumar
Certificate of Appreciation from Pearson Publication

Dr. Vinoth Kumar
NALLASIRIYAR AWARD -2023-
Aram Seiya Virumbu Trust, Madurai

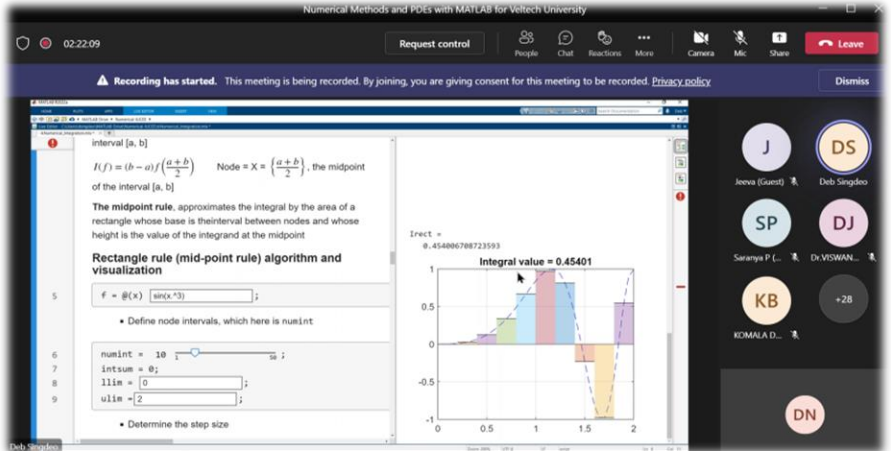
EVENTS ORGANIZED

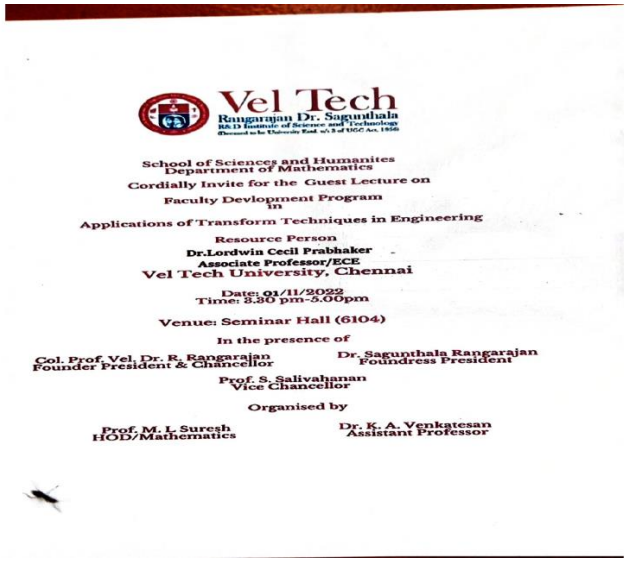
EVENTS ORGANIZED– DEPARTMENT OF MATHEMATICS

- **Two weeks online IFDP on Current Trends in Applications of Mathematics on 21st Sep to 4th Oct 2022 by**
  - ❖ **Math Works experts** **Participants : 2500**
- **FDP on Problem Techniques using MATLAB on , 21st & 22nd Feb. 2022, 13th April 2022 by**
  - ❖ **Math Works experts** **Participants : 65**
- **FDP in Applications of Transform Techniques in Engineering - 01.11.2022 & 07.11.2022 by**
  - ❖ **Dr. Lordwin Cecil Prabhaker and**
  - ❖ **Dr. P.K Dhal**

Participants : 43

Total : 27

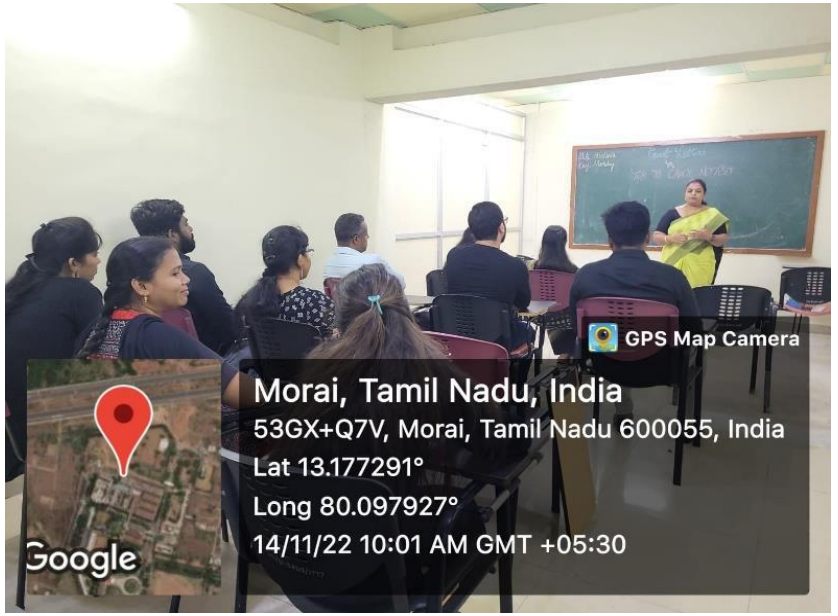


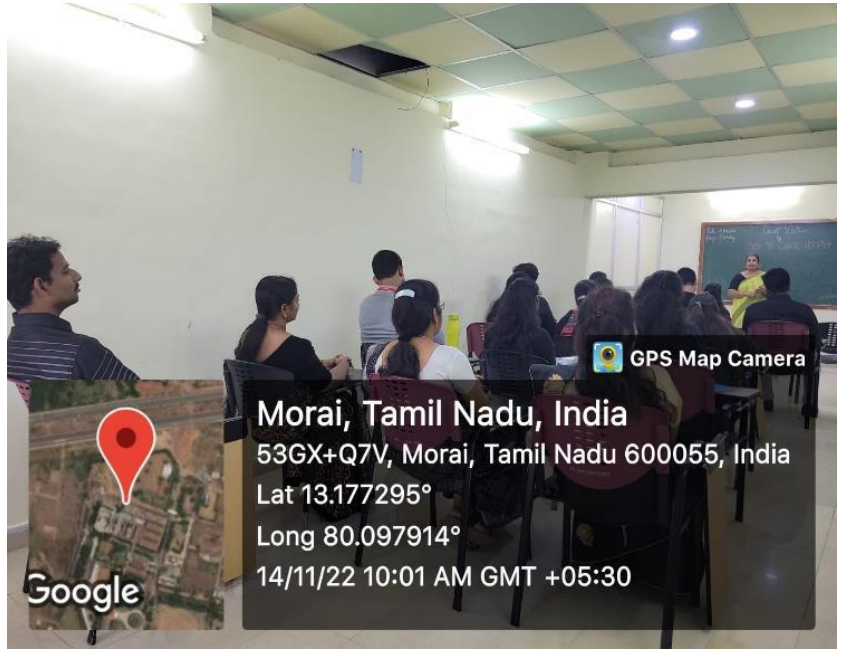


Fantasia '22

M.A., ENGLISH

DEPARTMENTAL FEST CUM GUEST LECTURER





FRESHMAN ENGINEERING – EVENT

VEL TECH

ICA Inaugural program on 24th Aug 2022

Induction cum Acquaintance (IcA) Program

INDUCTION CUM ACQUAINTANCE (IcA) PROGRAMME (2022)

IcA 2022 – Activities – Common to all Schools

- FME Students Handbook – Gist
- Fun with English
- Basic Mathematics and its Applications
- Boundless Physics
- Everyday Chemistry
- My First Project
- Understanding Human Values
- Academic Regulation
- Accreditation and Rankings
- International Opportunities
- Significance of Engineering Research
- Industry Relations
- Examination Procedures
- University Central Library
- Placement Opportunities and Guidance for Preparation
- Entrepreneurship Opportunities @ Vel Tech
- Corporate Talk
- Corporate Tour
- 3D Printing
- Best of My School
- Online Learning Resources
- Career Opportunities and Skillset for Best Professional
- Motivational Speech
- Campus Life Experience by Alumni

IcA 2022 – Activities – Common to all Schools

- Gender Sensitization & Psychology
- NCC, NSS, Club activities, Sports achievements & facilities
- Technical Draft & Playing with Slides
- Gaming and Animation
- Web Designing
- Exploring the most amazing machine – YOU

IcA 2022 – Activities – SoC

- Programming Logic with Scratch
- Cyber Security Tools
- Data Science, Artificial Intelligence, Machine Learning & Landscape
- App Development
- Think like a Computer
- Exploring Smart Connectivity

IcA 2022 – Activities – SoEC

- BIO Engineering for Sustainable Development
- Renewable energy or Electric Vehicles
- Basics of Arduino Programming and Circuit Design
- Build My FM Radio
- Fun with AI

IcA 2022 – Activities – SoMC

- Build the Strongest
- Do and Learn
- Air Powered Car Design
- My First Flight

Activity	NoA
Common	31
Specific	SoC - 6 SoEC - 5 SoMC - 4

INDUCTION CUM ACQUAINTANCE (IcA) PROGRAMME (2022)

3D printing

FME Inaugural

Yoga

Industry Talk

CDIO

Glimpses of IcA 2022 - Activities

Alumni Interaction

Maths Applications

Build My FM Radio

•Exploring the most amazing machine – YOU

Playing with Slides

Corporate Talk

INDUCTION cum ACQUAINTANCE (IcA) Programme (2022)

IcA Inaugural

Everyday Chemistry

IoT

Campus Life

INDUCTION cum ACQUAINTANCE (IcA) Programme (2022)

Placement Opportunities

Word Pulling

3D Printing

Corporate Talk

INDUCTION cum ACQUAINTANCE (IcA) Programme (2022)

Exploring the most amazing machine

Yoga

App Development

Alphabet Hunt

INDUCTION cum ACQUAINTANCE (IcA) Programme (2022)

Programming Logic with Scratch

Central Library

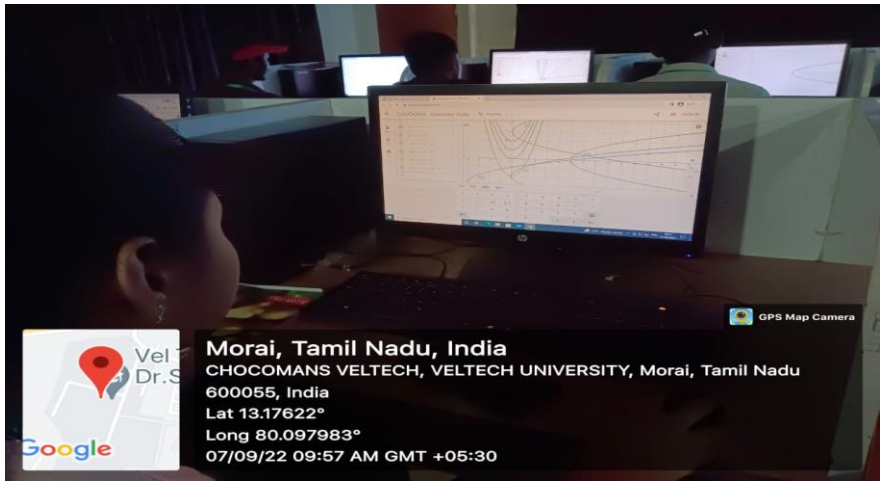
Corporate Tour

Accreditation and Ranking

INDUCTION cum ACQUAINTANCE (IcA) Programme (2022)

Industry Relations

Built my FM Radio



Basic Mathematics
and applications

My first Project

INDUCTION cum ACQUAINTANCE (IcA) Programme (2022)

Academic Regulations

Motivation Talk

Online Learning Resources

Entrepreneurship oppurtunities

FRESHMAN ENGINEERING – EVENT

FME -TSF Talent Search Forum activities

- Literary and Life Skills Wing
- Science and Sustainability Wing
- Sports and Games Wing
- Cultural and Creative Arts Wing

Certificate Distribution

Talent Search Forum (TSF)
Freshman Engineering (FME)

LITERARY AND LIFE SKILLS WING

Mad Ads

Connexions

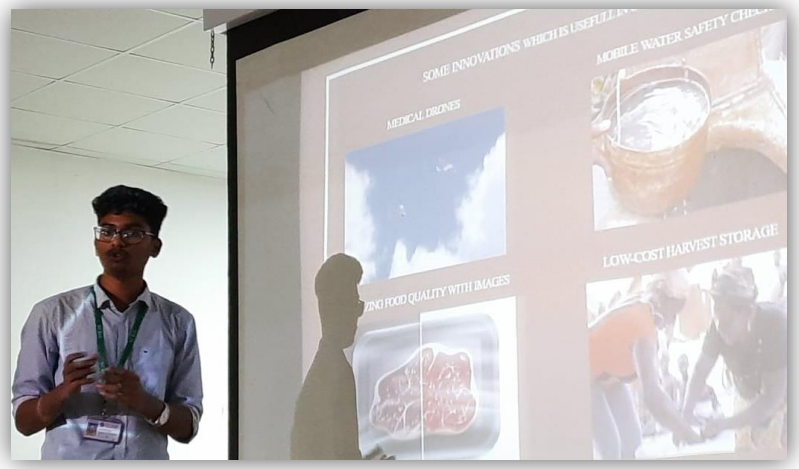
Page to Stage

Shipwreck

Build and Write

SCIENCE & SUSTAINABILITY WING

Collage



Paper Presentation

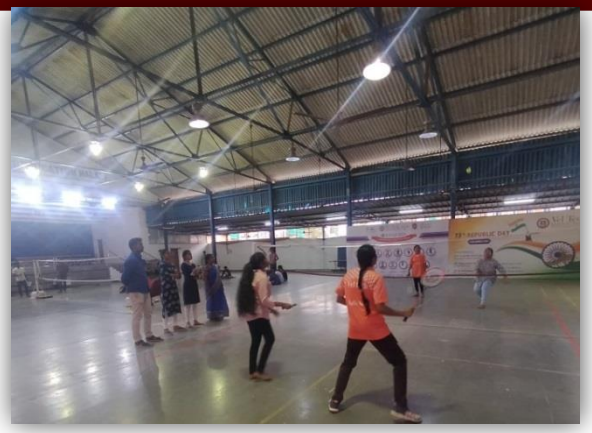
Quiz

Space Exploration

Code Debugging

SPORTS AND GAMES WING

Throw Ball - Girls



Shuttle Badminton - Girls

Shuttle Badminton - Boys

Chess

Volley Ball

Foot Ball

CULTURAL AND CREATIVE ARTS WING

Song - Solo

Fireless Cooking

Vegetable Carving

Drawing - Solo

Drawing - Group

6TH VEL TECH SCIENCE FEST (24.03.2023)– NATIONAL SCIENCE DAY

Address by the Chief Guest

Interaction with the Students

Prize Distribution

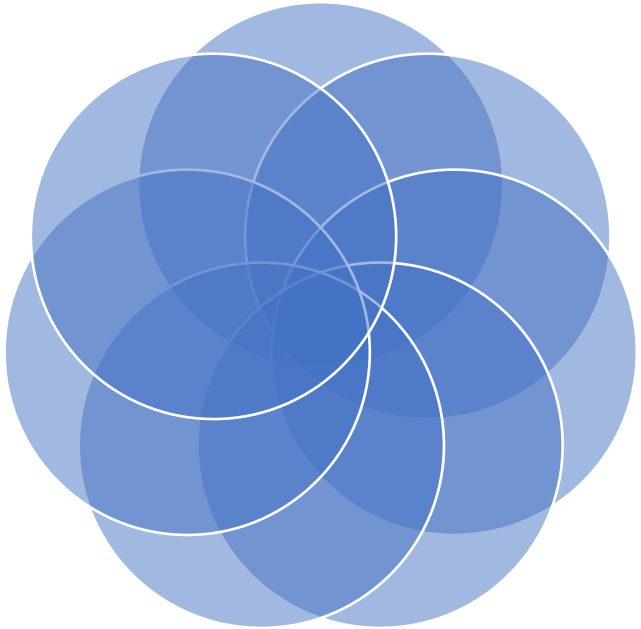
Prize Distribution

FRESHMAN ENGINEERING – PROJECT THEMES

Energy Conservation

Robotics

Public Safety



Agriculture

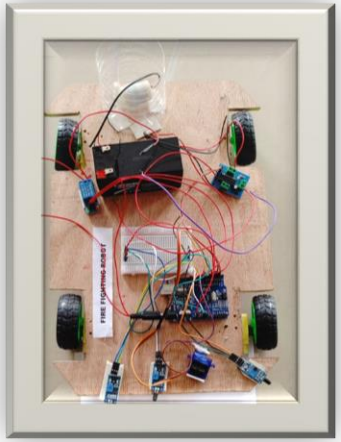
Waste to Wealth

Environment Conservation

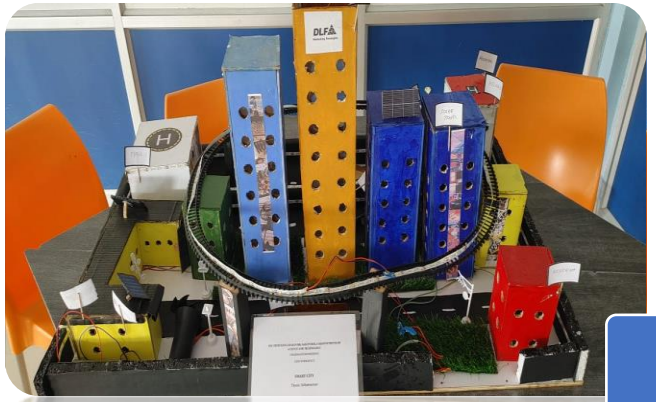
Infrastructure

FRESHMAN ENGINEERING – PROJECTS

Robotics : Fire fighting Robot



Energy conservation : Wireless power transmission



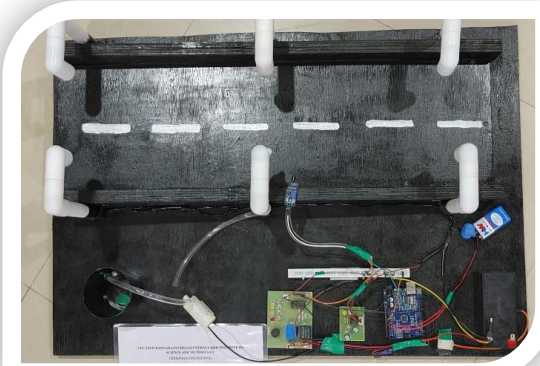
Agriculture : Solar operated spray pump

Infrastructure : Smart city

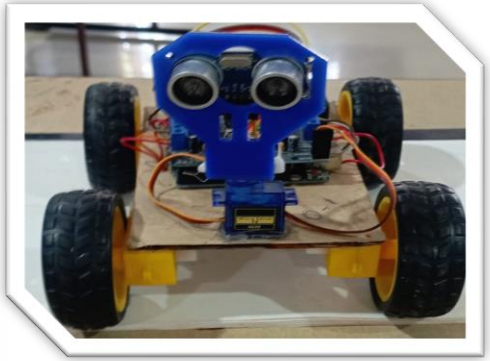
Environmental conservation: Solar operated floor cleaner

FRESHMAN ENGINEERING – PROJECTS

Public safety : Automatic street light with low visibility alert system



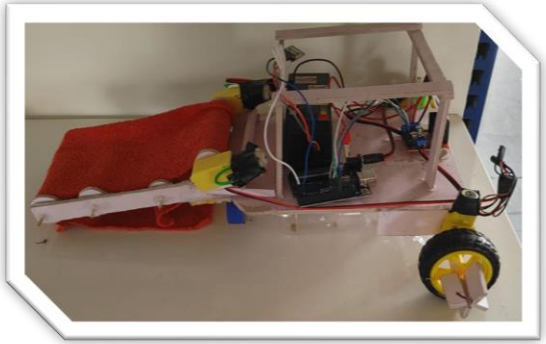
Robotics : Obstacle avoiding Robot



Agriculture : Bio Fertilizer

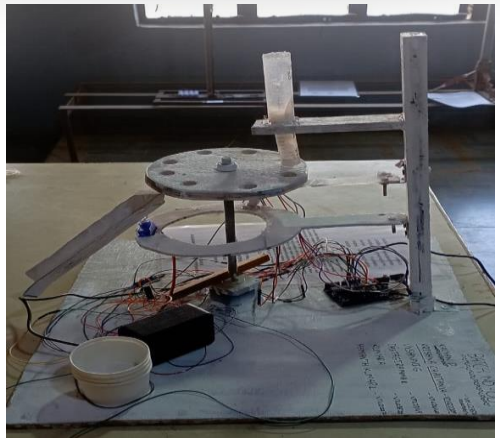
Waste to wealth: Power generation through waste materials

Environmental conservation: River cleaning Boat



FRESHMAN ENGINEERING – PROJECTS

WASTE TO WEALTH: POWER GENERATION FROM WASTE MATERIAL

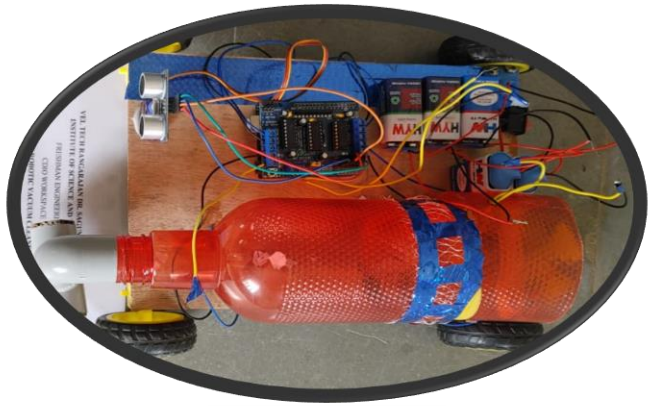


PUBLIC SAFETY: AUTOMATIC PRODUCT FINDER BY COLOR

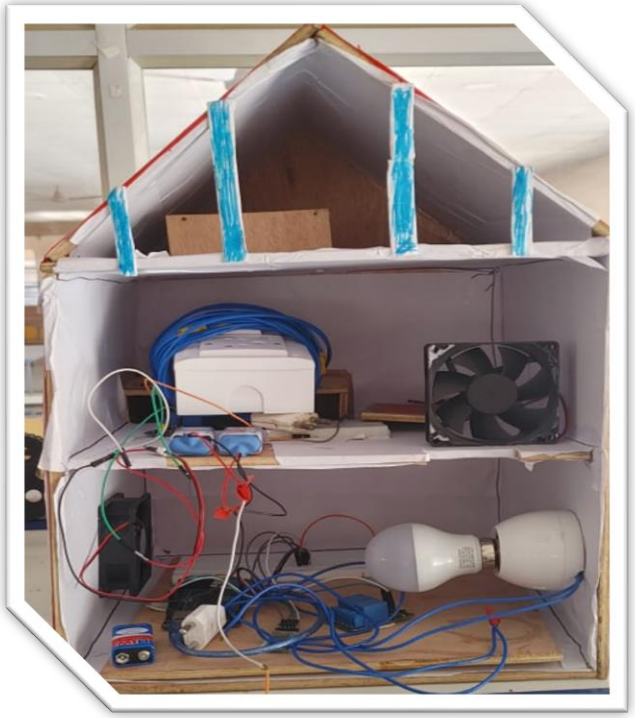
ENERGY CONSERVATION : AUTOMATIC WASTE SEGREGATION

FRESHMAN ENGINEERING – PROJECTS

PUBLIC SAFETY : ANTI SLEEP ALARM



AUTOMATIC FLOOR CLEANING MACHINE



ENERGY CONSERVATION : SMART HOME

FRESHMAN ENGINEERING – PROJECT EXPO 24TH MARCH 2023

Inauguration of Project Expo

Demonstration by the Student Participants

FME STUDENT'S PARTICIPATION IN PROJECT EXPO

S.No	DATE	COMPETITION LOCALITY	TITLE OF THE PROJECT	STUDENT NAME	SECTION/YEAR	PRIZE DETAILS
1	04.6.2022	EEE DEPT., VELTECH	WIRELESS CHARGING OF EV'S	DEVENDARA REDDY VIVEK VISWANADHA REDDY	SoEC - D	PARTICIPATION
2	04.6.2022	EEE DEPT., VELTECH	FUEL INDICATOR	RANJITH.S MOHAMED IRSHAD ALI ABDUL RAZAK.A	SOMC-A	THIRD PRIZE
3	24.8.2022	SAIRAM ENGINEERING COLLEGE, CHENNAI	AUTOMATIC WASTE SEGREGATION SYSTEM	M MURALI SAIKUMAR SYED KHAZIM AHAMAD E VENKATA NARENDRA BABU	SOC-P	PARTICIPATION
4	24.2.2023	VISAI, VELTECH	IOT-BASED HEALTH MONITORING SYSTEM	PRANSHU CHOURASIA DIVESH ANAND	SOC-C	SECOND PRIZE
5	24.2.2023	VISAI, VELTECH	SMART CITY	SHAHIRUN JEEVIKA KUMAR AISHA SIDDIKA	SoC-E	PARTICIPATION
6	24.3.2023	SCIENCE FEST,VELTECH	AUTOMATIC WASTE SEGREGATION SYSTEM	D STANCY NAVNEETH ALTAF SARWAR K.KARTHIKEYAN	SOC-P	FIRST PRIZE
7	24.3.2023	SCIENCE FEST,VELTECH	SMART CITY	SHAHIRUN FAIZAN ALI NEHARIKA MOUMONI ROY	SOC-E	SECOND PRIZE
8	24.3.2023	SCIENCE FEST,VELTECH	IOT BASED HEALTH MONITIRING SYSTEM	PRANSHU CHOURASIA DIVESH ANAND Gauri Pramod	SOC-C	THIRD PRIZE
9	3.4.2023	AMRITA VISHWA VIDYAPEETHAM,	IOT BASED HEALTH MONITIRING SYSTEM	PRANSHU CHOURASIA DIVESH ANAND Gauri Pramod	SOC-C	PARTICIPATION

27 Students
3 Institutions
5 Project Expo
5 Prizes

FME STUDENT'S PARTICIPATION IN PROJECT EXPO

VISAI 2023

IOT-BASED HEALTH MONITORING SYSTEM
2nd PRIZE -Rs.6000

FME STUDENT'S PARTICIPATION IN PROJECT EXPO

FIRST PRIZE Rs.1500

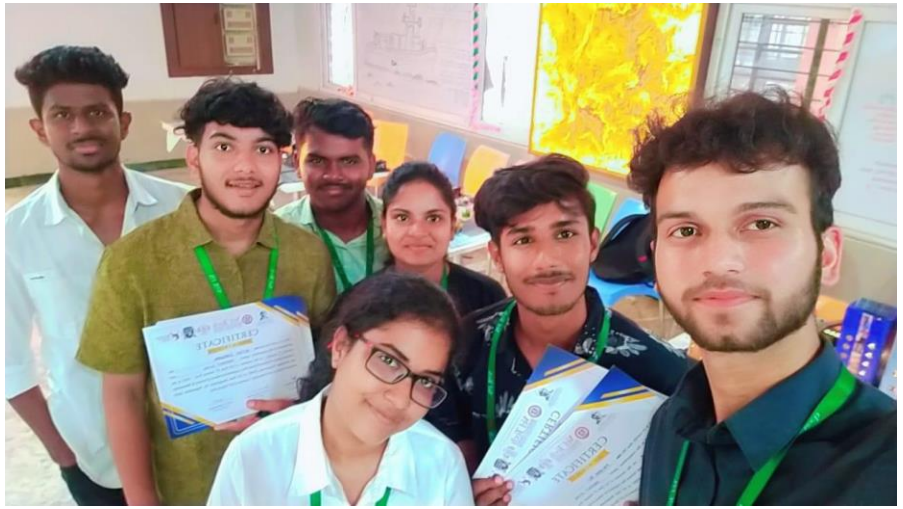
SCIENCE FEST

Second prize Rs.1000

Third prize Rs.750

FME STUDENT'S PARTICIPATION IN PROJECT EXPO

AMRITA VISHWA VIDYAPEETHAM



STUDENTS ACHIEVEMENT DETAILS

48 Students – 10 Institutions – 20 Events

S.no	VTU No.	Name	Section	Event Name	Event
1	VTU21357	M.AJAY	SoC-A4	WORKSHOP	ZORPHIX - CIT
2	VTU22792	P.YASWANTH	SoC-A4	SYMPOSIUM	
3	VTU21588	JONES P	SoC-A4	SYMPOSIUM	
4	VTU23263	RAVURU THANMAYEE	SOC-F	NCC	NCC
5	VTU22819	CHITTIMOTHU KOMALA SRI	SOC-J	NCC	
6	VTU21546	Y SETHU RAMAN	SoC-A3	WORKSHOP	VEL TECH - WORKSHOP
7	VTU23139	PREM KUMAR	SOC - C	WORKSHOP	
8	VTU23416	M.CHARAN	SOEC-F	WORKSHOP	
9	VTU24262	SARAN RAJ	SOC - C	WORKSHOP	
10	VTU23009	P.DIVYA	SoC-C	INTER COLLEGE FEAST (CIT COLLEGE)	CIT COLLEGE
11	VTU24293	VIDUSHINI MARIA	SoC-C		
12	VTU23139	PREM KUMAR S	SoC-C		
13	VTU22147	SHAHIRUN	SoC-E		
14	VTU22702	MOUMONI ROY	SoC-K		
15	VTU23863	SYED FAIZAN ALI	SOEC-A2		
16	VTU23782	ALTAF SARWAR	SoC-P	VISAI AND PARTICIPATED IN THE EVENT IN CIT COLLEGE	

STUDENTS ACHIEVEMENT DETAILS

S.no	VTU no	Name	Section	Event Name	
17	VTU21557	ADITYA KUMAR	SoC-E	VISAI & INTER COLLEGE FEAST (CIT COLLEGE)	CIT COLLEGE
18	VTU23909	ANOOP SACHIN.K	SOC-P	SYMPOSIUM, FUTSUAL	VELAMMAL INSTITUE OF TECH
19	VTU21414	DIVESH ANAND	SoC-C	VISAI	VISAI - VEL TECH
20	VTU21413	PRANSHU CHOURASIA	SoC-C	VISAI	
21	VTU23479	AISHA	SoC-E	VISAI	
22	VTU23474	JEEVIKA	SoC-E	VISAI	
23	VTU21744	DAGGUMALLI STANCY NAVANEETH	SoC-P	VISAI	
24	VTU22118	M. S SUDHIR NARAYANA	SOC-D	WORKSHOP	SIMATS & GKM COLL. OF ENGG.
25	VTP3200	PACHAYAPPAN.V	MSC	CONFERENCE	
26	VTP3158	SWETHA.M	MSC	CONFERENCE	
27	VTU22423	T FABIO MUGHILAN	SOC-D	WORKSHOP	
28	VTU22921	VANKA GIRENDRA VARMA	SOC-D	VOLLEYBALL AND FOOTBALL	VTU
29	VTU23121	C.PAVAN KUMAR	SOEC-C	VOLLEYBALL AND FOOTBALL	
30	VTU23037	S.ABI AYSHWARIYA	SoC-A2	CONFERENCE	SRM
31	VTU22713	SAGNIK CHAKRABORTY	SOC-D	WORKSHOP AND ONLINE INTERNSHIP	VIT
32	17 Girl Students attended NCC Camp				

INTER COLLEGE FEAST IN CHENNAI INSTITUTE OF TECHNOLOGY

HACKERZ - WORKSHOP

ZORPHIX - WORKSHOP

WON 1ST PRIZE IN THAKSHASHIJA

WON 1ST PRIZE IN THAKSHASHIJA

STUDENTS PARTICIPATION

HYPERLINK IN GKM COLLEGE OF ENG & TECHNOLOGY

TECHNEX'22 IN VIT

NATIONAL CADET CROPS - CAMP

STUDENTS PARTICIPATION @VEL TECH

WORKSHOP & SYMPOSIUM IN SIMAT SCHOOL OF ENGINEERING

PG Courses

School of Sciences and Humanities

PG – Courses offered by

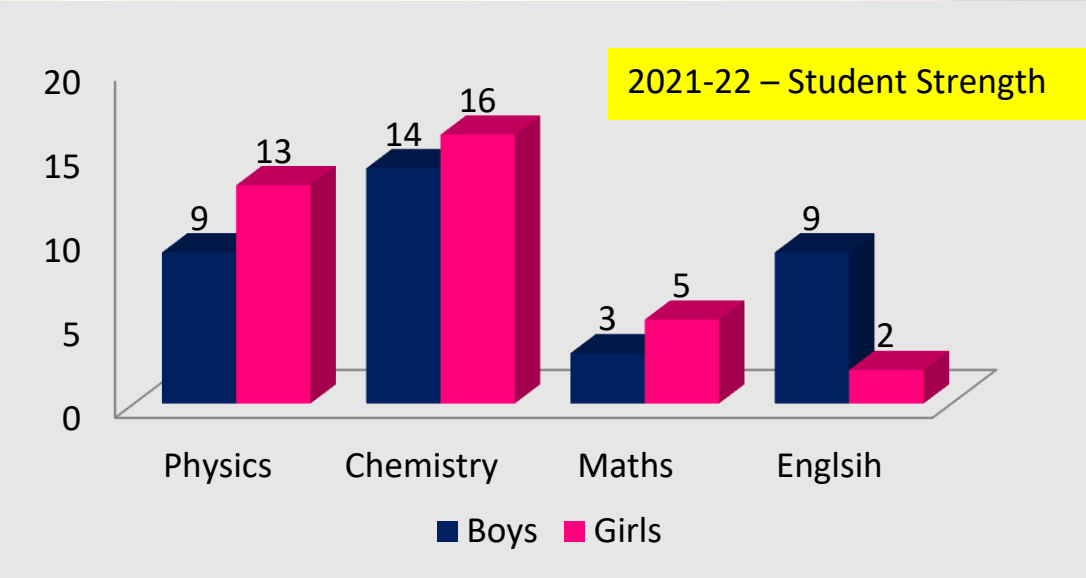
Academic Departments

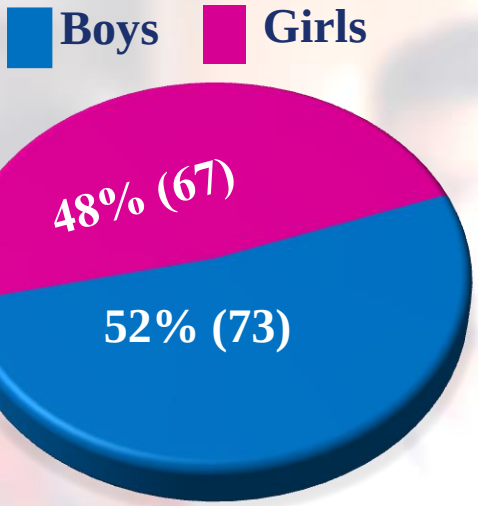
- PHYSICS
- CHEMISTRY
- MATHEMATICS
- ENGLISH

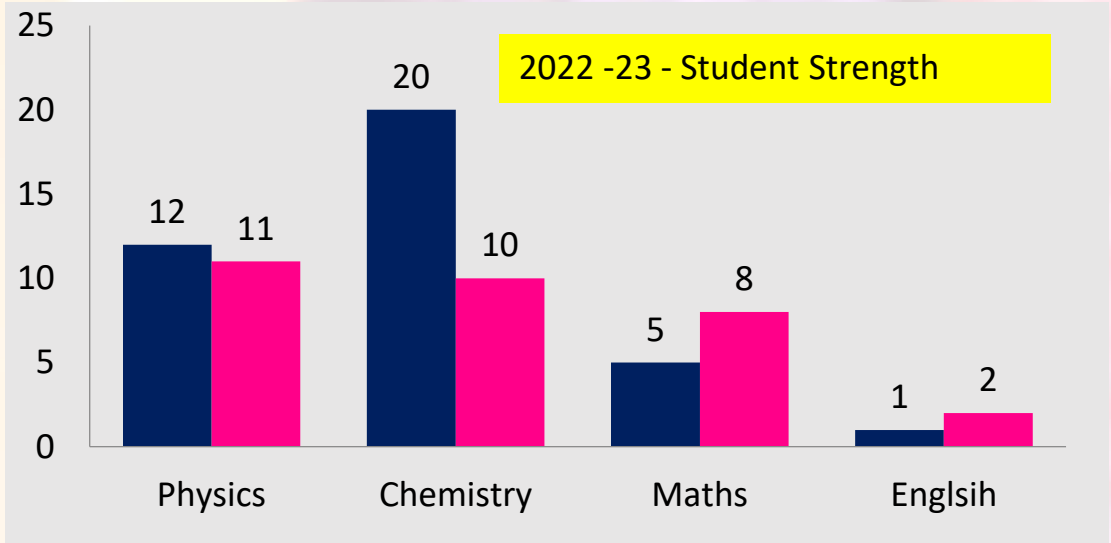
M.Sc / M.A. Programme	APPROVED INTAKE	2021-22	2022-23
		NO. OF STUDENTS ADMITTED	NO. OF STUDENTS ADMITTED
M. Sc. Physics	30	22	23
M. Sc. Chemistry	30	30	30
M. Sc. Mathematics	30	8	13
M. A. English	30	11	3
Total	120	71	69

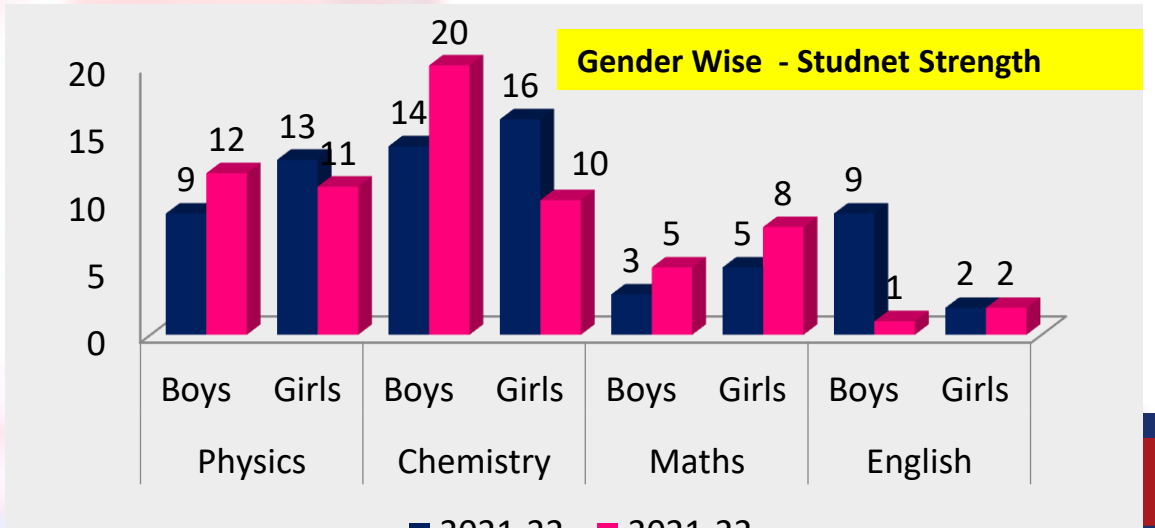
Total Strength 140

PG(Programme) - STUDENTS DIVERSITY (2021 -22 & 2022 -23)



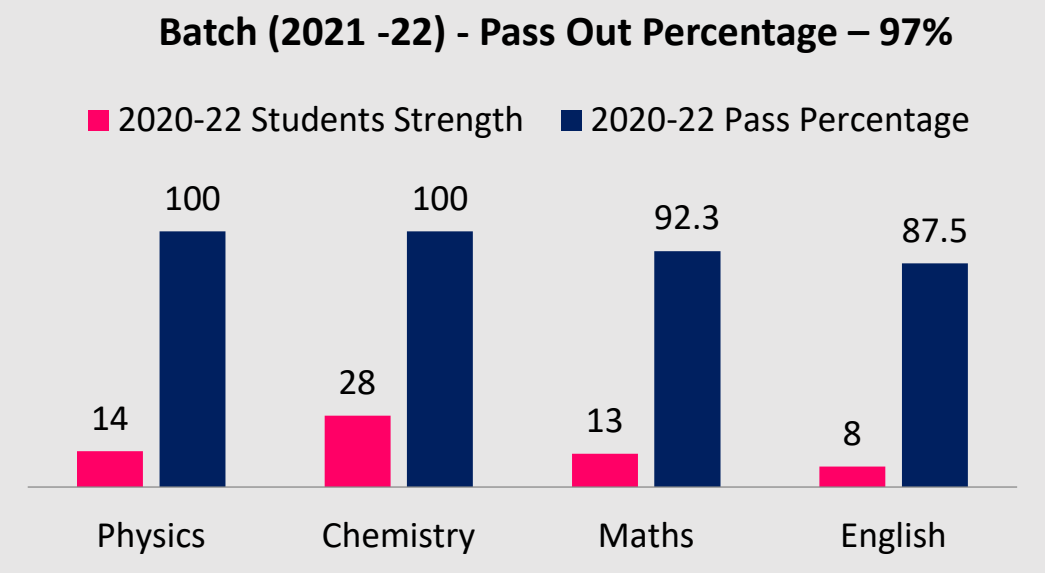


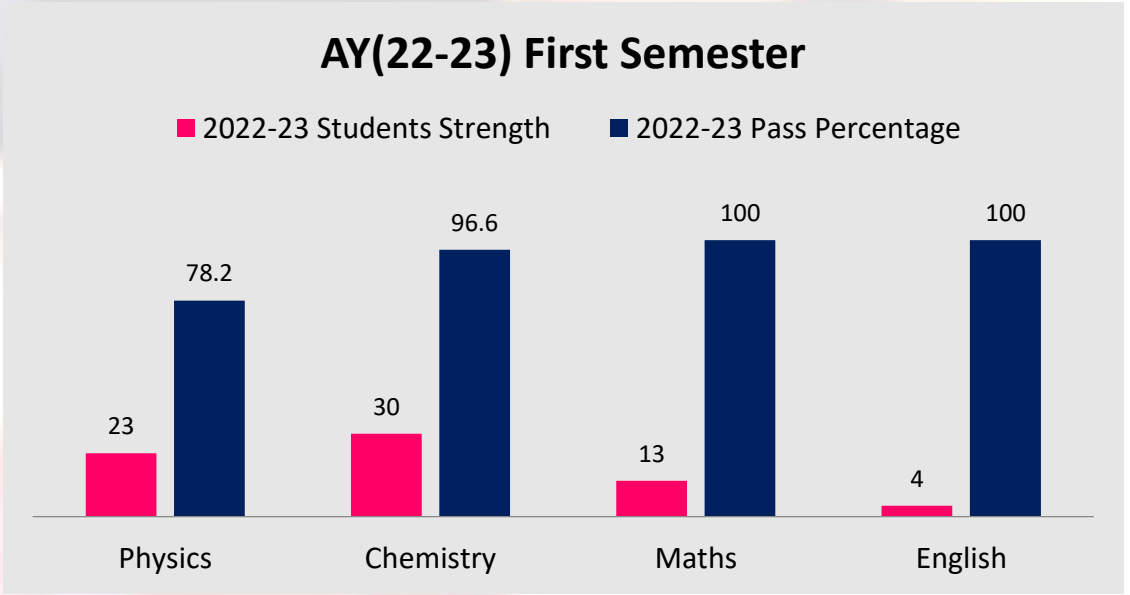


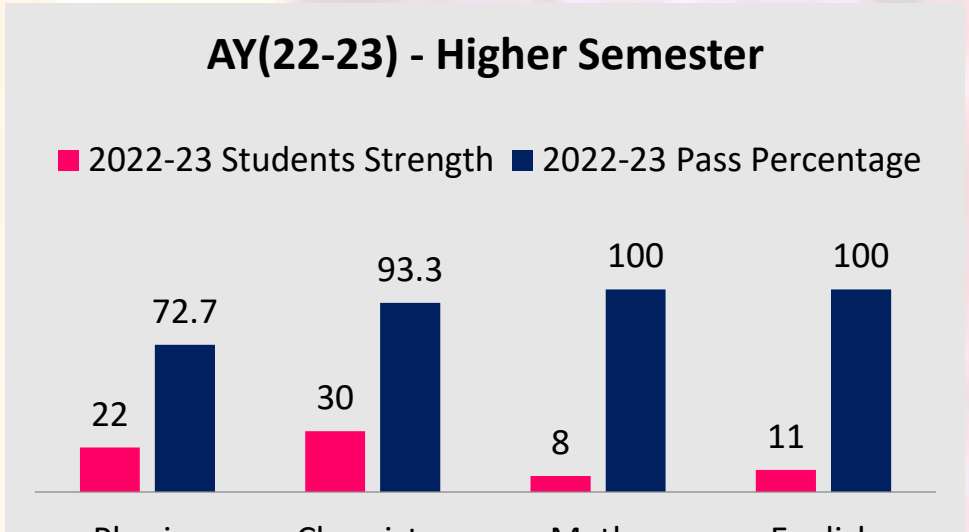


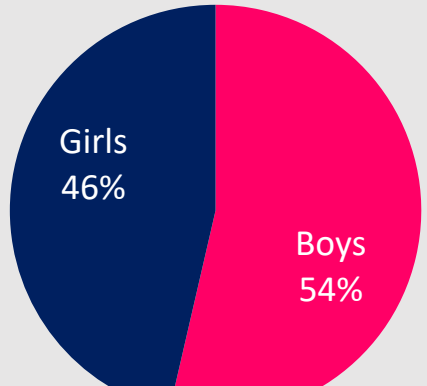
PG(Programme) - STUDENTS DIVERSITY (2021 -22 & 2022 -23)

PG – Courses – Result Analysis









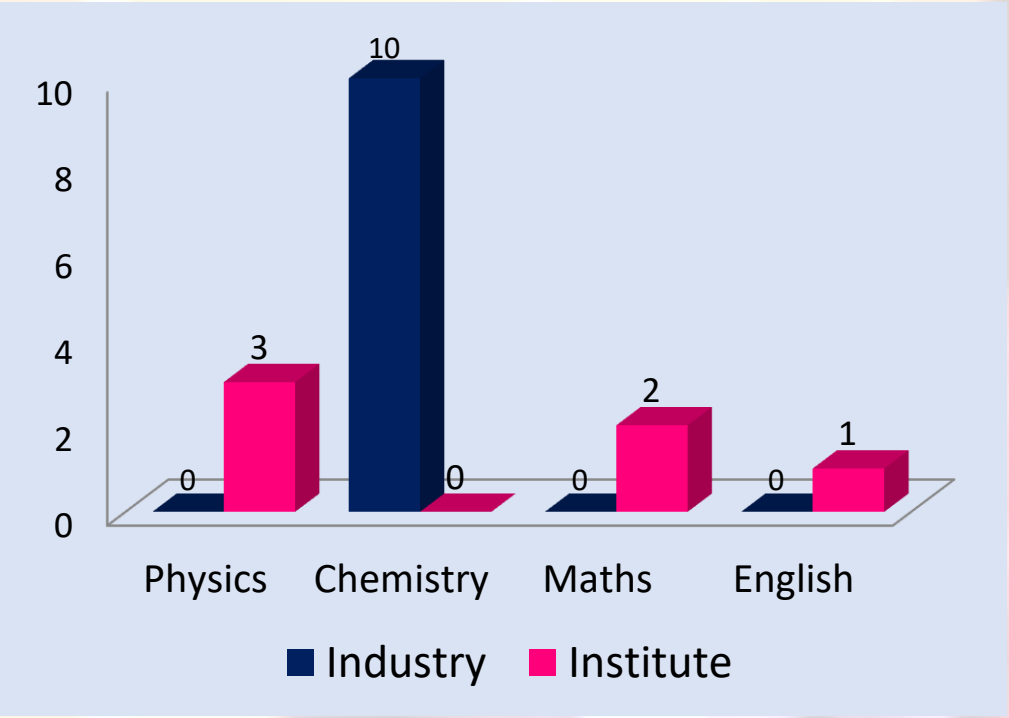
2022-23

STUDENTS

ACTIVITIES & ACHIEVEMENTS

PG Programme - STUDENTS Achievements

Internship - Academic year (2022-2023)

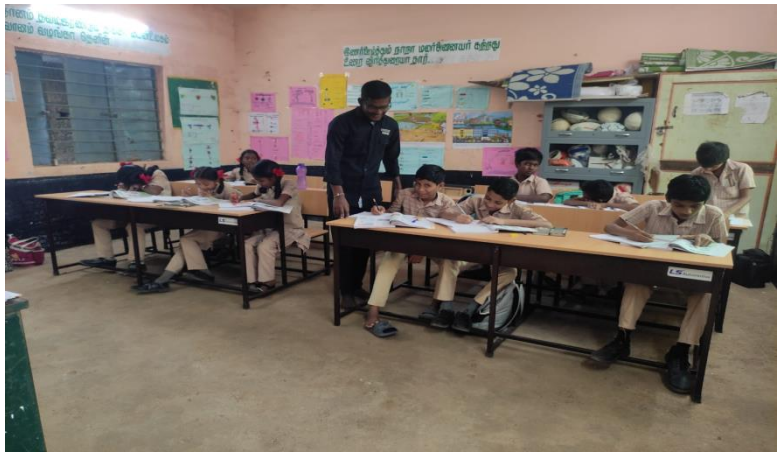


Department	Institute Name	Number of Students
Physics	Regional Metrological Centre, Chennai	19
	University of Madras, Chennai	1
	IGCAR, Kalpakkam	1
Chemistry	Elshaddai Geo Technology, Chennai	2
	Fourrts Laboratories (P) Limited , Chennai	1
	Global Pharma Healthcar (P) Limited, Chennai	3
	Greenano Techonologies (P) Limited, Chennai	7
	Intermed Laboratories (P) Limited, Chennai	3
	KAS Scientific (P) Limited, Chennai	1
	RVN Laboratory, Chennai	5
	Sai Mirra Innopharm (P) Limited, Chennai	3
	SMS Lab Services (P) Limited, Chennai	3
	Ultramarine & Pigments Limited, Chennai	1
Maths	Dr.Ambedkar Govt.Arts College, Chennai	4
	IITDM, Kancheepuram	4
English	St.John's Matric Hr.Sec.School, Chennai	4

TOTAL
Industry:10
Institute: 6
Student: 62

Student's Internship – AY(2022-23)

St.JOHN'S MATRIC HIGHER SECONDRY SCHOOL



Student's Internship – AY(2022-23)

Dr.Ambedkar Government Arts College, Chennai

Student's Extension activities – AY(22-23)

M.Sc.,- PHYSICS

VEERAPURAM VILLAGE

Vel Tech University, representing UBA conducted an activity in the Govt. High school located at Veerapuram

Vel Tech University, representing UBA participated in the Tree plantation activity,

We took part in the activity by planting the tree saplings planted in the koduvalli village,near by New Kanniyamman nagar of Veerapuram Panchayat

Student's Extension activities – AY(22-23)

M.Sc.,- CHEMISTRY

TIRUR ,TIRUVALLUR

(Meeting women of rural village in small groups)

PUBLIC REVIEW:

The people attended in this session of awareness program found that this was huge beneficial in understanding the basics regarding the theme. Even kids also enjoyed this program.

(women and kids of one group participated in menstrual hygiene awareness program)

(Providing sanitary napkins to women of rural village and explaining about MHS scheme) In recent times , government of India introduced janaushadhi Suvidha Sanitary napkins at low cost for economically weak society with 100% pure cotton and oxo – biodegradable [1]

(Meeting an energetic young girl named, Selvi 18 years old helping her with providing sanitary napkins and facial mask and explaining her about cleanliness, menstrual hygiene practices)

Student's Extension activities – AY(22-23)

M.Sc.,- MATHEMATICS

Govt. High school located at Veerapuram

EQUIPMENTS PURCHASED

Instruments purchased 2022-2023

Total Amount spent for instrument purchase	Rs.12,94,763/-

Dept	Amount (INR)
Physics	Rs. 5,87,688
Chemistry	Rs. 1,15,536
SoMC	Rs. 2,83,000
SoEC	Rs. 2,72,539

THANK YOU

Vel Tech
Rangarajan Dr. Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

Office of International Relations

42nd Academic Council Meeting
10th June 2023

The progression and academic achievements of the Office of International Relations for the Academic Year 2022-2023

Presented By

Dr. P. Suresh M.E., Ph.D., SMIEEE., MIE., C.Eng.,
Professor – ECE
Dean – International Relations

A Glance & Outline

Office of International Relations
42nd ACM - A Glance

Outline

- Faculty Mobility (Incoming)
- Faculty Mobility (Outgoing)
- Student Mobility (Outgoing)
- Student Mobility (Incoming)
- Higher Studies
- MoUs
- Events

Faculty Mobility – Incoming 2022-2023
Intensive Semester

Sl. No	Name of the Professor	University	Country	Course Code	Title	Dept	Accepted Mode Of Delivery	No of Hours	No of Credits	No. of Students attended
1	Prof. Dr. Feng Tyan	Tamkang University	Taiwan	1157AE920	Artificial Intelligence and Machine Learning	Aeronautical Engineering	Online	15	1	81
2	Prof. Dr. Ahmed Abdelgewad	Central Michigan University	USA	1157EC958	IoT- Sensors Communication Technology	Electronics and Communication Engineering	Online	15	1	66
3	Prof.Dr. Celestine Iwendi	Bolton University	UK	1157EC961	Artificial Intelligence for IoT	Electronics and Communication Engineering	Online	15	1	52
4	Prof. Dr. Naveen Chilamkurti	La Trobe University	Australia	1157EC959	Security and Privacy in 6G Networks	Electronics and Communication Engineering	Online	15	1	69
5	Prof. Dr. Sundresan Perumal	University Science Islam Malaysia	Malaysia	1157EC966	Digital Forensics and Incident Response	Electronics and Communication Engineering	Online	15	1	68
6	Prof. Saad bin Kashim	AFG College with the University of Aberdeen	Qatar	1157EC967	Mechatronics System Design	Electronics and Communication Engineering	Online	15	1	69

Faculty Mobility – Incoming 2022-2023
Summer Semester

Sl	Name Of The Professor	University	Country	Course Code	Title	Department	Accepted Mode Of Delivery	No. Of Hours	No. Of Credits	No. Of Students Attended
1	Prof. Dr. Hee Yong Youn	Sungkyunkwan University	South Korea	1155cs122	Performance Modeling And Simulation	CSE	Physical	15	1	45
2	Prof. Dr. R. Logeswaran	City University, Malaysia	Malaysia	1157cs901	Data Compression Strategies: The Building Blocks	IT	Physical	15	1	32
3	Prof. Dr. R. Logeswaran	City University, Malaysia	Malaysia	1157cs902	Concepts & Future Trends In Big Data & Data Science	IT	Physical	15	1	40
4	Prof. Dr. Saravanan Muthaiyah	Multimedia University	Malaysia	1155it901	Shaping The Future With Technology: An IR4.0 Perspective	IT	Physical	30	0	36
5	Prof. Dr. Hee Yong Youn	Sungkyunkwan University	South Korea	1157ec940	Structure And Application Of Smart Iot	ECE	Physical	15	1	60
6	Prof. Dr. Olivia Tan Swee Leng	Multimedia University	Malaysia	1157ll101	Cyber Laws	SCHOOL OF LAW	Physical	15	0	146
7	Prof. Dr. Hee Yong Youn	Sungkyunkwan University	South Korea	1157cs123	Performance Theory And Evaluation	CSE	Physical	15	1	40
8	Prof. Dr. Daniel Chandran	University Of Technology Sydney	Australia	1157ge901	Design Innovation	ALL DEPARTMENTS	Physical	30	2	39
9	Prof. Dr. Lung- Jieh Yang	Tamkang University	Taiwan	1157ae920	Micro Air Vehicles	AERO	Virtual	15	1	31
10	Prof. Dr. Saravanan Muthaiyah	Multimedia University	Malaysia	1157ec973	Digital Technologies For Smart Cities	ECE	Physical	15	1	51
11	Prof. Dr. M. Shridhar	Uiversity Of Michigan, Dearborn	Usa	1157ec970	Machine Learning And Deep Learning	ECE	Physical	15	1	56

Faculty Mobility – Incoming 2022-2023
Summer Semester

Sl	Name of the Professor	University	Country	Course Code	Title	Department	Accepted Mode of Delivery	No. of Hours	No. of Credits	No. of Students attended
12	Prof. Dr. Daniel Einarson	Kristianstad University	Sweden	1157CS925	Computer Science for Sustainable Development	CSE	Physical	15	1	55
13	Prof. Dr. Saravanan Muthaiyah	Multimedia University	Malaysia	1157CS101	Block Chain CryptoCurrencies and Smart Contracts	CSE	Physical	15	1	55
14	Prof. Dr. Michael Opoku Agyeman	University of Northampton	UK	1157EC963	VHDL & IOT	ECE	Physical	15	1	55
15	Prof. Dr. Daniel Einarson	Kristianstad University	Sweden	1157CS105	Introduction to machine learning for image processing	CSE	Physical	15	1	62
16	Prof. Dr. Saravanan Muthaiyah	Multimedia University	Malaysia	1157CS102	Introduction to IoT & Applications	CSE	Physical	15	1	57
17	Prof. Dr. Jabed Choudary	La Trobe University	Australia	1157CS940	Smart Grid Communication Security	EEE	Virtual	15	1	24
18	Prof. Dr. M. Shridhar	Uiversity of Michigan, Dearborn	USA	1157CS946	Patten Recognition	CSE	Physical	15	1	58
19	Prof. Dr. M. Shridhar	Uiversity of Michigan, Dearborn	USA	1157CS945	Artificial Neural Networks	CSE	Physical	15	1	70
20	Prof. Dr.Raju Aedla	Kumamoto University	Japan	1157EC938	Sattellite Digital Image Analysis	ECE	Physical	15	1	60
21	Prof. Dr. Kapil Gupta	The University of Johannesburg	South Africa	1157ME926	Advanced Manufacturing Technologies	MECH	Virtual	15	1	38
22	Prof. Dr. Sundresan Perumal	University Science Islam Malaysia	Malaysia	1157EC968	Digital Forensics and Incident response	ECE	Virtual	15	1	64

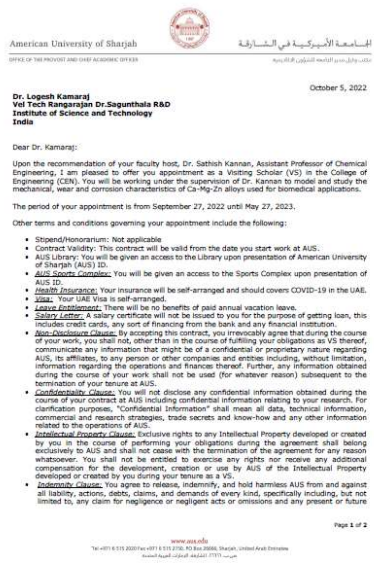
Faculty Mobility – Incoming 2022-2023
Winter Semester

Sl	Name of the Professor	University	Country	Course Code	Title	Department	Accepted Mode of Delivery	No. of Hours	No. of Credits	No. of Students attended
1	Prof.Dr. Jey Chelladurai	East Stroudsburg University	USA	1157CS126	Game Development for Android	CSE	Physical	15	1	39
2	Prof.Dr. Jey Chelladurai	East Stroudsburg University	USA	1157CS127	Virtual and Augmented Reality	CSE	Physical	15	1	60
3	Prof. Dr. Celestine Iwendi	Bolton University	UK	1157EC961	Artificial Intelligence for IoT	ECE	Physical	15	1	65
4	Prof. Dr. M. Shridhar	University of Michigan, Dearborn	USA	1157CS945	Artificial Neural Networks	CSE	Physical	15	1	57
5	Prof. Dr. M. Shridhar	University of Michigan, Dearborn	USA	1157EC969	Machine Learning and Deep Learning	ECE	Physical	15	1	66
6	Prof.Dr. Mustafasanie Bin M Yussof	Universiti Sains Malaysia	Malaysia	1152CE901	Abaqus for Civil Engineers	CIVIL	Physical	15	1	33
7	Prof. Dr. M. Shridhar	University of Michigan, Dearborn	USA	1157CS132	Deep Learning Approaches	CSE	Physical	15	1	60
8	Prof. Dr. M. Shridhar	University of Michigan, Dearborn	USA	1157CS135	Introduction to Convolutional Neural networks	CSE	Physical	15	1	31
9	Prof.Dr. Jey Chelladurai	East Stroudsburg University	USA	1157CS999	GUI Design using iOS	CSE	Physical	15	1	31
10	Prof. Dr. M. Shridhar	University of Michigan, Dearborn	USA	1157CS134	Fundamentals of Deep Learning	CSE	Physical	15	1	60
11	Prof. Dr. Raju Aedla	Kumamoto University	Japan	1157BM906	Geospatial Modelling in Precision Agriculture and Plant Science	BIOMED	Physical	15	1	40

Faculty Mobility – Incoming 2022-2023 Winter Semester

Sl	Name of the Professor	University	Country	Course Code	Title	Department	Accepted Mode of Delivery	No. of Hours	No. of Credits	No. of Students attended
12	Prof. Dr. Hee Yong Youn	Sungkyunkwan University	South Korea	1157CS133	Theory and Application of Smart IoT	CSE	Physical	15	1	60
13	Prof. Dr. Hee Yong Youn	Sungkyunkwan University	South Korea	1157CS124	Hardware and Software Components for building Smart IoT	CSE	Physical	15	1	60
14	Prof. Dr. Hee Yong Youn	Sungkyunkwan University	South Korea	1157GE903	Introduction to IoT & Applications	CSE	Physical	15	1	31
15	Prof. Dr. Sheldon Williamson	Ontario Tech University	Canada	1157EE912	Electrical Energy Storage Systems	EEE	Virtual	15	1	24
16	Prof. Dr. Lung Jieh Yang	Tamkang University	Taiwan	1157AE922	Fundamentals of MEMS	AERO & MECH	Physical	15	1	62
17	Prof. Dr. Keshav Dahal	University of the West of Scotland	Scotland, UK.	1157CS913	Applied artificial Intelligence & intelligence Systems	CSE	Physical	15	1	71
18	Prof. Dr. Keshav Dahal	University of the West of Scotland	Scotland, UK.	1157CS976	Financial Technology	CSE	Physical	15	1	70
19	Prof.Dr. Takashi Watanabe & Prof. Raju Aedla	Kumamoto University	Japan	1157BT904	Plant resourses and Human Life for Sustainable Planet	Biotech	Physical	15	1	40
20	Prof.Dr. Jey Chelladurai	East Stroudsburg University	USA	1157CS127	Virtual and Augmented Reality	CSE	Physical	15	1	51
21	Prof. Dr. Sundresan Perumal	Universiti Sains Islam Malaysia	Malaysia	1157CS138	Digital Forensics and Incident Response	CSE	Physical	15	1	68
22	Prof. Dr. Sundresan Perumal	Universiti Sains Islam Malaysia	Malaysia	1157CS137	Cybersecurity threat handling and Incident Response	CSE	Physical	15	1	66

Faculty Mobility – Outgoing 2022-2023



American University of Sharjah

الجامعة الأميركية في الشارقة

October 5, 2022

Dr. Logesh Kamaraj
Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
India

Dear Dr. Kamaraj:

Upon the recommendation of your faculty host, Dr. Sathish Kannan, Assistant Professor of Chemical Engineering, I am pleased to offer you appointment as a Visiting Scholar (VS) in the College of Engineering (CEN). You will be working under the supervision of Dr. Kannan to model and study the mechanical, wear and corrosion characteristics of Ca-Mg-Zn alloys used for biomedical applications.

The period of your appointment is from September 27, 2022 until May 27, 2023.

Other terms and conditions governing your appointment include the following:

- Stipend/Honorarium: Not applicable
- Contract Validity: This contract will be valid from the date you start work at AUS.
- AUS Library: You will be given an access to the Library upon presentation of American University of Sharjah (AUS) ID.
- *AUS Sports Complex:* You will be given an access to the Sports Complex upon presentation of AUS ID.
- *Health Insurance:* Your insurance will be self-arranged and should covers COVID-19 in the UAE.
- *Visa:* Your UAE Visa is self-arranged.
- *Leave Entitlement:* There will be no benefits of paid annual vacation leave.
- *Salary Letter:* A salary certificate will not be issued to you for the purpose of getting loan, this includes credit cards, any sort of financing from the bank and any financial institution.
- *Non-Disclosure Clause:* By accepting this contract, you irrevocably agree that during the course of your work, you shall not, other than in the course of fulfilling your obligations as VS thereof, communicate any information that might be of a confidential or proprietary nature regarding AUS, its affiliates, to any person or other companies and entities including, without limitation, information regarding the operations and finances thereof. Further, any information obtained during the course of your work shall not be used (for whatever reason) subsequent to the termination of your tenure at AUS.
- *Confidentiality Clause:* You will not disclose any confidential information obtained during the course of your contract at AUS including confidential information relating to your research. For clarification purposes, "Confidential Information" shall mean all data, technical information, commercial and research strategies, trade secrets and know-how and any other information related to the operations of AUS.
- *Intellectual Property Clause:* Exclusive rights to any Intellectual Property developed or created by you in the course of performing your obligations during the agreement shall belong exclusively to AUS and shall not cease with the termination of the agreement for any reason whatsoever. You shall not be entitled to exercise any rights nor receive any additional compensation for the development, creation or use by AUS of the Intellectual Property developed or created by you during your tenure as a VS.
- *Indemnity Clause:* You agree to release, indemnify, and hold harmless AUS from and against all liability, actions, debts, claims, and demands of every kind, specifically including, but not limited to, any claim for negligence or negligent acts or omissions and any present or future

Page 1 of 2

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Dr. K. Logesh
Assistant Professor
Mechanical Engineering

Student Mobility (Outgoing) – [2022-2023]

S No	Batch	Purpose	Duration	Student Name	VtU No.	Dept.	AY	University
1	2019-23	Virtual Internship	4 months	Pramod Chaudhary	16257	Aero	2022 - 2023	National Chung Cheng University, Taiwan
2	2019-23	Research Internship	3 months	Sanjeev Kumar G	14058	Biotech	2022 - 2023	École Polytechnique de Montréal, Canada
3	2019-23	Research Internship	3 months	Issac Kondreddy	14974	ECE	2022 - 2023	Thompson Rivers University, Canada
4	2019-23	Research Internship	3 months	Palivela Venkata Naga Ravi Teja	12958	ECE	2022 - 2023	Carleton University, Canada
5	2019-23	Research Internship	3 months	Saranraj S	11356	CSE	2022 - 2023	Carleton University, Canada
6	2019-23	Research Internship	3 months	Suraj Van Verma	11803	CSE	2022 - 2023	Athabasca University, Canada
7	2019-23	Research Internship	3 months	Raju Ghimire	16242	Civil	2022 - 2023	Université Laval, Canada
8	2019-23	Research Internship	5 months	Ruksana Nazeer K	11950	Aero	2022 - 2023	Nanyang Technological University, Singapore
9	2019-23	Project Abroad	1 Year	Kannam Sree Pranay Chowdary	15779	Mech	2022 - 2023	Hochschule Düsseldorf - University of Applied Sciences, Germany
10	2019-23	Project Abroad	9 months	Vikas Kiran M	13571	Aero	2022 - 2023	University of Orléans, France
11	2019-23	Project Abroad	9 months	Thummaluru Vishnu Vardhan Reddy	13079	Aero	2022 - 2023	University of Orléans, France
12	2019-23	Project Abroad (TEEP)	5 months	Mukundan B	10942	CSE	2022 - 2023	National Ilan University, Taiwan
13	2019-23	Project Abroad (TEEP)	5 months	Rohit Kumar	15145	CSE	2022 - 2023	National Ilan University, Taiwan
14	2019-23	Project Abroad (TEEP)	5 months	Nagi Siva Kumar	15523	ECE	2022 - 2023	National Changhua University of Education, Taiwan
15	2019-23	Project Abroad (TEEP)	5 months	Rajan Kumar Mahato	16223	ECE	2022 - 2023	National Changhua University of Education, Taiwan
16	2019-23	Project Abroad (TEEP)	5 months	Pathi Manaswini	12721	ECE	2022 - 2023	Chang Gung University, Taiwan
17	2019-23	Project Abroad (TEEP)	5 months	Yeddula Srilekha	16010	ECE	2022 - 2023	Chang Gung University, Taiwan
18	2019-23	Project Abroad (TEEP)	5 months	Velicheti Sravan Kumar	13226	ECE	2022 - 2023	Chang Gung University, Taiwan
19	2019-23	Project Abroad (TEEP)	6 months	Ajay Kumar	11968	Mech	2022 - 2023	National Chung Cheng University (CCU), Taiwan
20	2019-23	Project Abroad (TEEP)	5 months	Battini Nuthansai	13427	Mech	2022 - 2023	National Chung Hsing University, Taiwan
21	2019-23	Project Abroad (TEEP)	5 months	Kiruthick Raghav S	11509	Mech	2022 - 2023	National Chung Hsing University, Taiwan
22	2019-23	Project Abroad (TEEP)	5 months	Sridev G	11491	Mech	2022 - 2023	National Chung Hsing University, Taiwan
23	2019-23	Project Abroad (TEEP)	5 months	Suryawanshi Sanket Shivaji	11924	Aero	2022 - 2023	Tamkang University, Taiwan
24	2019-23	Project Abroad (TEEP)	5 months	Mukesh S	13004	Aero	2022 - 2023	Tamkang University, Taiwan
25	2019-23	Project Abroad (TEEP)	3.5 months	Ashish Kumar Kewat	16193	CSE	2022 - 2023	Yuan Ze University, Taiwan

Student Mobility (Outgoing) – [2022-2023]

S No	Batch	Purpose	Duration	Student Name	VtU No.	Dept.	AY	University
26	2019-23	Project Abroad (TEEP)	3.5 months	Saurav Kumar Gupta	11817	CSE	2022 - 2023	Yuan Ze University,Taiwan
27	2019-23	Virtual Internship	12 Months	Abiram Ganiyada	15600	CSE	2022 - 2023	La Trobe University,Australia
28	2019-23	Virtual Internship	12 Months	Guruprasath Marudhapranan	15454	CSE	2022 - 2023	La Trobe University,Australia
29	2019-23	Virtual Internship	12 Months	Buhari M	13633	CSE	2022 - 2023	La Trobe University,Australia
30	2019-23	Virtual Internship	12 Months	M.Krish Kumar	11483	CSE	2022 - 2023	La Trobe University,Australia
31	2019-23	Virtual Internship	12 Months	Saurav Kumar Gupta	11817	CSE	2022 - 2023	La Trobe University,Australia
32	2019-23	Virtual Internship	12 Months	SG Kushal Kumar	12705	CSE	2022 - 2023	La Trobe University,Australia
33	2019-23	Virtual Internship	12 Months	Shalinta Giri	11815	CSE	2022 - 2023	La Trobe University,Australia
34	2019-23	Virtual Internship	12 Months	Suraj S	12700	CSE	2022 - 2023	La Trobe University,Australia
35	2019-23	Virtual Internship	12 Months	Yamini Dandamudi	15515	CSE	2022 - 2023	La Trobe University, Australia
36	2019-23	Project Abroad	6 Months	Rayadu roshan	11797	CSE	2022 - 2023	USIM, Malaysia
37	2019-23	Project Abroad	6 Months	Ankit raj	16146	CSE	2022 - 2023	USIM, Malaysia
38	2019-23	Project Abroad	6 Months	Nabin kusiyait	16189	CSE	2022 - 2023	USIM, Malaysia
39	2019-23	Project Abroad	6 Months	Karaka teja	13557	ECE	2022 - 2023	UNIKL, Malaysia
40	2019-23	Project Abroad	6 Months	sudharshan	12602	Mech	2022 - 2023	UNIKL, Malaysia
41	2019-23	Project Abroad	6 Months	Divyanshi Mishra	16349	Aero	2022 - 2023	University of Orleans, France
42	2019-23	Project Abroad	6 Months	sahir iman khan	13845	Mech	2022 - 2023	University of Orleans,France
43	2019-23	Project Abroad (TEEP)	6 Months	Nisha minj	11960	Biotech	2022 - 2023	Providence (TEEP),Taiwan
44	2019-23	Project Abroad (TEEP)	6 Months	Pavithra E	11973	Biotech	2022 - 2023	Providence (TEEP),Taiwan
45	2019-23	Project Abroad (TEEP)	6 Months	Durgawati Sharma	16354	Biotech	2022 - 2023	Providence (TEEP),Taiwan
46	2019-23	Project Abroad (TEEP)	6 Months	Manohar	13799	EEE	2022 - 2023	Providence (TEEP),Taiwan
47	2019-23	Project Abroad	6 Months	Mohammed Abdul Muqeed	15538	Mech	2022 - 2023	Hochschule Düsseldorf - University of Applied Sciences, Germany
48	2019-23	Project Abroad	6 Months	Surendra kadel	16221	Auto	2022 - 2023	Hochschule Düsseldorf - University of Applied Sciences, Germany
49	2019-23	Project Abroad	6 Months	Nalla Saicharan	13767	Mech	2022 - 2023	Hochschule Düsseldorf - University of Applied Sciences, Germany
50	2019-23	Project Abroad	6 Months	Khiran Kumar	10960	ECE	2022 - 2023	National Chung Hsing University, Taiwan

Student Mobility (Outgoing) – [2022-2023]

S No	Batch	Purpose	Duration	Student Name	VtU No.	Dept.	AY	University
51	2019-23	Project Abroad	6 Months	Rahul kumar	11904	Aero	2022 - 2023	National Chung Hsing University, Taiwan
52	2019-23	Project Abroad	6 Months	Tharun Akula	15233	ECE	2022 - 2023	National Chung Hsing University, Taiwan
53	2019-23	Project Abroad	6 Months	Halder Rinki	11959	Biotech	2022 - 2023	Ming chi university,Taiwan
54	2019-23	Project Abroad	6 Months	David Honesty Babu	15863	ECE	2022 - 2023	Ming chi university,Taiwan
55	2019-23	Virtual Internship	6 Months	Aayush	16210	civil	2022 - 2023	USIM, Malaysia
56	2019-23	Virtual Internship	6 Months	Kaviyarasan P	18849	ECE	2022 - 2023	USIM, Malaysia
57	2019-23	Virtual Internship	6 Months	Sakthivel B	11054	ECE	2022 - 2023	USIM, Malaysia
58	2019-23	Project Abroad	5 Months	Dhanesh Perumal R	14028	Auto	2022 - 2023	Southern Taiwan University of Science and Technology, Taiwan
59	2019-23	Project Abroad	5 Months	Nagappan	13503	Auto	2022 - 2023	Southern Taiwan University of Science and Technology, Taiwan
60	2019-23	Project Abroad	5 Months	kaushik Ganguli	11573	ECE	2022 - 2023	Southern Taiwan University of Science and Technology, Taiwan
61	2019-23	Project Abroad (TEEP)	4 Months	M.karthik	15834	ECE	2022 - 2023	National Central University, Taiwan
62	2019-23	Project Abroad	9 Months	Thatigotla Keerthi Reddy	13720	Aero	2022 - 2023	Ming Chi University of Technology, Taiwan
63	2019-23	Project Abroad	9 Months	G.Pavansai	13109	Auto	2022 - 2023	Ming Chi University of Technology, Taiwan
64	2019-23	Project Abroad	9 Months	Nevuluriharikrishna	13229	Auto	2022 - 2023	Ming Chi University of Technology, Taiwan
65	2019-23	Project Abroad	9 Months	Anindita Bhar	16504	BioTech	2022 - 2023	Ming Chi University of Technology, Taiwan
66	2019-23	Project Abroad	9 Months	Shaik Sameer	15759	ECE	2022 - 2023	Tamkang University, Taiwan
67	2019-23	Project Abroad	9 Months	Penubarathi Guru Varun	11556	Mech	2022 - 2023	Tamkang University, Taiwan
68	2019-23	Project Abroad	9 Months	Shaik Mahammed Inthiyaz	15851	Mech	2022 - 2023	Tamkang University, Taiwan
69	2019-23	Project Abroad	9 Months	Shaik Shahul	12780	Mech	2022 - 2023	Tamkang University, Taiwan
70	2019-23	Project Abroad	9 Months	Palla Amarnath	15150	ECE	2022 - 2023	National Chin Yi University of Technology,Taiwan
71	2019-23	Project Abroad	9 Months	Sunkari Mula Vishnu Veeranjan	13831	ECE	2022 - 2023	National Chin Yi University of Technology,Taiwan
72	2019-23	Project Abroad	9 Months	Mayurakshya Paul	11580	CSE	2022 - 2023	National Chin Yi University of Technology,Taiwan
73	2019-23	Project Abroad	9 Months	C. Naveen Raj	13773	IT	2022 - 2023	National Chin Yi University of Technology,Taiwan
74	2019-23	Project Abroad	9 Months	Ravilisetti Durga Kanaka Sainadh	13646	ECE	2022 - 2023	Ming Chi University of Technology,Taiwan
75	2019-23	Project Abroad	9 Months	S.Akshaya Sai	15080	ECE	2022 - 2023	Tamkang University, Taiwan

Student Mobility (Outgoing) – [2022-2023]

S No	Batch	Purpose	Duration	Student Name	VtU No.	Dept.	AY	University
76	19-23	Project Abroad	9	Yeruva Maheswarareddy	11571	ECE	22-23	Tamkang University, Taiwan
77	19-23	Project Abroad	9	Yakkanti Venkata Sri Charan Reddy	11823	ECE	22-23	Tamkang University, Taiwan
78	19-23	Project Abroad	9	Kotapati Venkata Sasi Kiran Reddy	11572	ECE	22-23	Tamkang University, Taiwan
79	19-23	Project Abroad	9	Sura Chandresh Reddy	11576	ECE	22-23	Tamkang University, Taiwan
80	19-23	Project Abroad	9	Suggu Deepika	15431	ECE	22-23	Tamkang University, Taiwan
81	19-23	Project Abroad	9	Mekala Venkata Surendra Chowdary	15466	ECE	22-23	National Chin Yi University of Technology, Taiwan
82	19-23	Project Abroad	9	Boggarapu Sairaghav	13260	ECE	22-23	National Tsing Hua University, Taiwan
83	19-23	Project Abroad	9	J.Rahul babu	13743	ECE	22-23	National Tsing Hua University, Taiwan
84	19-23	Project Abroad	9	Sirigineedi Akhileswari	11861	ECE	22-23	National Tsing Hua University, Taiwan
85	19-23	Project Abroad	9	Toleti Teja	14031	MECH	22-23	National Tsing Hua University, Taiwan
86	19-23	Project Abroad	9	Sami Venkata Subramanya Subhash	15164	MECH	22-23	National Tsing Hua University, Taiwan
87	19-23	Project Abroad	5	Shaik Sulthan Sab Gari Sulthan Basha	13811	ECE	22-23	Kumamoto University
88	19-23	Project Abroad	5	Partho Adhikari	16243	ECE	22-23	Kumamoto University
89	19-23	Project Abroad	5	Hema Venkatesh Surampudi	14827	ECE	22-23	Kumamoto University
90	19-23	Project Abroad	5	Puvvada Avinash	14508	EEE	22-23	Providence University (TEEP)
91	19-23	Project Abroad	5	Puppala Chaitanya Sai Manikanta	15002	EEE	22-23	Providence University (TEEP)
92	19-23	Project Abroad	5	Suraj Kumar Singh	13467	CSE	22-23	Tamkang university
93	19-23	Project Abroad	5	Mukesh	11880	CSE	22-23	Tamkang university

Student Mobility (Outgoing) – [2022-2023]

S No	Batch	Purpose	Duration	Student Name	VtU No.	Dept.	AY	University
1	2019-2023	Project Abroad	9 Months	Thatigotla Keerthi Reddy	13720	Aero	2022 - 2023	Ming Chi University of Technology, Taiwan
2	2019-2023	Project Abroad	9 Months	G.Pavansai	13109	Auto	2022 - 2023	Ming Chi University of Technology, Taiwan
3	2019-2023	Project Abroad	9 Months	Nevuluriharikrishna	13229	Auto	2022 - 2023	Ming Chi University of Technology, Taiwan
4	2019-2023	Project Abroad	9 Months	Anindita Bhar	16504	BioTech	2022 - 2023	Ming Chi University of Technology, Taiwan
5	2019-2023	Project Abroad	9 Months	Shaik Sameer	15759	ECE	2022 - 2023	Tamkang Univeristy, Taiwan
6	2019-2023	Project Abroad	9 Months	Penubarathi Guru Varun	11556	Mech	2022 - 2023	Tamkang Univeristy, Taiwan
7	2019-2023	Project Abroad	9 Months	Shaik Mahammed Inthiyaz	15851	Mech	2022 - 2023	Tamkang Univeristy, Taiwan
8	2019-2023	Project Abroad	9 Months	Shaik Shahul	12780	Mech	2022 - 2023	Tamkang Univeristy, Taiwan
9	2019-2023	Project Abroad	9 Months	Palla Amarnath	15150	ECE	2022 - 2023	National Chin Yi University of Technology,Taiwan
10	2019-2023	Project Abroad	9 Months	Sunkari Mula Vishnu Veeranjan	13831	ECE	2022 - 2023	National Chin Yi University of Technology,Taiwan
11	2019-2023	Project Abroad	9 Months	Mayurakshya Paul	11580	CSE	2022 - 2023	National Chin Yi University of Technology,Taiwan
12	2019-2023	Project Abroad	9 Months	C. Naveen Raj	13773	IT	2022 - 2023	National Chin Yi University of Technology,Taiwan
13	2019-2023	Project Abroad	9 Months	Ravilisetti Durga Kanaka Sainadh	13646	ECE	2022 - 2023	Ming Chi University of Technology, Taiwan
14	2019-2023	Project Abroad	9 Months	S.Akshaya Sai	15080	ECE	2022 - 2023	Tamkang Univeristy, Taiwan
15	2019-2023	Project Abroad	9 Months	Yeruva Maheswarareddy	11571	ECE	2022 - 2023	Tamkang Univeristy, Taiwan
16	2019-2023	Project Abroad	9 Months	Yakkanti Venkata Sri Charan Reddy	11823	ECE	2022 - 2023	Tamkang Univeristy, Taiwan
17	2019-2023	Project Abroad	9 Months	Kotapati Venkata Sasi Kiran Reddy	11572	ECE	2022 - 2023	Tamkang Univeristy, Taiwan
18	2019-2023	Project Abroad	9 Months	Sura Chandresh Reddy	11576	ECE	2022 - 2023	Tamkang Univeristy, Taiwan
19	2019-2023	Project Abroad	9 Months	Suggu Deepika	15431	ECE	2022 - 2023	Tamkang Univeristy, Taiwan
20	2019-2023	Project Abroad	9 Months	Mekala Venkata Surendra Chowdary	15466	ECE	2022 - 2023	National Chin Yi University of Technology, Taiwan
21	2019-2023	Project Abroad	9 Months	Boggarapu Sairaghav	13260	ECE	2022 - 2023	National Tsing Hua University,Taiwan
22	2019-2023	Project Abroad	9 Months	J.Rahul babu	13743	ECE	2022 - 2023	National Tsing Hua University,Taiwan
23	2019-2023	Project Abroad	9 Months	Sirigineedi Akhileswari	11861	ECE	2022 - 2023	National Tsing Hua University,Taiwan
24	2019-2023	Project Abroad	9 Months	Toleti Teja	14031	MECH	2022 - 2023	National Tsing Hua University,Taiwan
25	2019-2023	Project Abroad	9 Months	Sami Venkata Subramanya Subhash	15164	MECH	2022 - 2023	National Tsing Hua University,Taiwan

Student Mobility (Incoming) – [2022-2023]

Sl. No.	Purpose	A.Y.	From Date	To Date	Duration	Student Name	Degree	Department at Vel Tech	University	Country
1	Short Term Student Mobility	2022-2023	04-01-2023	15-06-2023	5 Months	Mr. Axel Phelippeau	BTECH	Mech/Civil	ESTACA	France
2	Short Term Student Mobility	2022-2023	04-01-2023	15-06-2023	5 Months	Mr. Leo Capitaine	BTECH	Aero	ESTACA	France
3	Short Term Student Mobility	2022-2023	15-05-2023	13-08-2023	3 Months	Mr. Erwan Billy	BTECH	Mech	Ploy Tech Orleans	France

Higher Studies – 2022-2023

Sl. No.	Name of student enrolling into higher education	Program graduated from	Academic Year	Name of institution admitted to	Name of programme admitted to
1	Bandharla Dharani	Aero	2022-2023	National Cheng Kung University	Master - Aeronautics and Astronautics
2	Sirigiri Mouli	Aero	2022-2023	University Of Hertfordshire	MS - Data Science
3	Gaddam Yashwanth Reddy	Aero	2022-2023	The University Of Texas At Arlington	MS - Aerospace Engineering
4	Solipuram Kamalakar Reddy	Aero	2022-2023	Teesside University	MSc - Aerospace Engineering (with Advanced Practice)
5	Borde Ganesh	Aero	2022-2023	Florida Institue Of Technology	Master - Aerospace Engineering
6	Simron Biswas	Aero	2022-2023	École Centrale De Lyon	Master - Aerospace Engineering
7	Sreehari V	Aero	2022-2023	Dalhousie University	MS - Industrial Enginnering
8	Mallela Venkata Sumanth	Aero	2022-2023	University of Texas at Arlington	M.E - Aerospace Engineering
9	Vaddireddy Sai Ganesh Reddy	Auto	2022-2023	University Of Liverpool	MSc - Adaence Manufacturing Systems & Technology
10	Pathan Saif Suleman Khan	Auto	2022-2023	University of Houstion	M.S - Industrial Engineering
11	Alapati Devi Divya Sri	BBA	2022-2023	University Of Central Oklahoma	MSc - Businesss Analytics
12	Sarikonda Jaya Prakash Raju	BBA	2022-2023	Adelphie University	MSc - Businesss Analytics
13	Sweta Jha	Bio Med	2022-2023	Yuan Ze University	Master - Electrical Engineering
14	Perumal D	Bio Med	2022-2023	Institute Of National Polytechnic Toulouse	Master - Embedded system and Electronic Communication and application
15	Vaishnavi M Nair	Biotech	2022-2023	Technical University Of Munich	MS - Agricultural Biosciences
16	Umanandini S	Chemistry	2022-2023	Georgian College At Ilac	PG - Project Management
17	Podishetti Vishnu Goud	Civil	2022-2023	Teesside University	MSc - Project Management (with Advanced Practice)
18	Ettamsetti Prasad	Civil	2022-2023	Coventry University	MSc Supply Chain Management and Logistics
19	Nalla D N V Manikanta Manohar	Civil	2022-2023	Universty Of Houston	MS - Construction Management
20	Bhuvanendra Jonnalagadda	CSE	2022-2023	State University Of New York At Buffalo	Master - Computer and Information Science

Higher Studies – 2022-2023

Sl. No.	Name of student enrolling into higher education	Program graduated from	Academic Year	Name of institution admitted to	Name of programme admitted to
21	Ramya Reddy Vardireddy	CSE	2022-2023	Texas A & M University , Kingsville	MSc - Computer Science
22	Kavuri Sowjanya Chowdary	CSE	2022-2023	University Of Bridgeport	MSc - Computer Science
23	Akhil Vippadapu	CSE	2022-2023	Southeast Missouri State University	MSc - Applied Computer Science
24	Nalla Upendra	CSE	2022-2023	Wichita State University	Master - Computer Science
25	Cherukuri Chandana	CSE	2022-2023	University Of Memphis	MSc - Computer Science
26	Guggulla Siva Sandeep Reddy	CSE	2022-2023	Teesside University	MSc - Computer Games Programming
27	K. Sai Pragna	CSE	2022-2023	New Jersey Institute Of Technology	Master - Computer and Information Science
28	Korlapati Vineetha	CSE	2022-2023	Southeast Missouri State University	Master - Computer and Information Science
29	Goutham Reddy Enugula	CSE	2022-2023	State University Of New York At Buffalo	Master - Computer and Information Science
30	Jaya Rajya Lakshmi Kotla	CSE	2022-2023	University Of Missouri Kansas City	MS - Computer Science
31	N Dushyanth	CSE	2022-2023	Wichitha State University	MS - Computer science
32	Dendukuri Sai Pankaj Varma	CSE	2022-2023	Long Island University	MS - Computer science
33	Mohan Vamsi Seelam	CSE	2022-2023	University Of Central Oklahoma	MS - Computer science
34	Jyothirmai Seela	CSE	2022-2023	University Of North Texas	MS - Information Systems and Technologies
35	Subash J	CSE	2022-2023	University Of North Texas	Maser - Information Technolgy
36	Karampudi Vishnu Chaithanya	CSE	2022-2023	University Of North Texas	Master - Computer and Information Science
37	P.Deepak Reddy	CSE	2022-2023	New Jersey Institute Of Technology	MSc - Computer science
38	Ailuri Naveen Reddy	CSE	2022-2023	Texas Tech University	Master - Computer and Information Science
39	Harsha Vardhan Mandadapu	CSE	2022-2023	Northern Arizona University	MS - Computer science
40	D.Phanindra	CSE	2022-2023	University Of North Texas	Master - Mathematics and Statistics

Higher Studies – 2022-2023

Sl. No.	Name of student enrolling into higher education	Program graduated from	Academic Year	Name of institution admitted to	Name of programme admitted to
41	K Lalith Teja	CSE	2022-2023	University Of New Haven	Master - Computer and Information Science
42	Sai Kiran Ch	CSE	2022-2023	University Of North Texas	MS - Business Analytics
43	Rishitha Sai Kavuru	CSE	2022-2023	George Mason University	MSc - Computer Science
44	Durga Chowdary Lam	CSE	2022-2023	Kent State University	Master - Computer Science
45	Manam Sai Sumanth	CSE	2022-2023	University Of Missouri Kansas City	MS - Computer Science
46	Adapa Tinku Naga Sai Pavan	CSE	2022-2023	University Of North Texas	MS - Cyber Sceurity
47	Guttikonda Harshavardhan	CSE	2022-2023	Wichita State University	MS - Computer science
48	Prem Chand Autukuri	CSE	2022-2023	University Of North Carolina	MSc - Computer Science
49	Saikiran Boppana	CSE	2022-2023	University Of North Texas	MSC - Data Science
50	Ravella Vishnu	CSE	2022-2023	University Of North Texas	MS - Data Science
51	Kota Eswar Narasimha Prasad	CSE	2022-2023	New Jersey Institute Of Technology	MSc - Computer Science
52	Venkata Nagasatya Sai Rakesh Sabbisetty	CSE	2022-2023	Illinois State University	Masters - Computer science
53	Vemula Praneeth	CSE	2022-2023	Illinois State University	MS - Computer science
54	Bellamkonda Chandra Sekhar	CSE	2022-2023	University Of North Carolina At Charlotte	MSc - Computer Science
55	Kamani Venkata Keerthi	CSE	2022-2023	University Of North Texas	MS - Computer science
56	Mandadi Adarsh	CSE	2022-2023	University Of North Texas	MS - Datascience
57	Mandati Sushma	CSE	2022-2023	Uniersity Of New Haven	MS - DataScience
58	Sanivarapu Narsi Reddy	CSE	2022-2023	University Of New Haven	MS - Computer Engineering
59	Chakiri Yaswanth	CSE	2022-2023	University Of Alabama At Birmingham	MS - Computer and Information Science
60	Goli Suraj Reddy	CSE	2022-2023	University Of New Haven	MS - Business Analytics

Higher Studies – 2022-2023

Sl. No.	Name of student enrolling into higher education	Program graduated from	Academic Year	Name of institution admitted to	Name of programme admitted to
61	Patibandla Abhi	CSE	2022-2023	Bowling Green State University	MS -Computer Science Cyber Security and Digitel Forensics
62	Pattem Vamsi Krishna	CSE	2022-2023	Wright State University	MS - Computer Science
63	Dhulipalla Krishna Vamsi	CSE	2022-2023	Virginia Tech	MS - Computer Science
64	Korukonda Karthik	CSE	2022-2023	Wichita State University	MS - Computer Science
65	Vaddireddy Vinay Reddy	CSE	2022-2023	Federation University	MS - Computer Science
66	Seela Akhilesh	CSE	2022-2023	Anglia Ruskin University	MS - Computer Science
67	Minnakanti Vinay Babu	CSE	2022-2023	Texas A & M University - Corpus Christi	MS - Computer Science
68	Mynampati Vishnu	CSE	2022-2023	Kent State University	MS - Computer Science
69	Malgireddy Revanth Reddy	CSE	2022-2023	University Of North Texas	MS - Computer Science
70	Chinthalapally Nikhil	CSE	2022-2023	University Of Central Missouri	MS - Computer Science
71	Pakupatla Niranjan Reddy	CSE	2022-2023	Saint Peter'S University	MS - Computer Science
72	Anam Anvesh Reddy	CSE	2022-2023	Northwest Missouri State University	MS - Computer Science
73	Degapudi Saranya	CSE	2022-2023	University Of New Haven	MS - Computer Science
74	Dhanunjai Sai Kumar	CSE	2022-2023	Monash University	Master - Cyber security
75	Shanmukha Sai Reddy Manukonda	CSE	2022-2023	Dayton University	Master - Computer Science
76	Anumula Jayanth Reddy	CSE	2022-2023	University Of North Carolina At Charlotte	MS - Computer Science
77	Rajesh Kotapati	CSE	2022-2023	Sacred Heart University	MS - Computer Science
78	Chalasani Trinadh Venkata Phaneendrababu	CSE	2022-2023	Texas A&M University	MS - Computer Science
79	Chalasani Leelavenkata Nagendrababu	CSE	2022-2023	Texas A&M University	MS - Computer Science
80	Vennapusa Bhanu Prakash Reddy	CSE	2022-2023	Northumbira University	MSc - Advanced Computer Science with Advanced Practice

Higher Studies – 2022-2023

Sl. No.	Name of student enrolling into higher education	Program graduated from	Academic Year	Name of institution admitted to	Name of programme admitted to
81	Kattameedi Venkata Subba Reddy	CSE	2022-2023	Univerity of Texas - Arlington	M.S. - Computer Science and Information
82	Yeswanth Eadara	CSE	2022-2023	Clark University	M.S - Computer Science
83	Patnala Sri Satya Venkata Vinay Mahesh	ECE	2022-2023	Wright State University	MS - Computer Science
84	Rakesh Jampala	ECE	2022-2023	University Of Texas At Dallas	MS - Computer Science
85	Madhusudhanreddy B	ECE	2022-2023	Stevens Institute Of Technology	ME - Computer science
86	Muvva Bhargav Kumar	ECE	2022-2023	Indiana State University	MS - Computer Science
87	Shaik Chandu	ECE	2022-2023	Wichita State University	MS - Computer Science
88	Kandula Charitha	ECE	2022-2023	Northern Arizona University	MS - Computer Science
89	Hemanth Mamillapalli	ECE	2022-2023	University Of New Haven	MS - Electrical Engineering
90	Parvathaneni Karthik	ECE	2022-2023	Texas A&M Corpus Christi	MSc - Computer Science
91	Kurakula Devi	ECE	2022-2023	Saint Louis University	MS - Computer Science
92	A Raghavendra Reddy	ECE	2022-2023	Pace University	MS - Computer Science
93	Vadde Reethika Rao	ECE	2022-2023	Greenwich University Medway Campus	MSc - Engineering Management with Industrial Practice
94	Mudireddy Tharun Reddy	ECE	2022-2023	Saint Louis University	MS - Computer Science
95	Putchakayala Namratha	ECE	2022-2023	University Of Missouri-Kansas City	MS - Computer Science
96	Jayaprakash Sangem	ECE	2022-2023	University Of Greenwich	MSc - Electrical and Electronic Engineering with Industrial Practice
97	Kudithipudi Reethi	ECE	2022-2023	Murray State University	MS - Information Technology
98	Kamatham Sai Uttej	ECE	2022-2023	University Of Bridgeport	MS - Computer Science
99	Putta Sai Neeraj	ECE	2022-2023	University Of Hertfordshire	MSc - Data Science and Analytics with Sandwich Placement
100	M.Sai Pramitha	ECE	2022-2023	Hochschule Darmstadt University Of Applied Sciences.	MSc - Electrical Engineering and IT

Higher Studies – 2022-2023

Sl. No.	Name of student enrolling into higher education	Program graduated from	Academic Year	Name of institution admitted to	Name of programme admitted to
101	K Sai Naveen	ECE	2022-2023	Rowan University	MS - Computer Science
102	Buddhavarapu Uday Kumar	ECE	2022-2023	Rowan University	MS - Computer Science
103	Brahma Reddy Akumalla	ECE	2022-2023	National Central University	M.S- Computer Science
104	Adarsh Kumar Gupta Bayya	ECE	2022-2023	University of the Pacific San Francisco	M.S - Data Science
105	Ganganapalli Muneer Baba	EEE	2022-2023	University Of Greenwich	MSc - Electrical Power Engineering with Industrial Practice
106	Avula Manohar Reddy	EEE	2022-2023	University Of Houston-Clear Lake	MS - Computer Science
107	Bala Chandra Sekhar Reddy Bhavanam	IT	2022-2023	Murray State University	MSc - Information systems
108	Mandhadi Nishitha	IT	2022-2023	University Of North Texas	MS - Computer Science
109	Mamidala Rithik Chandra	IT	2022-2023	University Of North Texas	MS - Information Science
110	Tsering Wangmo	Mech	2022-2023	Erasmus Mundus Joint Master'S Degree	TRIBOS+ (Tribology of Surfaces and Interfaces)
111	Aravind Sai Genikala	Mech	2022-2023	Conestoga College	MS - Applied Manufacturing Management - Automation
112	Joel M Devasia	Mech	2022-2023	Federation University	Master of Engineering Project Management
113	Aditya Vardhan Yarramsetty	Mech	2022-2023	Kent State University	MS - Mechatronics Engineering
114	Bathina Venkateswarlu	Mech	2022-2023	University Of New Haven	MS - Mechanical Engineering
115	B Sushanth Reddy	Mech	2022-2023	Pennsylvania State University	MS - Mechanical Engineering
116	Marati Abhishek	Mech	2022-2023	Middlesex University	MSc - Data Science
117	Gunneri Surendra	Mech	2022-2023	Southern Illinois University	MS - Industrial Engineering
118	Kaliappa Rangarajan P	Multimedia	2022-2023	Kingston University	MA - Computer Animation with Professional Placement

Memorandum of Understanding

S. No	MOU No	Name of the Research Institute/University/ Organization	Country	Duration of Agreement	Academic Year	Date of Signing	Status
1	133	Sheffield Hallam University	UK	2 Years	2022-23	22.12.2022	Renewal
2	177	Multimedia University (MMU)	Malaysia	5 Years	2022-23	01.03.2023	Renewal
3	233	Universiti Sains Malaysia (USM)	Malaysia	5 years	2022-23	04.11.2022	Renewal
4	239	National Tsing Hua University (NTHU)	Taiwan	5 Years	2022-23	07.07.2022	Renewal
5	243	National Formosa University (NFU)	Taiwan	5 Years	2022-23	12.12.2022	Renewal
6	213 A	Université François-Rabelais de Tours (Polytech Tours)	France	5 Years	2022-23	01.07.2022	Renewal
7	367	Quilmes National University	Argentina	5 Years	2022-23	11.08.2022	NEW
8	368	City University	Malaysia	7 Years	2022-23	04.10.2022	NEW
9	375	Taylors University	Malaysia	2 Years	2022-23	12.09.2022	NEW
10	376	University of Chemistry and Technology	Prague	5 Years	2022-23	06.10.2022	NEW
11	377	KEDGE Business School	France	5 Years	2022-23	17.02.2023	NEW
12	378	IELTS	India	3 Years	2022-23	10.01.2023	NEW
13	379	TECC	India	5 years	2022-23	27.03.2023	NEW

Events Organized – [2022-23]

S. No	Date	Event Name	Type	Name of the Delegates	Designation	University/ Organization	Country	Mode	No of Participants	Coordinator
1	04.09.22	Higher Study opportunities in German & Indo-German Centre for Higher Education [IGCHE] Program	Alumni Interaction	Mr. Abhishek Mazumdar	Graduate Student	Westfälische Hochschule Gelsenkirchen	Germany	Online	30	M. Manikandan
2	07.09.22 to 13.09.22	IPR and Cyber Laws	IFDP	Refer the Document	Refer the Document	Refer the Document	India	Hybrid	175	T. Rameshkumar
3	30.09.22	Emerging Technologies that will Transform our World: Life in the Future	Seminar	Dr. Naveen Chilamkurti, Dr. Simon Egerton, Dr. Vipul Patel	Associate Dean Deputy Head of Dept Senior Lecture	La Trobe University	Australia	Offline	75	M. Manikandan
4	20.10.22	Real time Sensing and Data Management Techniques with IoT for Agriculture	Seminar	Prof. Ahmad Al-Mallahi	Industry Research Chair and Assistant Professor	Dalhousie University	Canada	Offline	64	M. Manikandan
5	31.10.22	Shape Engineering of Group III – V Semiconductor Nanostructures for Novel Optoelectronic Devices	Seminar	Prof. (Dr). Hoe Tan	Professor	The Australian National University	Australia	Online	169	M. Manikandan
6	29.10.22	GRE and TOEFL	Information Session	Mr. Naveen	Manager	ETS India	India	Online	25	M. Manikandan
7	03.11.22	Train the Trainer (TTT)- GRE & TOEFL	Workshop	Ms. Rashmi Gera	Head - Academics	ETS India	India	Offline	14	M. Manikandan
8	19.11.22	New challenges for Higher Education and Work opportunities in UK	Information Session	Mr. Mohammed Hashique	Regional Brand Marketing Manager - SI UK	SI UK	India	Online	30	M. Manikandan
9	22.11.22	Study abroad for Bright Future	Information Session	Mr. Kumaresan	Manager	Manya	India	Online	67	M. Manikandan
10	24.11.22	Rising Business Techniques that will Transform our World: Life in the Future	Seminar	Prof. Aron O'Cass	Dean	La Trobe Business School	Australia	Offline	210	M. Manikandan

Events Organized – [2022-23]

S. No	Date	Event Name	Type	Name of the Delegates	Designation	University/ Organization	Country	Mode	No of Participants	Coordinator
11	05.01.23	Recent Advances in Transport Electrification	Webinar	Prof. Dr. Sheldon Williamson	Professor	Ontario Tech University	Canada	Online	30	Mr. T. Rameshkumar
12	12.01.23	Journey from Vel Tech to Denmark (Via Spain, Belgium & Portugal)	Webinar	Mr. Bharat Chandra Alla	Project Manager	SubSea Cables from New Power Partners	Denmark	Online	30	Mr. T. Rameshkumar
13	19.01.23	Explore the world with Opportunities	Webinar	Mr. Boyanagunta Srikanth	Research and Development Engineer	TEXEG CO., LTD	Japan	Online	30	Mr. T. Rameshkumar
14	06.02.23	International opportunities for civil Engineers	Webinar	Mr. Sai Mounik Gunti	Civil Engineer	Department of Transport and Main Roads, Queensland	Australia	Online	30	Mr. T. Rameshkumar
15	27.03.23	Vel Tech – TECC Inauguration	Inauguration	H. E. Mr. Baushuan Ger	Taiwan Ambassador to India	TECC	Taiwan	Offline	200	Mr. M. Manikandan
16	12.04.23	Education and Job opportunities in Germany	Webinar	Mr. Bagavathiannan Palanisamy	Technical Manager and Scrum Manager	DASAN Zhone Solutions	Germany	Online	30	Mr. T. Rameshkumar

Event Clicks

IELTS Nodal Centre Certificate received by Vice Chancellor **Prof. S. Salivahanan**

Prof. Logeshwaran, City University Malaysia interacted with Vice Chancellor **Prof. S. Salivahanan**

Prof. Oran O'Case, Dean School of Business, LTU, Australia address the students.

Ms. Reshmi Gera, Head – Academics , ETS Training our Faculty in TOEFL & GRE TTT workshop

Prof. Ahamad, Dalhousie University, Canada delivered a seminar to Biotech students

Ms. Anamika, Representative of Portsmouth, UK Visited our research facilities

Vel Tech –TECC Inauguration

MoU Signing

Vel Tech–TECC Opening

Thank You

M Tech R16 Regulation

and

Changes proposed in the New Regulations

VTR PGE 2023

Academic Council Meeting Presentation

Saturday, the 10th June 2023

Major Changes Proposed in the M.Tech. Regulations VTU PGE 2023

Sl No	Item	As per M Tech R16	Proposed Changes
1	Minimum Credits required to award M.Tech. Degree	**80**	**80 (As per NHEQF Guidelines)**
2.	Credits under Programme Foundation	**4**	**Nil**
3	Programme Core	**30**	**34**
4	Programme Elective	**12**	**18** (2 courses – 3 credits each, shall be taken from NPTEL/Swayam/MooC online plateforms

Major Changes Proposed in the M.Tech. Regulations VTU PGE 2023

Sl No	Item	As per M Tech R16	Proposed Changes
5	Credits Under Independent Learning Research Methodology – 2 Credits Business Communication/ Technical Writing – 2 credits Online Courses – MooC- 2 Credits Research Seminar – 2 Credits	**8**	**4** Research Methodology – 2 Credits Business Communication/ Technical Writing – 2 credits **(Both from NPTEL/SWAYAM/MooC Platforms)**
6.	Major Project Phase I - 10 Credits Major Project Phase II - 16 Credits	**26**	**21** Major Project Phase I – 3 Credits Major Project Phase II - 6 Credits Major Project Phase III – 12 Credits

Major Changes Proposed in the M.Tech. Regulations VTU PGE 2023

Sl No	Item	As per M Tech R16	Proposed Changes
7	Internal Examination (40 Marks)	**Mid Term tests - 20 marks** **Assignment/Seminar/ Project - 20 Marks** **2 Mid Term Tests** **2/3 of BM+ 1/3 of LM**	**Mid Term tests - 30 marks** **Assignment/Seminar - 10 Marks** **2 Mid Term Tests** **Average of both tests**
8	External Examination (60 Marks)	Part A : (10 x 1) = 10 Marks Part B : (5 x 4) = 20 Marks Part C : (5 x 6) = 30 Marks	Part A : (10 x 2) = 20 Marks Part B : (5 x 8) = 40 Marks
9	Mandate to publish/present the project work as paper in Scopus Indexed Journal / International conference	Not considered	**Proposed to include**

Major Changes Proposed in the M.Tech. Regulations VTU PGE 2023

Sl No	Item	As per M Tech R16	Proposed Changes
10	Credits under MooC platform (NPTEL/SWAYAM/MooC)	**2 Credits (2.5 % of total credits)**	**10 Credits (12.5 % of total credits)**

Thank you

PG – Arts & Science PMAS R16 Regulation

and

Changes proposed in the New Regulations

VTR PGAS 2023

Academic Council Meeting Presentation

Saturday, the 10th June 2023

Major Changes Proposed in the M.A./M.Sc. Regulations VTU PGAS 2023

Sl No	Item	As per PMAS R16	Proposed Changes In VTR PGAS 2023
1	Minimum Credits required to award M.A./M.Sc. Degree	**94**	**80** **(As per NHEQF Guidelines)**
2	Programme Core	**48**	**44**
3	Programme Elective	**12**	**15** (2 courses – 3 credits each, may be taken from NPTEL/Swayam/MooC platforms

Major Changes Proposed in the M.A./M.Sc.

Regulations VTU PGAS 2023

Sl No	Item	As per PMAS R16	Proposed Changes In VTR PGAS 2023
4	Institute Elective	**06**	**Open Elective – 6 Credits** may be taken from NPTEL/ Swayam/MooC platforms
5	Credits Under Independent Learning Seminar /Internship – 4 Credits Online Courses – MooC- 4 Credits Project - 12 Credits	**20**	**12** Internship – 2 Credits Major Project – I : 2 Credits Major Project – II : 8 Credits

Major Changes Proposed in the M.A./M.Sc.

Regulations VTU PGAS 2023

Sl No	Item	As per PMAS R16	Proposed Changes In VTR PGAS 2023
6	Life Skills	**04**	02 Credits **from NPTEL/SWAYAM/MooC Platforms)**
7	Extension Activities	**04**	**01 Credit**

Major Changes Proposed in the M.A./M.Sc.

Regulations VTU PGAS 2023

Sl No	Item	As per PMAS R16	Proposed Changes In VTR PGAS 2023
8	Internal Examination (40 Marks)	**Mid Term tests - 20 marks** **Assignment/Seminar/ Project - 20 Marks** **2 Mid Term Tests** **2/3 of BM+ 1/3 of LM**	**Mid Term tests - 30 marks** **Assignment/Seminar - 10 Marks** **2 Mid Term Tests** **Average of both tests**
9.	External Examination (60 Marks)	Part A : (10 x 1) = 10 Marks Part B : (5 x 4) = 20 Marks Part C : (5 x 6) = 30 Marks	Part A : (10 x 2) = 20 Marks Part B : (5 x 8) = 40 Marks

Major Changes Proposed in the M.A./M.Sc.

Regulations VTU PGAS 2023

Sl No	Item	As per PMAS R16	Proposed Changes In VTR PGAS 2023
10	Mandate to publish/present the Project work as Paper in the International conference or Scopus Indexed/UGC Care listed Journals	Not considered	**Proposed to include**

Major Changes Proposed in the M.A./M.Sc.

Regulations VTU PGAS 2023

Sl No	Item	As per M Tech R16	Proposed Changes
11	Credits under MooC platform (NPTEL/SWAYAM/MooC)	**2 Credits (2.5 % of total credits)**	**14 Credits (17.5 % of total credits)**

Thank you

School of Law

LL.B 18 Regulation and Changes proposed

10th June 2023

School of Law

UG – Law R18 Regulation

and

Changes proposed in the New Regulations

VTR UGL 2023

Academic Council Meeting Presentation

Saturday, the 10th June 2023

Major Changes Proposed in the LL.B. Regulations VTR UGL 2023

Sl No	Courses & Credits to be Completed to get LL.B Degree as per BCI	Courses & Credits as per LL.B 2018 Regulation	Courses & Credits as per VTR UGL 2023
1	Courses & Credits to be Completed to get LL.B Degree as per BCI	**62 Courses (225 Credits)**	**61 Courses (233 Credits)**
2	Inter- Disciplinary courses	**14 (56)**	**14 (56)**
3	Core - Law courses	**20 (80)**	**20 (80)**
4	Elective Law courses	**07 (28)**	**10 (40)**
5	Clinical Core courses	**04 (16)**	**04 (16)**

Major Changes Proposed in the LL.B. Regulations VTR UGL 2023

Sl No	Courses & Credits to be Completed to get LL.B Degree as per BCI	Courses & Credits as per LL.B 2018 Regulation	Courses & Credits as per VTR UGL 2023
	Total Courses & Credits	**62 (225)**	**61 (233)**
6	Specialized Hon's courses	**08 (32)**	**08 (32)**
7	Seminar/Practical courses	**05 (05)**	**01** **Practical – 1 credit**
8	Internship	**04 (08)**	**04 (08)**

- In Elective Law courses category, **3 new courses are added**,
  1) Mediation and Conciliation
  2) Legal Methods and Legal Research
  3) Intellectual Property Rights Litigation
- **4 Seminars on Social Sciences category have been removed from the syllabus.**

Thank you

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

School of Mechanical and Construction

Department of Aeronautical Engineering

24th Board of Studies Meeting

Friday, March 10, 2023

10.00 am, HoD office

Minutes of Meeting

Members Present

S. No	Name	Designation	Signature
1	Dr. R. Jaganraj, Head / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Chairman	
2	Dr. K. M. Parammasivam Professor / Aerospace Engineering, MIT, Chennai	Academic Expert	
3	Dr. Dinesh Manoharan Operations Head – UCAL Fuel Systems, Aerospace Division	Industry Expert	
4	Dr. B.L. Jaiswal, Professor of Emeritus / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
5	Dr.J.V.Sai Prasanna Kumar, Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
6	Dr.Naga Lingeswara Raju, Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
7	Dr.Ganesan, Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
8	Mr. G. Boopathy, Asso. Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
9	Dr. G. Surendar, Asso. Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
10	Mr. B. Kirubadurai, Asst. Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
11	Miss. Nithya S, Asst. Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	

Agenda for Meeting

24. A. Items for Confirmation

24.1. Action taken of BOS dated 12 March 2022

24.2. Minutes of meeting of the Board of Studies for Aeronautical Engineering held on 12 March 2022

24.3. Leave of absence of the members

24. B. Items for Discussions

24.4. Identification of Specialization courses under AI & ML / Space & Defense Technology for B.Tech. Aeronautical Engineering VTU UGE 2021

24.5 CO – PO mapping criteria for B.Tech. Aeronautical Engineering VTU UGE 2021

24.C. Items for Reporting

24.6. Award of credits for the students as per VTU-R15

24.7 Ratification of Courses, if any

24.D. Closing

24.8. Any other item with the permission of chair

Summary of 24th Board of Studies meeting of the Department of Aeronautical Engineering

The 24th Board of Studies of the Department of Aeronautical Engineering is convened on Friday, March 10, 2023 10.00 am, HoD office (2023) & Google Meet as hybrid mode. The members discussed and recommended the following.

A. No	Recommendations & Discussions	Support Document
24.4.	Identification of Specialization courses under AI & ML / Space & Defense Technology for B.Tech. Aeronautical Engineering VTU UGE 2021 Members discussed on introducing UG in Aerospace Engineering. Chair proposed to initially offer "Aerospace & Defence" as one of the specialization under B.Tech. Aeronautical Engineering (2021 Regulation). Members proposed the courses emphasizing on Aerospace Sensors, Materials, Spacecraft design, navigation and guidance and warfare systems fundamentals. This specialization is proposed and recommended for AY 2023-24 onwards. Members also discussed about introducing AI & ML as specialization. However, it was decided to introduce in place of computational engineering. Members suggested to go with Computational Engineering for present AY and based on demand may offer AI & ML from 2024-25 onwards.	1. Aerospace Syllabus – IIST - https://drive.google.com/file/d/1K9p5HYDuQ_Hw750_rB0XA0BgyUMOaUfH/view?usp=share_link 2. AICTE – PG in Defence Technology – Syllabus - https://drive.google.com/file/d/1KAr1g0h8UYh_NMNqNlu2w_d2lykljxUp/view?usp=share_link
24.5	CO – PO mapping criteria for B.Tech. Aeronautical Engineering VTU UGE 2021 Members suggested to arrive with guidelines to identify level of mapping between course outcome and program outcome. The guidelines are: 1. Estimate the K level of the course outcome. 2. Based on K level and intended outcome select the POs carefully which will compliance with the CO – PO mapping. 3. If CO k level is 1 – L, 2 – M, 3 and above – H 4. Verify with the Program Articulation Matrix and increase the COs / K level if necessary.	1. https://drive.google.com/file/d/1KBHhIqeXrbUNp-v75wJZcP-AdZ-i2Vlq/view?usp=share_link 2. https://drive.google.com/file/d/1KBG-ewpv0-UiEcNV5fqcFhHqJbSTtmst/view?usp=share_link

Minutes of Meeting – 24th BOS of Department of Aeronautical Engineering

The chair welcomed all to the meeting. The chair also introduced the new of the Board of Studies of the Department of Aeronautical Engineering. The board records its gratitude to the previous members & their valuable contributions to the department.

23. A. Items for Confirmation

23.1. Action taken on BOS dated March 12, 2022.

The chair presented the action taken report of the 23rd BoS, dated March 12, 2022, to the board.

<table>
<tr><th>Recommendations</th><th>Action Taken</th></tr>
<tr><td>23.4. Finalization of curriculum & syllabus for B.Tech. - Aeronautical Engineering under VTU UGE 2021
The curriculum for B.Tech Aeronautical Engineering under VTU UGE 2021 is recommended.
<table>
<tr><th>Major</th><th>Minor</th></tr>
<tr><td>B.Tech - Aeronautical Engineering</td><td rowspan="3">UAV Remote Sensing and Mapping</td></tr>
<tr><td>Specialization
Computational Aerodynamics
Autonomous Drone Technology</td></tr>
<tr><td>Honors
Aerial Robotics</td></tr>
</table>
</td><td>Implemented in AY 2022-23.</td></tr>
<tr><td>Introduction of Project-Based Learning, Assessment procedures, and pedagogical Initiatives for B.Tech. - Aeronautical Engineering under VTU UGE 2021.
The chair introduced PBL modules to the board. The proposal consists of grouping domain courses together. But, members suggested grouping the same level courses from different domain rather than from the same domain by considering the linear progression in all domains.
● The course syllabus format is updated with an innovative scheme (Example course link) in which activities with dedicated zero credit hours are stressed as pedagogical tools to incorporate skill & tools identified from feedback analysis. These activities paved a way to integrate a certain level of courses identified as PBL courses and the assignment</td><td>Implemented from AY 2022-23 for B. Tech. Aeronautical Engineering under VTU UGE 2021</td></tr>
</table>

category/lab project of these courses clubbed together to provide real-time projects as group tasks. ● The PBL committee consisting of course handling faculty members of PBL grouped courses will provide complex problems to the student groups in which each project will address selected outcomes from these courses. The PSOs are derived from the CDIO concept. Care is taken to include outcomes relevant to PSO (CDIO attributes) in these PBL courses. The PBL module is given in Annexure IV.	
23.6 Finalization of curriculum & syllabus for B.Tech. - Aerospace Engineering under VTU UGE 2021 as a new programme.	**Not implemented** Decided to introduce as specialization under B. Tech. Aeronautical Engineering under VTU UGE 2021

Action: Members reviewed the action taken.

24.2. Minutes of meeting of the Board of Studies for Aeronautical Engineering held on 12 March 2022

The chair presented the minutes of the meeting of the 23rd BoS, dated March 10, 2022, to the board.

Action: Members reviewed the minutes of the meeting.

24.3. Leave of absence of the members

All members were present for the meeting.

24. B. Items for Discussions

24.4. Identification of Specialization courses under AI & ML / Space & Defense Technology for B.Tech. Aeronautical Engineering VTU UGE 2021

The chair proposed the following courses under specialization.

Specialization 1: Artificial Intelligence & Machine Learning

1. **Introduction to Artificial Intelligence**:
   This course provides an overview of AI, including machine learning algorithms, neural networks, natural language processing, and robotics. Students learn about the practical applications of AI in the aerospace industry.
2. **Machine Learning and Data Analysis**:

This course covers the basics of machine learning, including regression analysis, decision trees, and clustering. Students learn how to apply these techniques to analyze data from aircraft and spacecraft.

3. **Control of Autonomous Systems**:
   This course focuses on the control and guidance of autonomous systems, such as unmanned aerial vehicles (UAVs). Students learn how to use AI and ML to optimize flight paths, avoid obstacles, and perform tasks autonomously.
4. **Aerospace Systems Design using AI**:
   This course teaches students how to apply AI and ML to the design of aerospace systems. Topics include optimization, probabilistic modeling, and decision making. Students work on design projects that incorporate AI and ML techniques.
5. **Deep Learning for Aeronautical Applications**:
   This course focuses on deep learning techniques, such as convolutional neural networks and recurrent neural networks. Students learn how to apply these techniques to aeronautical applications, such as image recognition, speech recognition, and natural language processing.
6. **Spacecraft Autonomy**: This course covers the principles of spacecraft autonomy, including perception, decision making, and planning. Students learn how to use AI and ML techniques to design autonomous spacecraft systems.

Specialization 2: Aerospace & Defense

1. **Spacecraft Design and Analysis:**
   This course covers the principles of spacecraft design, including mission requirements, system engineering, subsystem design, and testing.

2. **Aerospace Sensors and Systems:**
   This course focuses on the design and operation of sensors and systems used in aerospace applications, including radar, communication systems, and navigation systems.

3. **Orbital Mechanics and Mission Design:**
   This course covers the principles of orbital mechanics and their applications to spacecraft mission design, including trajectory analysis, launch windows, and orbit maintenance.

4. **Aerospace Structures and Materials:**
   This course covers the design and analysis of aerospace structures, including materials selection, stress analysis, and fatigue analysis.

5. **Rocket Propulsion and Launch Systems:**
   This course covers the principles of rocket propulsion and the design of launch systems, including engine design, thrust vector control, and launch vehicle dynamics.

6. **Spacecraft Attitude Dynamics and Control:**
   This course covers the principles of spacecraft attitude dynamics and the design of control systems for spacecraft, including attitude determination, control, and stabilization.

7. **Systems and warfare Platforms:**
   Understand types of warfare platform used for Army, Air and Marine and their design fundamentals. Understand the weapon systems like guns, ordnance, missiles projectiles, mines/ countermines, lasers, undersea weapons, air-launched weapons, anti-aircraft, anti-ship and anti-submarine.

Members discussed on introducing UG in Aerospace Engineering. Chair proposed to initially offer "Aerospace & Defence" as one of the specialization under B.Tech. Aeronautical Engineering (2021 Regulation). Members proposed the courses emphasizing on Aerospace Sensors, Materials, Spacecraft design, navigation and guidance and warfare systems fundamentals. This specialization is proposed and recommended for AY 2023-24 onwards.
Members also discussed about introducing AI & ML as specialization. However, it was decided to introduce in place of computational engineering. Members suggested to go with Computational Engineering for present AY and based on demand may offer AI & ML from 2024-25 onwards.
Action:

1. **Specialization on Aerospace & Defence is recommended from AY 2023-24. HoD need to constitute committee to develop detailed syllabus and report in next BoS.**
2. **Computational Engineering shall be retained as specialization for AY 2023-24.**

24.5 CO – PO mapping criteria for B.Tech. Aeronautical Engineering VTU UGE 2021
Members suggested to arrive with guidelines to identify level of mapping between course outcome and program outcome. The guidelines are:

1. Estimate the K level of the course outcome.
2. Based on K level and intended outcome select the POs carefully which will compliance with the CO – PO mapping.
3. If CO k level is 1 – L, 2 – M, 3 and above – H

Verify with the Program Articulation Matrix and increase the COs / K level if necessary.
Action : HoD shall constitute committee to implement the guidelines and present the levels of mapping in next BoS.

24.C. Items for Reporting

24.6. Award of credits for the students as per VTU-R15
Chair presented the list of students awarded credits under IHL & IL category to the board.

Action : The board recorded the credits awarded.

24.7 Ratification of Courses, if any

Chair requesting to consider R21 program elective for R15 students. Members recommended to make use of offering electives of R21 to R15 students.

Action : R21 Electives can be considered for R15 regulation students also.

24.D. Closing

24.8. Any other item with the permission of chair

Members discussed about the Strategic plan of the Department of Aeronautical Engineering.

Action: It is recommended to constitute the committee to develop strategic plan for the 2023-28 and review the earlier plan and report in next BOS.

The chiar expressed sincere thanks to all the members of the BoS.

Chairman - BOS
Aeronautical Engineering

Identification of Specialization courses under Aerospace & Defense for B.Tech. Aeronautical Engineering VTU UGE 2021

Courses in B.Tech Aeronautical Engineering – Vel Tech	Courses in B.Tech. Aerospace Engineering - IIST
Fluid Mechanics	Introduction to Aerospace Engineering
Low Speed Aerodynamics	Mechanics of Solids
High Speed Aerodynamics	Fluid Mechanics
Aircraft Design Rules & Certification	Manufacturing Technology
Computational Fluid Dynamics	Introduction to Machine Elements and Drawing
Thermodynamics & Heat Transfer	Strength of Materials Lab
Propulsion Lab	Heat Transfer
Aircraft Propulsion	Applied Dynamics and Vibration
Rocket & Space Propulsion	Machining and Precision Manufacturing
Combustion & Gas Dynamics	Introduction to Social Science and Ethics
Solid Mechanics	Thermal and Fluid Lab
DIO Lab	Metrology and Computer Aided Inspection
Aircraft Structural Mechanics	Compressible flow Aerodynamics
Aircraft Structural Dynamics	Atmospheric Flight Mechanics
Finite Element Analysis	Spaceflight Mechanics
Engineering Mechanics	Theory of Elasticity
Linear system Analysis & Control	Automatic Control
Aircraft Systems & Instruments	Aerodynamics Lab
Avionics	Manufacturing Processes Lab
Airplane Performance	Air-Breathing Propulsion
Airplane Stability & Control	Aerospace Structures
Introduction to Aerospace Engineering	Rocket Propulsion
Robotics for Aeronautical Engineering	Aerospace Vehicle Design
Aircraft Design	

1. **Spacecraft Design and Analysis:**
   This course covers the principles of spacecraft design, including mission requirements, system engineering, subsystem design, and testing.

2. **Aerospace Sensors and Systems:**
   This course focuses on the design and operation of sensors and systems used in aerospace applications, including radar, communication systems, and navigation systems.

3. **Orbital Mechanics and Mission Design:**
   This course covers the principles of orbital mechanics and their applications to spacecraft mission design, including trajectory analysis, launch windows, and orbit maintenance.

4. **Aerospace Structures and Materials:**
   This course covers the design and analysis of aerospace structures, including materials selection, stress analysis, and fatigue analysis.

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   This course covers the principles of rocket propulsion and the design of launch systems, including engine design, thrust vector control, and launch vehicle dynamics.

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   Understand types of warfare platform used for Army, Air and Marine and their design fundamentals. Understand the weapon systems like guns, ordnance, missiles projectiles, mines/ countermines, lasers, undersea weapons, air-launched weapons, anti-aircraft, anti-ship and anti-submarine.

SS2223-Eligibility for IL & IHL								
S.No	**Degree**	**Credit**	**Course Code**	**Course Title**	**VtU No**	**Student Name**	**Att**	**Eligibility**
1	B.Tech	1	1156AE501	Technical Seminar - I	VTU10413	VIGNESH VALSAN	**100**	Eligible
2	B.Tech	1	1156AE501	Technical Seminar - I	VTU10372	ANKIT KUMAR	**100**	Eligible
3	B.Tech	1	1156AE501	Technical Seminar - I	VTU17377	GOTTAM YASWANTH REDDY	**100**	Eligible
4	B.Tech	1	1156AE501	Technical Seminar - I	VTU15175	D.VAMSI	**100**	Eligible
5	B.Tech	1	1156AE501	Technical Seminar - I	VTU15063	K.RAMNADH KRISHNA	**100**	Eligible
6	B.Tech	1	1156AE501	Technical Seminar - I	VTU12073	MALLAMPALLY LALITH SRAVYA	**100**	Eligible
7	B.Tech	1	1156AE501	Technical Seminar - I	VTU16835	ANKIT KUMAR MOURYA	**100**	Eligible
8	B.Tech	1	1156AE501	Technical Seminar - I	VTU12589	TANNIRU VENKATA KRISHNA	**100**	Eligible
9	B.Tech	1	1156AE501	Technical Seminar - I	VTU17907	DESETTI SAI NADU TEJA	**100**	Eligible
10	B.Tech	1	1156AE501	Technical Seminar - I	VTU17499	V VENKATA DURGA SAI	**100**	Eligible
11	B.Tech	1	1156AE501	Technical Seminar - I	VTU18022	U INDRA SAI	**100**	Eligible
12	B.Tech	1	1156AE501	Technical Seminar - I	VTU15052	MATHARI RAMACHANDRAN	**100**	Eligible
13	B.Tech	1	1156AE501	Technical Seminar - I	VTU17576	M DONESH KUMAR	**100**	Eligible
14	B.Tech	1	1156AE501	Technical Seminar - I	VTU17112	URAVA KONDA MOHAMMED ZAMMEER	**100**	Eligible
15	B.Tech	1	1156AE501	Technical Seminar - I	VTU17446	KARETI CHAITHANYA	**100**	Eligible
16	B.Tech	1	1156AE501	Technical Seminar - I	VTU17260	DARIVEMULA MALLESH BABU	**100**	Eligible
17	B.Tech	1	1156AE501	Technical Seminar - I	VTU17285	THANZEER YAHIYA	**100**	Eligible
18	B.Tech	1	1156AE501	Technical Seminar - I	VTU17279	MUHAMMED SAYAN P S	**100**	Eligible
1	B.Tech	1	1156AE502	Technical Seminar - II	VTU11772	PATRICK JENISON.P	**100**	Eligible
2	B.Tech	1	1156AE502	Technical Seminar - II	VTU13970	D.RAJKUMAR	**100**	Eligible
3	B.Tech	1	1156AE502	Technical Seminar - II	VTU14057	ROHAN CHAUHAN	**100**	Eligible
4	B.Tech	1	1156AE502	Technical Seminar - II	VTU16230	SWARAJ CHANDA JOY	**100**	Eligible
5	B.Tech	1	1156AE502	Technical Seminar - II	VTU16257	PRAMOD CHAUDHARY	**100**	Eligible
6	B.Tech	1	1156AE502	Technical Seminar - II	VTU16258	NIKHIL KOHAR	**100**	Eligible
7	B.Tech	1	1156AE502	Technical Seminar - II	VTU16884	KSHETRIMAYUM CHINGKHEI MEITEI	**100**	Eligible
8	B.Tech	1	1156AE502	Technical Seminar - II	VTU18107	AADARSHA POKHAREL	**100**	Eligible

9	B.Tech	1	1156AE502	Technical Seminar - II	VTU17377	GOTTAM YASWANTH REDDY	**100**	Eligible
10	B.Tech	1	1156AE502	Technical Seminar - II	VTU17404	KOLUSU ESWAR SAI VENKAT	**100**	Eligible
11	B.Tech	1	1156AE502	Technical Seminar - II	VTU17072	BYREDDY PRUDHVINATH REDDY	**100**	Eligible
12	B.Tech	1	1156AE502	Technical Seminar - II	VTU18719	MOHAN RIJAL	**100**	Eligible
13	B.Tech	1	1156AE502	Technical Seminar - II	VTU18732	APEKSHYA GHIMIRE	**100**	Eligible
14	B.Tech	1	1156AE502	Technical Seminar - II	VTU17638	CH SIVA PRATEESH	**100**	Eligible
15	B.Tech	1	1156AE502	Technical Seminar - II	VTU18649	ABIN BHATTA	**100**	Eligible
1	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU12842	K MANI SAI SATHWIK	**100**	Eligible
2	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU11772	PATRICK JENISON.P	**100**	Eligible
3	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU15151	AMIT GOSWAMI	**100**	Eligible
4	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU11940	TANA TETI	**100**	Eligible
5	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU15063	K.RAMNADH KRISHNA	**100**	Eligible
6	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU13975	JOSEPH EBENEZER	**100**	Eligible
7	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU11986	D JEEVA	**100**	Eligible
8	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU17377	GOTTAM YASWANTH REDDY	**100**	Eligible
9	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU17907	DESETTI SAI NADU TEJA	**100**	Eligible
10	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU18909	ROHITH K A	**100**	Eligible
11	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU17112	URAVA KONDA MOHAMMED ZAMMEER	**100**	Eligible
12	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU17446	KARETI CHAITHANYA	**100**	Eligible
13	B.Tech	1	1156AE452	Digitalisation in Aeronautics	VTU17260	DARIVEMULA MALLESH BABU	**100**	Eligible
1	B.Tech	1	1156AE451	Digitalisation in the Aerospace Industry	VTU10413	VIGNESH VALSAN	**100**	Eligible
2	B.Tech	1	1156AE451	Digitalisation in the Aerospace Industry	VTU11772	PATRICK JENISON.P	**100**	Eligible
3	B.Tech	1	1156AE451	Digitalisation in the Aerospace Industry	VTU18909	ROHITH K A	**100**	Eligible
1	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU11566	ALLU ADITYA	**100**	Eligible
2	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU13970	D.RAJKUMAR	**100**	Eligible
3	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU15119	G ABHISHEK	**100**	Eligible
4	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU15151	AMIT GOSWAMI	**100**	Eligible
5	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU11940	TANA TETI	**100**	Eligible
6	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU13951	R.DINESH HARI KUMAR	**100**	Eligible

7	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU15063	K.RAMNADH KRISHNA	**100**	Eligible
8	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU16257	PRAMOD CHAUDHARY	**100**	Eligible
9	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU16258	NIKHIL KOHAR	**100**	Eligible
10	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU11986	D JEEVA	**100**	Eligible
11	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU16991	MADISHETTY CHARAN	**100**	Eligible
12	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU17377	GOTTAM YASWANTH REDDY	**100**	Eligible
13	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU17404	KOLUSU ESWAR SAI VENKAT	**100**	Eligible
14	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU17907	DESETTI SAI NADU TEJA	**100**	Eligible
15	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU18026	PALNATI SURYA PRAKASH	**100**	Eligible
16	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU17112	URAVA KONDA MOHAMMED ZAMMEER	**100**	Eligible
17	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU17446	KARETI CHAITHANYA	**100**	Eligible
18	B.Tech	1	1156AE453	Digitalisation in Space Research	VTU17260	DARIVEMULA MALLESH BABU	**100**	Eligible
1	B.Tech	1	1156AE454	Urban Air Mobility	VTU10413	VIGNESH VALSAN	**100**	Eligible
2	B.Tech	1	1156AE454	Urban Air Mobility	VTU11566	ALLU ADITYA	**100**	Eligible
3	B.Tech	1	1156AE454	Urban Air Mobility	VTU13970	D.RAJKUMAR	**100**	Eligible
4	B.Tech	1	1156AE454	Urban Air Mobility	VTU15175	D.VAMSI	**100**	Eligible
5	B.Tech	1	1156AE454	Urban Air Mobility	VTU15119	G ABHISHEK	**100**	Eligible
6	B.Tech	1	1156AE454	Urban Air Mobility	VTU13951	R.DINESH HARI KUMAR	**100**	Eligible
7	B.Tech	1	1156AE454	Urban Air Mobility	VTU13975	JOSEPH EBENEZER	**100**	Eligible
8	B.Tech	1	1156AE454	Urban Air Mobility	VTU16257	PRAMOD CHAUDHARY	**100**	Eligible
9	B.Tech	1	1156AE454	Urban Air Mobility	VTU16258	NIKHIL KOHAR	**100**	Eligible
1	B.Tech	2	1156AE601	Aircraft Design Project - I	VTU10372	ANKIT KUMAR	**100**	Eligible
2	B.Tech	2	1156AE601	Aircraft Design Project - I	VTU11772	PATRICK JENISON.P	**100**	Eligible
3	B.Tech	2	1156AE601	Aircraft Design Project - I	VTU12603	M LALITH KUMAR	**100**	Eligible
4	B.Tech	2	1156AE601	Aircraft Design Project - I	VTU15236	KOTA PAVAN KUMAR	**100**	Eligible
5	B.Tech	2	1156AE601	Aircraft Design Project - I	VTU16196	BISHNU PRASAD SHRESTHA	**100**	Eligible
6	B.Tech	2	1156AE601	Aircraft Design Project - I	VTU11986	D JEEVA	**100**	Eligible
1	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU9917	HARI PRASANTH.R	**100**	Eligible
2	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU12816	S MANOJ	**100**	Eligible

3	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU11564	WILLIAMS XAVIER JOHN.Y	**100**	Eligible
4	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU11566	ALLU ADITYA	**100**	Eligible
5	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU13970	D.RAJKUMAR	**100**	Eligible
6	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU15175	D.VAMSI	**100**	Eligible
7	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU13659	SHAIK MEHABOOB	**100**	Eligible
8	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU13686	SHAIK SYED FARIS	**100**	Eligible
9	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU15950	NARAGANTI KUCHELA JITHESWAR	**100**	Eligible
10	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU16230	SWARAJ CHANDA JOY	**100**	Eligible
11	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU11577	MAJUMDAR SHANI KANTI	**100**	Eligible
12	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU15119	G ABHISHEK	**100**	Eligible
13	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU15129	B THIRUMALA SAGAR	**100**	Eligible
14	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU15151	AMIT GOSWAMI	**100**	Eligible
15	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU11940	TANA TETI	**100**	Eligible
16	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU14014	THARIGONDA SHARUK KHAN	**100**	Eligible
17	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU15010	B NITEESH	**100**	Eligible
18	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU13951	R.DINESH HARI KUMAR	**100**	Eligible
19	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU14057	ROHAN CHAUHAN	**100**	Eligible
20	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU16503	KUMPATLA DURGA SATYA	**100**	Eligible
21	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU16214	MADAV SINGH	**100**	Eligible
22	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU13975	JOSEPH EBENEZER	**100**	Eligible
23	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU16361	ANKIT PATEL	**100**	Eligible
24	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU16362	ABU NAWAZ SHARIF	**100**	Eligible
25	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU16257	PRAMOD CHAUDHARY	**100**	Eligible
26	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU16258	NIKHIL KOHAR	**100**	Eligible
27	B.Tech	2	1156AE602	Mini Project (Aircraft design) - II	VTU18909	ROHITH K A	**100**	Eligible
1	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU12603	M LALITH KUMAR	**100**	Eligible
2	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU12816	S MANOJ	**100**	Eligible

3	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU11564	WILLIAMS XAVIER JOHN.Y	**100**	Eligible
4	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU13970	D.RAJKUMAR	**100**	Eligible
5	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU15175	D.VAMSI	**67**	Condonation
6	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU13659	SHAIK MEHABOOB	**93**	Eligible
7	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU13686	SHAIK SYED FARIS	**100**	Eligible
8	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU15950	NARAGANTI KUCHELA JITHESWAR	**80**	Eligible
9	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU11833	RAJNISH KUMAR	**100**	Eligible
10	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU15129	B THIRUMALA SAGAR	**100**	Eligible
11	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU11940	TANA TETI	**87**	Eligible
12	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU14014	THARIGONDA SHARUK KHAN	**87**	Eligible
13	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU15010	B NITEESH	**87**	Eligible
14	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU14057	ROHAN CHAUHAN	**93**	Eligible
15	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU15063	K.RAMNADH KRISHNA	**100**	Eligible
16	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16214	MADAV SINGH	**100**	Eligible
17	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU13975	JOSEPH EBENEZER	**93**	Eligible
18	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16361	ANKIT PATEL	**100**	Eligible
19	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16362	ABU NAWAZ SHARIF	**100**	Eligible

20	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16257	PRAMOD CHAUDHARY	**100**	Eligible
21	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16258	NIKHIL KOHAR	**100**	Eligible
22	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU11986	D JEEVA	**87**	Eligible
23	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU12001	S SHAM PREETHI	**100**	Eligible
24	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU12011	SIYA SINGH	**100**	Eligible
25	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU12042	PASPUNOORI SHASHANK	**100**	Eligible
26	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU12073	MALLAMPALLY LALITH SRAVYA	**100**	Eligible
27	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16827	SAPTARSHI MAJI	**100**	Eligible
28	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16835	ANKIT KUMAR MOURYA	**100**	Eligible
29	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16884	KSHETRIMAYUM CHINGKHEI MEITEI	**100**	Eligible
30	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16917	S K NAZMAL	**100**	Eligible
31	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17325	M V N S UJWAL PRASAD	**100**	Eligible
32	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17905	REDDY CHAKRAPANI	**100**	Eligible
33	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18107	AADARSHA POKHAREL	**100**	Eligible
34	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18398	KAMASANI REDDAPA REDDY	**100**	Eligible
35	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18417	ADIBOINA LOKESH	**100**	Eligible
36	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU12589	TANNIRU VENKATA KRISHNA	**100**	Eligible

37	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16985	SHARAD KUMAR SHARMA	**100**	Eligible
38	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU16991	MADISHETTY CHARAN	**100**	Eligible
39	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18597	MOMANTAR KARMAKAR UPTI	**100**	Eligible
40	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18699	AMITH SUSHIL BABU	**100**	Eligible
41	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17499	V VENKATA DURGA SAI	**100**	Eligible
42	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18026	PALNATI SURYA PRAKASH	**100**	Eligible
43	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18909	ROHITH K A	**87**	Eligible
44	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17576	M DONESH KUMAR	**100**	Eligible
45	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17072	BYREDDY PRUDHVINATH REDDY	**100**	Eligible
46	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18323	CHANDAKA SRAVANTH KUMAR	**100**	Eligible
47	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17112	URAVA KONDA MOHAMMED ZAMMEER	**100**	Eligible
48	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17118	SARAGANDLA RAM TEJA	**100**	Eligible
49	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17446	KARETI CHAITHANYA	**87**	Eligible
50	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18704	ANIRUDDHA DAS	**100**	Eligible
51	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17260	DARIVEMULA MALLESH BABU	**100**	Eligible
52	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18716	AWADESH PAL	**100**	Eligible
53	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18719	MOHAN RIJAL	**100**	Eligible

54	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18732	APEKSHYA GHIMIRE	**100**	Eligible
55	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU17638	CH SIVA PRATEESH	**100**	Eligible
56	B.Tech	1	1157AE921	Introduction to System Engineering & Opportunities	VTU18649	ABIN BHATTA	**100**	Eligible
1	B.Tech	1	1157AE708	Micro Air Vehicles	VTU9917	HARI PRASANTH.R	**87**	Eligible
2	B.Tech	1	1157AE708	Micro Air Vehicles	VTU10372	ANKIT KUMAR	**65**	Condonation
3	B.Tech	1	1157AE708	Micro Air Vehicles	VTU12487	A SHARATH KUMAR REDDY	**93**	Eligible
4	B.Tech	1	1157AE708	Micro Air Vehicles	VTU11434	K.ROHINI	**80**	Eligible
5	B.Tech	1	1157AE708	Micro Air Vehicles	VTU11772	PATRICK JENISON.P	**80**	Eligible
6	B.Tech	1	1157AE708	Micro Air Vehicles	VTU12603	M LALITH KUMAR	**80**	Eligible
7	B.Tech	1	1157AE708	Micro Air Vehicles	VTU12816	S MANOJ	**80**	Eligible
8	B.Tech	1	1157AE708	Micro Air Vehicles	VTU11564	WILLIAMS XAVIER JOHN.Y	**80**	Eligible
9	B.Tech	1	1157AE708	Micro Air Vehicles	VTU11566	ALLU ADITYA	**100**	Eligible
10	B.Tech	1	1157AE708	Micro Air Vehicles	VTU13970	D.RAJKUMAR	**100**	Eligible
11	B.Tech	1	1157AE708	Micro Air Vehicles	VTU15175	D.VAMSI	**80**	Eligible
12	B.Tech	1	1157AE708	Micro Air Vehicles	VTU13659	SHAIK MEHABOOB	**100**	Eligible
13	B.Tech	1	1157AE708	Micro Air Vehicles	VTU15950	NARAGANTI KUCHELA JITHESWAR	**100**	Eligible
14	B.Tech	1	1157AE708	Micro Air Vehicles	VTU15129	B THIRUMALA SAGAR	**100**	Eligible
15	B.Tech	1	1157AE708	Micro Air Vehicles	VTU11940	TANA TETI	**100**	Eligible
16	B.Tech	1	1157AE708	Micro Air Vehicles	VTU14014	THARIGONDA SHARUK KHAN	**100**	Eligible
17	B.Tech	1	1157AE708	Micro Air Vehicles	VTU15010	B NITEESH	**100**	Eligible
18	B.Tech	1	1157AE708	Micro Air Vehicles	VTU14057	ROHAN CHAUHAN	**100**	Eligible
19	B.Tech	1	1157AE708	Micro Air Vehicles	VTU16214	MADAV SINGH	**100**	Eligible
20	B.Tech	1	1157AE708	Micro Air Vehicles	VTU16361	ANKIT PATEL	**100**	Eligible
21	B.Tech	1	1157AE708	Micro Air Vehicles	VTU16362	ABU NAWAZ SHARIF	**100**	Eligible
22	B.Tech	1	1157AE708	Micro Air Vehicles	VTU16257	PRAMOD CHAUDHARY	**100**	Eligible
23	B.Tech	1	1157AE708	Micro Air Vehicles	VTU16258	NIKHIL KOHAR	**100**	Eligible
24	B.Tech	1	1157AE708	Micro Air Vehicles	VTU11986	D JEEVA	**100**	Eligible

25	B.Tech	1	1157AE708	Micro Air Vehicles	VTU12011	SIYA SINGH	**100**	Eligible
26	B.Tech	1	1157AE708	Micro Air Vehicles	VTU18909	ROHITH K A	**87**	Eligible
27	B.Tech	1	1157AE708	Micro Air Vehicles	VTU13919	VARADA VAMSI BADRINATH	**100**	Eligible
28	B.Tech	1	1157AE708	Micro Air Vehicles	VTU15166	KAMMA RAJESH BABU	**100**	Eligible
29	B.Tech	1	1157AE708	Micro Air Vehicles	VTU16929	KALDHARI HITESH SRI SUBRAMANYA	**100**	Eligible
30	B.Tech	1	1157AE708	Micro Air Vehicles	VTU17374	NALAJALA ROHITH KUMAR	**100**	Eligible
31	B.Tech	1	1157AE708	Micro Air Vehicles	VTU21619	BUDIDA VAMSI KRISHNA	**100**	Eligible
1	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21175	DADIREDDY JAHNAVI	**80**	Eligible
2	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19071	SAMUEL J G	**87**	Eligible
3	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19244	MOHAMMED SHAJAN S	**80**	Eligible
4	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19310	PRASHANT GAUR	**93**	Eligible
5	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19366	M VIJAY VENKAT RAMAN	**100**	Eligible
6	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19385	LEELA PRASAD D	**87**	Eligible
7	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19440	MAROTHU LEELARAVIVARMAPRASAD	**87**	Eligible
8	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19544	NIVED SUNIL P	**80**	Eligible
9	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19581	M S AKHIL	**87**	Eligible
10	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19596	KACHANI MAHENDRA REDDY	**93**	Eligible
11	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19633	CHAMIDISETTY PRABHU KUMAR	**87**	Eligible
12	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19641	J JEBIN	**93**	Eligible
13	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19726	GADUPUDI UMASANKER	**100**	Eligible
14	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU19999	MOHAMMED ANSAF	**80**	Eligible
15	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20034	MOLLETI HARI	**93**	Eligible
16	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20319	MUHAMMED SHAMMAS P	**80**	Eligible
17	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20434	K UDAY KUMAR	**100**	Eligible
18	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20449	KEERTHI MISHRA	**100**	Eligible
19	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20612	PRAHALAD T	**87**	Eligible
20	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20627	P KARAN	**100**	Eligible
21	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20679	SARFAZ ANFAL A	**87**	Eligible
22	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20725	RAFIQ MOHAMED.S	**87**	Eligible
23	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20803	NUSUM SAI RAM	**87**	Eligible

24	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20887	SAYOOJ K	**87**	Eligible
25	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU20944	PALLEM DEVISRI	**93**	Eligible
26	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21028	KHUSHI SHARMA	**100**	Eligible
27	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21081	GANGA THILAK	**80**	Eligible
28	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21214	UPPADA HARSHITHA	**100**	Eligible
29	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21222	KRISHNA PRIYA A	**93**	Eligible
30	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21465	ELENI HAILU ABETU	**100**	Eligible
31	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21302	TANUKU MAITHREYEE	**100**	Eligible
32	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21311	ROHAN BASTOLA	**100**	Eligible
33	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU21309	MYTHISH G	**80**	Eligible
34	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU23951	BALAJI T A	**100**	Eligible
35	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU23954	OHMJAYADEVAR M	**87**	Eligible
36	B.Tech	0	10219AE201	Design, Drafting, GD&T and 3D Printing	VTU23978	MALLIREDDY.MADHUSUDHAN REDDY	**100**	Eligible
1	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21175	DADIREDDY JAHNAVI	**100**	Eligible
2	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19071	SAMUEL J G	**100**	Eligible
3	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19310	PRASHANT GAUR	**100**	Eligible
4	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19366	M VIJAY VENKAT RAMAN	**100**	Eligible
5	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19385	LEELA PRASAD D	**100**	Eligible
6	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19440	MAROTHU LEELARAVIVARMAPRASAD	**100**	Eligible
7	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19544	NIVED SUNIL P	**100**	Eligible
8	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19581	M S AKHIL	**100**	Eligible
9	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19596	KACHANI MAHENDRA REDDY	**100**	Eligible

10	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19633	CHAMIDISETTY PRABHU KUMAR	**100**	Eligible
11	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19641	J JEBIN	**100**	Eligible
12	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19726	GADUPUDI UMASANKER	**100**	Eligible
13	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU19999	MOHAMMED ANSAF	**100**	Eligible
14	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20034	MOLLETI HARI	**100**	Eligible
15	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20319	MUHAMMED SHAMMAS P	**100**	Eligible
16	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20434	K UDAY KUMAR	**100**	Eligible
17	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20449	KEERTHI MISHRA	**100**	Eligible
18	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20612	PRAHALAD T	**100**	Eligible
19	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20627	P KARAN	**100**	Eligible
20	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20679	SARFAZ ANFAL A	**100**	Eligible
21	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20725	RAFIQ MOHAMED.S	**100**	Eligible
22	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20803	NUSUM SAI RAM	**100**	Eligible
23	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20887	SAYOOJ K	**100**	Eligible
24	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU20944	PALLEM DEVISRI	**100**	Eligible
25	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21028	KHUSHI SHARMA	**100**	Eligible
26	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21081	GANGA THILAK	**100**	Eligible

27	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21214	UPPADA HARSHITHA	**100**	Eligible
28	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21222	KRISHNA PRIYA A	**100**	Eligible
29	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21465	ELENI HAILU ABETU	**100**	Eligible
30	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21302	TANUKU MAITHREYEE	**100**	Eligible
31	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21311	ROHAN BASTOLA	**100**	Eligible
32	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU21309	MYTHISH G	**100**	Eligible
33	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU23951	BALAJI T A	**100**	Eligible
34	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU23954	OHMJAYADEVAR M	**100**	Eligible
35	B.Tech	2	10215AE101	Introduction to System Engineering & Opportunities	VTU23978	MALLIREDDY.MADHUSUDHAN REDDY	**100**	Eligible

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

School of Mechanical and Construction

Department of Aeronautical Engineering

25th Board of Studies Meeting

Saturday, June 3, 2023

3.00 pm, HoD office

Minutes of Meeting

Members Present

S. No	Name	Designation	Signature
1	Dr. R. Jaganraj, Head / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Chairman	
2	Dr. K. M. Parammasivam Professor / Aerospace Engineering, MIT, Chennai	Academic Expert	
3	Dr. Dinesh Manoharan Operations Head – UCAL Fuel Systems, Aerospace Division	Industry Expert	
4	Dr. B.L. Jaiswal, Professor of Emeritus / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
5	Dr.J.V.Sai Prasanna Kumar, Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
6	Dr.Naga Lingeswara Raju, Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
7	Dr.Ganesan, Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
8	Mr. G. Boopathy, Asso. Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
9	Dr. G. Surendar, Asso. Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
10	Mr. B. Kirubadurai, Asst. Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	
11	Miss. Nithya S, Asst. Professor / Aeronautical Engineering Vel Tech Rangarajan Dr. Sagunthala R&D Inst of Sci & Tech	Member	

25th Board of Studies Meeting
SS 2023-24

Date: 03/06/2023 **Time: 3.00 pm**

Place: HoD / Aero Cabin

Agenda for Meeting

25. A. Items for Confirmation

25.1. Action taken of BOS dated 10 March 2023

25.2. Minutes of meeting of the Board of Studies for Aeronautical Engineering held on 10 March 2023

25.3. Leave of absence of the members

25. B. Items for Discussions

25.4. Revision of syllabus for B.Tech. Aeronautical Engineering under VTUR 2021 for SS 23-24 & Specialization courses under "Aerospace & Defense Technology".

25.5 Revisit the M.Tech. Aeronautical Engineering (Unmanned Aerial Vehicle) Curriculum and Syllabus

25.C. Items for Reporting

25.6. Award of credits for the students as per VTU R15 & VTUR 21

25.7 Ratification of Courses, if any

25.D. Closing

25.8. Any other item with the permission of chair

Vote of Thanks

Summary of 25th Board of Studies meeting of the Department of Aeronautical Engineering

The 25th Board of Studies of the Department of Aeronautical Engineering is convened on Saturday, June 10, 2023 3.00 pm, HoD office (2023) & Google Meet as hybrid mode. The members discussed and recommended the following.

A. No	Recommendations & Discussions	Support Document
25.4.	Revision of syllabus for B.Tech. Aeronautical Engineering under VTUR 2021 for SS 23-24 & Specialization courses under "Aerospace & Defense Technology". The courses and syllabus for upcoming semester is discussed in detail. Members reviewed the proposed & approved contents of 23rd BoS. The following course syllabus is revised after discussions. Airplane Performance High Speed Aerodynamics Rocket & Space Propulsion Aircraft Structural Dynamics Flapping Wing Dynamics Engineering Computation Flight Testing Computational motion planning Navigation, Guidance & Control UAV Survey Techniques UAV & Satellite Remote Sensing Smart Structures	https://docs.google.com/spreadsheets/d/1fBf90PkWr0aeM-Lga0wtj6WCNlW5kah2BuYfKF0cIeU/edit?resourcekey#gid=1387734335

Minutes of Meeting – 25th BOS of Department of Aeronautical Engineering

The chair welcomed all to the meeting. The chair also introduced the new of the Board of Studies of the Department of Aeronautical Engineering.

25. A. Items for Confirmation

25.1. Action taken on BOS dated March 10, 2023.

The chair presented the action taken report of the 24th BOS to the board.

Recommendations	Action Taken
24.4 Identification of Specialization courses under AI & ML / Space & Defense Technology for B.Tech. Aeronautical Engineering VTU UGE 2021 Members discussed on introducing UG in Aerospace Engineering. Chair proposed to initially offer "Aerospace & Defence" as one of the specialization under B.Tech. Aeronautical Engineering (2021 Regulation). Members proposed the courses emphasizing on Aerospace Sensors, Materials, Spacecraft design, navigation and guidance and warfare systems fundamentals. This specialization is proposed and recommended for AY 2023-24 onwards. Members also discussed about introducing AI & ML as specialization. However, it was decided to introduce in place of computational engineering. Members suggested to go with Computational Engineering for present AY and based on demand may offer AI & ML from 2024-25 onwards.	New specialization is introduced.
25.5. Revisit the M.Tech. Aeronautical Engineering (Unmanned Aerial Vehicle) Curriculum and Syllabus The board discussed on present syllabus and curriculum. Members suggested to bring changes in core after receiving the PG regulation changes proposed. Recommended to explore in PG in Defence Technology.	The board suggested to discuss on PG in Defence technology.

Action: Members reviewed the action taken.

25.2. Minutes of meeting of the Board of Studies for Aeronautical Engineering held on 10 March 2023

The chair presented the minutes of the meeting of the 24th BoS, dated March 10, 2023, to the board.

Action: Members reviewed the minutes of the meeting.

24.3. Leave of absence of the members

All members were present for the meeting.

25. B. Items for Discussions

25.4. Revision of syllabus for B.Tech. Aeronautical Engineering under VTUR 2021 for SS 23-24 & Specialization courses under "Aerospace & Defense Technology".

The following courses have been modified as per expert and stakeholders suggestion.

Airplane Performance
Include FAR regulations – intro level in syllabus

High Speed Aerodynamics
Include flow visualization techniques

Rocket & Space Propulsion
Include Aerodynamics of rockets, hypersonic combustion, SCRAM jets, Solar-electric propulsion, nuclear rockets.
Add numerical simulations & analytical techniques related to topics.
Try to include small rocket motor testing experiments as study assignments.

Aircraft Structural Dynamics
Landing gear loads need to be included.
Vibration analysis of GTRE lab needs to be included as study experiment.
Include outside field visit related to topics (on testing of components)

Flapping Wing Dynamics – No Change
Engineering Computation – No Change
Flight Testing – No Change
Computational motion planning– No Change
Navigation, Guidance & Control – No Change

UAV Survey Techniques
Add related software case studies as example. May give home assignments by pre data.
UAV & Satellite Remote Sensing– No Change
Smart Structures
Syllabus is vast; reduce the contents.

Action : Proposed suggestions are incorporated into syllabus.

25.5 Revisit the M.Tech. Aeronautical Engineering (Unmanned Aerial Vehicle) Curriculum and Syllabus

The board discussed on present syllabus and curriculum. Members suggested to bring changes in core after receiving the PG regulation changes proposed.
Recommended to explore in PG in Defence Technology.

Action : After PG regulation change, the committee may decide on changes in curriculum.

25.C. Items for Reporting

25.6. Award of credits for the students as per VTU R15 & VTUR 21

The following is the summary of award of credits to the students.

Course Name	No of students completed
Aircraft Design Project - I	46
Community Service Project	33
Electric and Conventional Vehicles	4
Fundamentals of MEMS	24
Hybrid Vehicles	9
Major Project	75
Mini Project (Aircraft Design) - II	9
Solar Energy: Integration of Photovoltaic Systems in Microgrids	1
Technical Seminar - I	14
Technical Seminar - II	21
Community Service Project	33

Action : The award of credits is reported to board.

25.7 Ratification of Courses, if any

No items available

25.D. Closing

25.8. Any other item with the permission of chair

The chair, explained about the NBA visit held during March 2023 and subsequent approval of accreditation of three years to the board. The members appreciated the department.

The chiar expressed sincere thanks to all the members of the BoS.

Chairman - BOS
Aeronautical Engineering

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

4th MEETING of BOARD of STUDIES

Minutes

for

B.Tech Artificial Intelligence and Data Science

Programme

[CBCS]

On

27.05.2023

B.Tech Artificial Intelligence and Data Science

School of Computing

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8	Any other Items	8
9	ANNEXURE-I – [Confirmation of 3rdBoS meeting minutes]	9
10	ANNEXURE-II – [Action Taken Report]	10
11	ANNEXURE-III – [Approval of Program Core Course Structure and course contents of few Program Electives]	11
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Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

4thMEETING of BOARD of STUDIES
For
B.Tech (Artificial Intelligence and Data Science)

Date: 27.5.2023– 2.00 pm
Venue: School of Computing

Item No	Agenda
A. Opening	
1.	Confirmation of 3rd BoS meeting minutes held on 29.10.2022
2.	To review the Action Taken Report on the minutes of the 3rd meeting of the Board of Studies
B. Items to be considered	
3.	To discuss and approve any changes in the Program Core and Program Elective Course Structure and course contents of few Program core and Program Electives which are proposed in this BoS as per the list attached, to be offered in the new programme B.Tech Artificial Intelligence and Data Science under the regulation VTR UGE 2021 with effect from Summer 2023-2024.
4.	To discuss and approve the courses to be offered in Online MOOCs platforms under Open Elective Category during the academic year Summer, 2023-2024 for B.Tech Artificial Intelligence and Data Science.

S. No	Course Code	Course Name	L	T	P	C	Offered by
1	**10213GE301**	Programming Challenges	0	1	4	2	Leet Code

S.No.	Course Code	Course Name	Course Provider	Duration in weeks	Credits
1.	10213AD411	Next Generation Sequencing Technologies : Data Analysis And Applications	NPTEL	12 weeks	2
2.	10213AD412	Genetic Engineering: Theory And Application	NPTEL	12 Weeks	2
3.	10213AD413	Medical Image Analysis	NPTEL	12 Weeks	2
4.	10213AD415	Applied Accelerated Artificial Intelligence	NPTEL	12 Weeks	2
5.	10213AD416	Design & Implementation Of Human-Computer Interfaces	NPTEL	12 Weeks	2

	6.	10213AD417	Introduction To Haskell Programming	NPTEL	8 Weeks	1
	7.	10213AD418	Pattern Recognition And Application	NPTEL	12 Weeks	2
5.	Any other cognate item					

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
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School of Computing
4th MEETING of BOARD of STUDIES
For
B.Tech Artificial Intelligence and Data Science

Date: 27.5.2023– 2.00 pm
Venue: School of Computing

Members Present:

Sl.No	Name and Designation	Nominee	Signature
1	Dr. V. Srinivasa Rao,Professor, Dean(SoC)	Chairperson	
2	Dr. C. Mala, Professor Department of Computer Science Engineering NIT, Tiruchirapalli, Tamil Nadu	Academic Expert Nominee	
3	Dr.KomondoorV.Raghavan Associate Professor Department of Computer Science and Automation Indian Institute of Science, Bangalore, Karnataka	Academic Expert Nominee	
4	Mr. Sivaprakasam Perumal Software Engineer, Hewlett-Packard Enterprise, Chennai, Tamil Nadu	Industry Expert Nominee	
5	Mr. E. Sunil, Assistant General Manager, ATRIA Convergence Technologies Ltd, T.Nagar, Chennai, Tamil Nadu	Industry Expert Nominee	
6	Ms. Malini Associate Consultant- Data Analytics Det Norske Veritas	Alumni	
7	Dr. N. Malarvizhi,Professor	Professor Nominee	
8	Dr. M. Kavitha, Professor	Professor Nominee	
9	Dr.N.R.Rajalakshmi, Professor	Professor Nominee	
10	Dr.M.Shyamala Devi, Professor	Professor Nominee	
11	Dr.R.Srinivasan, Professor	Professor Nominee	
12	Dr.J.Visumathi, Professor	Professor Nominee	
13	Dr.S.Sridevi, Professor	Professor Nominee	
14	Dr.A.Bhagyalakshmi, Professor	Professor Nominee	
15	Dr.S.Jagan, Professor	Professor Nominee	

15	Dr.N.Rajkumar, Professor	Professor Nominee	
16	Dr.V.Dhilipkumar, Associate Professor	Associate Professor Nominee	
17	Mrs.T.Kujani,Assistant Professor	Assistant Professor Nominee	
18	Mrs.C.Shyamala Kumari, Assistant Professor	Assistant Professor Nominee	

Invited Members

S.No	Name	Designation
1	Dr.G.Tamilmani	Associate Professor
2	Dr.D.Umanandhini	Associate Professor
3	Dr.M.S.Muralidhar	Associate Professor
4	Dr.S.Durai	Associate Professor
5	Mr. S. Alex David	Assistant Professor
6	Mr.Kishore Kumar	Assistant Professor

The Chair expressed his happiness in welcoming all the members for the 4th meeting of BOS and thanked them for sparing their valuable time.

<table>
<tr><td>04-BoS-01</td><td>Confirmation of 3rd BoS meeting minutes held on 29.10.2022</td></tr>
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<tr><td>Discussion</td><td>Dr.C.Mala suggested to remove Security Fundamentals topic in Fundamentals of Computer Networks course and security has to be focussed on each layer of computer network. She also suggested that students shall use different datasets for same case study during practical sessions.

Dr.Raghavan suggested to include tutorial and practice hours for few courses.

Mr.E.Sunil Suggested to include the updated CISCO CCNA contents in the course of Fundamentals of Computer Networks .</td></tr>
<tr><td>Resolution</td><td>By considering the suggestion of the members, changes made in the course structure and course contents of the Program Core and Program Electives.These will be offered with effect from Summer 2023-2024. Course structure and details are available in [Annexure - III]</td></tr>
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6.	10213AD417	Introduction To Haskell Programming	NPTEL	8 Weeks	1
7.	10213AD418	Pattern Recognition And Application	NPTEL	12 Weeks	2

Discussion	The members reviewed the above list of courses and the course contents to be offered under Open Elective Category for B.Tech-Artificial Intelligence and Data Science They suggested to remove Introduction To Haskell Programming course from the above list of courses.
Resolution	By considering the suggestion of the members, Introduction To Haskell Programming course is removed in the above list of MOOC courses and the members approved the courses and course contents to be offered under Open Elective Category for B.Tech-Artificial Intelligence and Data Science. [Annexure-V]
04-BoS-07	Any other Cognate Item
Resolution	The next BoS meeting will be conducted in the month of December 2023.

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
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4thMEETING of BOARD of STUDIES

Minutes

for

B.Tech Artificial Intelligence and Machine Learning

Programme

[CBCS]

On

27.05.2023

B.Tech Artificial Intelligence and Machine Learning

School of Computing

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4thMEETING of BOARD of STUDIES
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School of Computing
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04-BoS-07	Any other Cognate Item
Resolution	The next BoS meeting will be conducted in the month of December 2023.

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

School of Electrical and Communication

DEPARTMENT OF BIOMEDICAL ENGINEERING

10th BoS MoM Summary

The 10th BoS meeting for B-Tech for the Department of Bio-Medical Engineering was held on 06th Jun 2023 with the presence of external and internal BoS members. The meeting started with greetings and approval of the 9th MoM held on 18/01/23 and the introduction of the new Head of the department Dr. D. Balasubramaniam.

A new Ph.D. course - Internet of Things was introduced and presented. Members suggested removing Biomedical system designs with Arduino and also suggested adding Confluent and Kafka. The K-level, CO-PO mapping and course content changes for VTR UGE-2021 syllabi have been discussed and presented.

Changes in CO-PO mapping due to the addition of PSO3 and K levels changes were presented for all the VTR UGE-2021 core courses and specialization courses. Members suggested not to map PSO3 with courses where direct questions from AI is not possible.

Content Changes in the courses ***Drones in Healthcare, Telehealth Technology and Biomechanics*** were recommended and content changes were suggested for ***Hospital Management and Medical Device Regulatory Affairs*** while presenting the CO-PO mapping for PSO3.

Prerequisite reconsiderations were suggested for ***Radiological Equipment, Analog and Digital Integrated Circuits (ADIC) and Biomaterials*** considering lateral entry students and also VTR UGE-2021 regulation courses for the first year. Also, in Biomaterials the members asked to swap the order of the units according to the generation of materials and the changes were approved.

Student Alumni member suggested including a chapter for Chatgpt application in Telehealth technology.

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF ELECTRICAL AND COMMUNICATION
DEPARTMENT OF BIOTECHNOLOGY

Minutes of

10th Meeting

of

Board of Studies

DEPARTMENT OF BIOTECHNOLOGY

SCHOOL OF ELECTRICAL & COMMUNICATION

Date: 30/05/2023

Time: 10:30 aM

Venue: Online

AGENDA

10 BoS 01 To confirm the Minutes of Meeting of the 9th Board of Studies.

10 BoS 02 To confirm the minutes of the meeting of the 10th Board of Studies.

10 BoS 03 To record the leave of absence of members

ITEMS FOR CONSIDERATION AND APPROVAL

10 BoS 04 Report on Specialization, Minors and Honors status and methods to improve

10 BoS 05 Updation of number of courses offered under Specialization in Food and Precision agriculture.

ITEMS FOR DISCUSSION AND RATIFICATION

10 BoS 06 Courses to be offered in the academic year under various categories including Specialization, Minor, Honors

ITEMS FOR REPORTING

10 BoS 07 Any other items with the permission of chair

OPENING

CALL TO ORDER

The Chairman called the meeting to order and welcomed the members and invitees.

9 BoS 01 To confirm the Minutes of Meeting of the 9th Board of Studies held on 4th January 2023.

Minutes of Meeting of the 9th Board of Studies held on 4th January 2023 was confirmed as received and ratified by the members present.

9 BoS 02 To confirm the minutes of the meeting of the 10th Board of Studies.

Minutes of Meeting of the 10th Board of Studies meeting being held was confirmed to all members present.

9 BoS 03 To record the leave of absence of members

S.No	Name	Designation	Present / Absent with reason
1	**Dr.V.R.Manoj** Associate Professor & Head Department of Biotechnology Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Chairman, Board of Studies	Present
2	Dr.Vignesh Muthuvijayan Professor, Department of Biotechnology Bhupat and Jyoti Mehta School of Biosciences Indian Institute of Technology Madras Chennai	Academic Expert	Present
3	Dr.Abhishek Mathur DGM – Technical and R&D Prathista Industries Limited (Prathista Group) Telengana State	Industry Expert	
3	Dr.P.Azhagu Saravana Babu Professor, Department of Biotechnology Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Member	Present
4	Dr.R.Ravikumar Professor, Department of Biotechnology Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Member	Absent - Informed project meeting with SCCL
6	Dr.S.Mugesh Associate Professor, Department of Biotechnology Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Member	Present
7	Ms.R.Nirmala Nithya Assistant Professor, Department of Biotechnology Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Member	Present
8	Dr.K.Tarangini Assistant Professor(Research)	Special Invitee	Present

	Department of Biotechnology Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology		
9	Dr.K.Jaggajanani Rao Associate Dean (R&D), Associate Professor (Research) Department of Biotechnology Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Special Invitee	Present

10 BoS 04 Report on Specialization, Minors and Honors status and methods to improve

Member Dr.P.Azhagu Saravana Babu presented the proposed changes in the list of courses as follows:

a. As per BoS No.09 MoM , the course on Biostatistics from Program core is shifted to Foundation category and the course on Analytical Instrumentation and techniques is placed in it's stead.
b. One course titled Marine Biotechnology and Aquaculture is shifted from the elective specialization category to the Program Core to compensate for lacunae of 3 credits in the ensuing shift.

External Academic expert Dr.Vignesh Muthuvijayan observed that the curriculum domain split up should not be shown in the transcripts, Chairman assured that the split up of domains is only for functional reasons and will not be displayed in the transcript.

10 BoS 05 Updation of number of courses offered under Specialization in Food and Precision agriculture.

By Direction, total number of courses under specialization is to be six in number and therefore the updated list of courses under the specialization for B.Tech. Biotechnology with specialization in Food and Precision Agriculture will be as follows:

S.No	Course Code	Course Name	L	T	P	C
1	10212BT131	Principles of Functional Food and Applications	3	0	0	3
2	10212BT132	Nutraceuticals	3	0	0	3
3	10212BT133	Food preservation, packaging technologies	3	0	0	3
5	10212BT135	Food Safety, Quality and Regulation	3	0	0	3
7	10212BT130	Precision Agricultural Biotechnology	3	0	0	3
8	10212BT122	Agricultural Biotechnology	3	0	0	3

ITEMS FOR DISCUSSION CONSIDERATION AND APPROVAL

10 BoS 06 Courses to be offered in the academic year under various categories including Specialization, Minor, Honors. Discussion was held for the offering of various courses in the upcoming semester under various categories.

Course Category	Course Code	Course Name
Program Core	10211BT101	Microbiology
Program Core	10211BT108	Principles of Chemical Engineering
Program Core	10211BT102	Cell Biology
Program Core	10211BT301	Microbiology Lab
Program Core	10211BT303	Cell Biology Lab
Program Core	10211BT302	Biochemistry Lab
Program Core	10211BT105	Genetic Engineering
Program Core	10211BT109	Advanced Biochemistry
Program Core	10211BT110	Bioprocess Engineering
Program Core	10211BT113	Metabolic Engineering
Program Core	10211BT115	Analytical and Instrumentation Engineering
Program Core	10211BT305	Bioprocess Engineering Lab
Program Core	10211BT201	Computational Biology:Techniques and Applications(Integrated)
Program Elective	10212BT131	Principles of Functional Food and Applications
Program Elective	10212BT106	Nanobiotechnology and application
Open Elective	10213BT103	Biomaterials Engineering

Various relevant NPTEL courses were presented for offering as Open Elective for ratification by the Board of Studies members. Both the Academic expert and the Industry Expert gave valuable suggestions for relevance of courses from NPTEL and stressed the importance of non repeatability in the already existing curriculum. The following NPTEL courses were ratified for offering courses to the students:

Course Name
Drug Delivery: Principles And Engineering
Next Generation Sequencing Technologies : Data Analysis And Applications
Genome Editing And Engineering
Introduction To Proteogenomics
Industrial Biotechnology
Tissue Engineering
Developmental Biology
Experimental Biology

External Experts recommended the following:

a) Industry Expert recommended that Pharmaceutical Biotechnology and Biorpocess related courses be given good importance as they high degree of relevance in Industry; especially in the production of important biomolecules.

8 BoS 04 To approve the Revised Syllabus of Biology for Engineers as per VT UGE21

Special Invitee (Internal) Dr.S.Chandramohan, FME coordinator; presented the revised syllabus of Biology for Engineers as per VT UGE21 to be offered to Freshman Engineering students, and the same was ratified.

ITEMS FOR REPORTING

10 BoS 07 Any other items with the permission of chair

Chairman reported the following:

a. Institution has been ranked NAAC A++
b. Research Projects secured by Dr.K.Tarangini and Dr.K.Jaggajanani Rao.
c. Dr.K.Jaggajanani Rao assumed responsibility for Associate Dean R&D for Ph.D research studies.
d. Five B.Tech. Biotechnology students secured research internship in coordination with Office of International Relations in Taiwan under 3+2 Program and TEEP program.
e. Three students from the above presented their research work in International conference in Taiwan.

Chairman thanked the members and called the meeting to close.

ANNEXURES

ANNEXURE 1: Curriculum of VT UGE21.

ANNEXURE 1: Curriculum of VT UGE21

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF ELECTRICAL AND COMMUNICATION

DEPARTMENT OF BIOTECHNOLOGY

CURRICULUM AND SYLLABI

VT UG Regulation 2021

Department of Biotechnology

Department of Biotechnology

VT UGE REGULATION 2021
SCHOOL OF ELECTRICAL AND COMMUNICATION
DEPARTMENT OF BIOTECHNOLOGY
LIST OF COURSES

PROGRAM CORE COURSES VTR UGE 2021						
		Course Name	**L**	**T**	**P**	**C**
	Course Code	**BASIC SCIENCES**				
1	10211BT101	Microbiology	3	0	0	3
2	10211BT102	Cell Biology	3	0	0	3
3	10211BT115	Analytical and Instrumentation Engineering	3	0	0	3
4	10211BT301	Microbiology Lab	0	0	2	1
5	10211BT302	Biochemistry Lab	0	0	2	1
6	10211BT303	Cell Biology Lab	0	0	2	1
GENETIC ENGINEERING / MOLECULAR BIOLOGY						
7	10211BT104	Molecular Biology: Concepts and Techniques	3	0	0	3
8	10211BT105	Genetic Engineering	3	0	0	3
9	10211BT304	Molecular Biology & Genetic Engineering Lab	0	0	2	1
CHEMICAL ENGINEERING						
10	10211BT106	Chemical Reaction Engineering	3	0	0	3
11	10211BT107	Mass Transfer Operations in Biotechnology	3	0	0	3
12	10211BT108	Principles of Chemical Engineering	3	1	0	4
13	10211BT109	Bioprocess Equipment and Design	3	0	0	3
INDUSTRIAL BIOTECHNOLOGY						
14	10211BT110	Bioprocess Engineering	3	0	0	3
15	10211BT111	Downstream Processing	3	0	0	3
16	10211BT112	Unit Operations in Biotech Industry	3	0	0	3
17	10211BT113	Metabolic Engineering	3	0	0	3
18	10211BT114	Green Biotechnology & Pollution Abetment	2	0	0	2
19	10211BT117	Marine Biotechnology and Aquaculture	3	0	0	3
20	10211BT305	Bioprocess Engineering Lab	0	0	2	1
21	10211BT306	Downstream Processing Lab	0	0	2	1

PHARMACEUTICAL & MEDICAL BIOTECHNOLOGY						
22	10211BT201	Computational Biology: Techniques and Applications (Integrated)	2	0	2	3
23	10211BT116	Immunology and Immunotechnology	3	0	0	3
24	10211BT307	Immunology Lab	0	0	2	1
		TOTAL				58

PROGRAM ELECTIVE COURSES VTR UGE 2021						
		Course Name	**L**	**T**	**P**	**C**
		INDUSTRIAL DOMAIN				
1	10212BT101	Fluid Mechanics and Transport phenomena	3	0	0	3
2	10212BT102	Bioenergy	3	0	0	3
3	10212BT103	Food Processing Technology	3	0	0	3
4	10212BT104	Agricultural Biotechnology	3	0	0	3
5	10212BT105	Algal Biotechnology	3	0	0	3
6	10212BT106	Nanobiotechnology and application	3	0	0	3
7	10212BT107	Fermentation Technology	3	0	0	3
8	10212BT108	Protein Engineering	3	0	0	3
9	10212BT109	Process Instrumentation and dynamic control	3	0	0	3
10	10212BT110	Bioreactor design and Instrumentation control	3	0	0	3
11	10212BT111	Valorisation	3	0	0	3
12	10212BT112	Environmental Biotechnology	3	0	0	3
13	10212BT113	Enzyme technology and Biotransformation	3	0	0	3
14	10212BT114	Synthetic Biology	3	0	0	3
		MEDICAL DOMAIN				
15	10212BT115	Cancer Biology	3	0	0	3
16	10212BT116	Molecular Pathogenesis	3	0	0	3
17	10212BT117	Biopharmaceutical Technology	3	0	0	3
18	10212BT118	Stem cell Technology	3	0	0	3
19	10212BT119	Biosensor and Instrumentation	3	0	0	3
20	10212BT120	Biomaterials	3	0	0	3
21	10212BT121	Biochips and Microarray technologies	3	0	0	3
22	10212BT122	Plant Biotechnology	3	0	0	3
23	10212BT123	Animal Biotechnology	3	0	0	3
24	10212BT124	Tissue Engineering	3	0	0	3

25	10212BT125	Herbal and Phytochemical Engineering	3	0	0	3
26	10212BT126	Medical Genomics and Proteomics	3	0	0	3
27	10212BT127	Cellular Engineering	3	0	0	3
28	10212BT128	Bioprinting	3	0	0	3
29	10212BT129	Augmented Reality & Virtual Reality	3	0	0	3
30	10212BT130	Precision Agricultural Biotechnology	3	0	0	3
		FOOD BIOTECHNOLOGY				
31	10212BT131	Principles of Functional Food and Applications	3	0	0	3
32	10212BT132	Nutraceuticals	3	0	0	3
33	10212BT133	Food Preservation, Packaging Technologies	3	0	0	3
34	10212BT134	Marine Biotechnology and Aquaculture	3	0	0	3
35	10212BT135	Food Safety, Quality and Regulation	3	0	0	3
36	10212BT136	Storage Engineering	3	0	0	3

OPEN ELECTIVE COURSES						
S. No.	**Course Code**	**Course Name**	**L**	**T**	**P**	**C**
1	10213BT101	BIOCHIPS	3	0	0	3
2	10213BT102	BIOSENSORS	3	0	0	3
3	10213BT103	BIOMATERIALS ENGINEERING	3	0	0	3
4	10213BT104	BIO-INSPIRED DESIGN: PRINCIPLES AND PRACTICE	3	0	0	3
5	10213BT105	ENGINEERING ADVANCES IN FOOD PRESERVATION	2	0	0	2
6	10213BT101	BIOCHIPS	3	0	0	3

Specializations:

a. Food and Precision Agriculture Biotechnology

S.No	**Course Code**	**Course Name**	**L**	**T**	**P**	**C**
1	10212BT131	Principles of Functional Food and Applications	3	0	0	3
2	10212BT135	Food Safety, Quality and Regulation	3	0	0	3
3	10212BT133	Food Preservation, Packaging Technologies	3	0	0	3
5	10212BT130	Precision Agricultural Biotechnology	3	0	0	3
6	10212BT122	Agricultural Biotechnology	3	0	0	3

b. Regenerative Medicine / Health Diagnostics and Disease control

S.No	**Course Code**	**Course Name**	**L**	**T**	**P**	**C**
1	10212BT117	Biopharmaceutical Technology	3	0	0	3
2	10212BT125	Herbal and Phytochemical Engineering	3	0	0	3
3	10212BT115	Cancer Biology	3	0	0	3

4	10212BT118	Stem Cell Technology	3	0	0	3
5	10212BT126	Medical Genomics and Proteomics	3	0	0	3
6	10212BT116	Molecular Pathogenesis	3	0	0	3

Minor in Bioprocess control and devices

The following courses to be included under this Minor:

S.No	Course Code	Course Name	L	T	P	C
1	10213BT107	Bioprocess Control components	3	0	0	3
2	10213BT108	Advanced Analytical and Instrumentation bioprocess applications	3	0	0	3
3	10213BT109	Biosensors	3	0	0	3
4	10213BT110	Biochips	3	0	0	3
5	10213BT111	Biomaterials	3	0	0	3
6	10213BT112	Computational applications in Bioprocess	3	0	0	3

Honors in Bioengineering

S.No	Course Code	Course Name	L	T	P	C
1	10212BT137	Instrumentation and Process Control	3	0	0	3
2	10212BT138	Biomolecular Modelling	2	0	2	3
3	10212BT139	Biomechanics	2	0	2	3
4	10212BT140	Bio-nanotechnology	2	0	2	3
5	10212BT141	Biochemical Engineering	3	0	0	3
6	10212BT142	OMICS Technologies	3	0	0	3

Vel Tech
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MINUTES OF

25th BOARD OF STUDIES MEETING

on

03-06-2023

at

10.30AM

held in

CASA LAB

DEPARTMENT OF CIVIL ENGINEERING

SCHOOL OF MECHANICAL AND CONSTRUCTION

VISION AND MISSION OF THE INSTITUTE

Vision:

To create, translate and share frontiers of knowledge embedded with wisdom and innovation for a positive transformation of emerging society.

Mission:

To nurture excellence in teaching, learning, creativity and research; translate knowledge into practice; foster multidisciplinary research across science, medicine, engineering, technology and humanities; incubate entrepreneurship; instill integrity and honour; inculcate scholarly leadership towards global competence and growth beyond self in a serene, inclusive and free academic environment.

VISION AND MISSION OF THE DEPARTMENT

Vision:

To impart knowledge and excellence in Civil Engineering with global perspectives to the student community and to make them ethically strong engineers to build the nation.

Mission:

M1: To produce Civil Engineers of high calibre with advanced technical skills and ethical values to serve the society and the nation.

M2: To make the department as a centre of excellence in the field of Civil Engineering and allied research activities.

M3: To provide knowledge base and consultancy services to the community in all areas of Civil Engineering

M4: To promote innovative ideas which original thinking in the minds of budding Engineers to face the future challenges.

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R&D Institute of Science and Technology
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School of Mechanical and Construction
Department of Civil Engineering
25th Board of Studies Meeting of Civil Engineering
3rd June 2023 @10.30a.m.

Ref:-Civil/BoS -25/Agenda/2023

Agenda No.	**Agenda**
OPENING	
25BoS01	To confirm the minutes of meeting of the 24th BoS, held on 17.09.2022
25BoS02	Action taken report on Minutes of 24th BoS meeting
25BoS03	To record leave of Absence of members
ITEMS FOR CONSIDERATION AND APPROVAL	
25BoS04	MOOC Courses (NPTEL) recommended under independent-learning courses for UG (7.2.7.1) & PG (7.2.4.1) Program for the Summer Semester 2023–24 under VTU R15 and VTU R16 respectively.
25BoS05	Revision of regulations for M. Tech under "VTR PGE 2023"
ITEMS FOR DISCUSSION AND RATIFICATION	
25BoS06	Value Education Elective and Program Specialised elective course offered under VTUR15 section 7.2.6 and 7.2.3 for the Winter Semester of AY 2022-2023.
25 BoS07	Courses offered under Industry/Higher Learning Institute Interaction.
ITEMS FOR REPORTING AND RECORDING	
25 BoS08	Policy for identifying advanced and slow learners.
25BoS09	Any other points

Attendance

Sl.No	Name	Designation	Remarks
1.	Dr. GEETHA SELVARANI. A.	Chairman –BoS, Professor &HOD/Civil	Attended
External Members			
2.	Dr. SENTHIL SELVAN. S.	Professor, Department of Civil Engineering, Faculty of Engineering and Technology, Kattankulathur Campus, SRM Institute of Science and Technology.	Attended
3.	Er. SURESH KUMAR. L.	Assistant Engineer, Central Public Works Department.	Not Attended
Internal Members			
4.	Dr. SAMSON. S.	Professor	Attended
5.	Dr. ASWIN SIDHAARTH. K.R.	Assoc. Professor	Attended
6.	Dr. KUMAR. G.	Assoc. Professor	Attended
7.	Dr. VINODKUMAR. M.	Assoc. Professor	Attended
8.	Dr. KANDASAMY. S.	Assoc. Professor	Attended
9.	Dr. LOGESHWARI. J.	Assoc. Professor	Attended
10.	Dr. TAMILARASAN. K.	Asst. Professor	Attended
11.	Dr. SELVAKUMAR. S.	Asst. Professor	Attended
Alumni and Student Representative			
12.	Mr. KUSHAL KUMAR	Alumni	Attended
13.	Mr. DINESH SHARMA GURUMAYUM – VTU16911	Student Representative	Not Attended

Welcome Address: Chairman –BoS, welcomed the Special invitees and other members for the 25th BOS meeting.

Agenda 25.01 : **Confirmation of the Minutes of Meeting of 24th BoS held on 17.09.2022.**
Discussion : Chairman – BoS, presented the minutes of the 24th BoS held on 17.09.2022.
Action : BoS members have approved the action taken report on the minutes of 24th BoS Meeting, held on 17.09.2022.

Agenda 25 .02 : **To review the Action Taken report on the Minutes of 24th BoS Meeting.**
Discussion : Chairman – BoS, highlighted the follow-up action taken on the suggestions given by the expert members. These are:

S.No	Points Discussed	Action Taken
1	It has been suggested to revise the title of Unit III from the Strength of materials II as "Columns and Thick Cylinders" instead of "Columns"	Unit III of 10211CE206 STRENGTH OF MATERIALS II has been replaced as Columns and Thick Cylinders as suggested.
2	It has been suggested to Mention specific Case Studies to be added for Unit IV and V (e.g.: Life Cycle Assessment (LCA) of concrete, Electronic waste disposal and cement production etc. in each unit). Environmental Impact Assessment (EIA) Case Study to be added in the course content of Environmental Management System.	The suggested inclusions have been made in Unit IV and V of 10212CE144 ENVIRONMENTAL MANAGEMENT SYSTEM.
3	It has been suggested to add relevant content with recent topics and to add more sub topics in Unit V of Rock Engineering.	Several Techniques such as shotcreting, bolting and anchoring have been included along with case studies in Unit V of 10212CE145 ROCK ENGINEERING.
4	It has been suggested to interchange Unit III and Unit IV. Also, recommended that to rename the title of Unit III as Application of RS & GIS to Transportation and Unit V as Advanced Applications in Transportation.	The recommended changes have been implemented in 10212CE147 REMOTE SENSING AND GIS IN TRANSPORTATION DEVELOPMENT.

5	In addition, the board members have suggested to add recent contents related to modern transportation to be added in Unit V in Remote Sensing and GIS in Transportation Development.	The recommended changes have been implemented in 10212CE147 REMOTE SENSING AND GIS IN TRANSPORTATION DEVELOPMENT.

Action : BoS Members gone through the action taken report and approved the same.

Agenda 25.03 : **To record leave of absence of members.**

Discussion : One of the External BoS Member Er. L. Suresh Kumar, Assistant Engineer, Central Public Works Department and our student representative Mr. Dinesh Sharma Gurumayum both are absent in view of academic and personal constraint.

Action : The BoS members accepted and the same was recorded.

ITEMS FOR CONSIDERATION AND APPROVAL

Agenda 25.04 : **MOOC Courses (NPTEL) recommended under independent learning courses for UG (7.2.7.1) & PG (7.2.4.1) Program for the Summer Semester 2023–24.**

Discussion : The Chairman – BoS listed the Independent-Learning courses to be offered through NPTEL Platform, under MOOC option, for completing the Independent Learning category, during the Academic Year: 2023-2024

Refer: Annexure: 1

Action : Members accepted and recommended the different courses and their corresponding credits for the forth coming semester.

Agenda 25.05 : **Revision of regulations for M. Tech under "VTR PGE 2023".**

S. No	Item	As per M Tech R16	Proposed Changes
1	Minimum Credits required to award M.Tech. Degree	80	80 (As per NHEQF Guidelines)
2	Credits under Programme Foundation	4	Nil
3	Programme Core	30	34

4	Programme Elective	12	18 (2 courses – 3 credits each, shall be taken from NPTEL)
5	Credits Under Independent Learning Research Methodology – 2 Credits Business Communication/ Technical Writing – 2 credits Online Courses – MooC- 2 Credits Research Seminar – 2 Credits	8	4 Research Methodology – 2 Credits Business Communication/ Technical Writing – 2 credits (Both from NPTEL/SWAYAM)
6	Major Project Phase I– 10 Credits Major Project Phase II- 16 Credits	26	21 Major Project Phase I – 3 Credits Major Project Phase II - 6 Credits Major Project Phase III – 12 Credits
7	Internal Examination (40 Marks)	Mid Term tests - 20 marks Assignment/Seminar/ Project - 20 Marks 2 Mid Term Tests 2/3 of BM+ 1/3 of LM	Mid Term tests - 30 marks Assignment/Seminar - 10 Marks 2 Mid Term Tests Average of both tests
8	External Examination (60 Marks)	Part A: (10 x 1) = 10 Marks Part B: (5 x 4) = 20 Marks Part C: (5 x 6) = 30 Marks	Part A: (10 x 2) = 20 Marks Part B: (5 x 8) = 40 Marks
9	Mandate to publish/present the Project Paper in Scopus Indexed Journal / International conference	Not considered	Proposed to include
10	Credits under MooC platform (NPTEL/SWAYAM)	2 Credits (2.5 % of total credits)	13 Credits (16.25 % of total credits)

Discussion : Chairman – BoS, presented the proposed revisions for "VTR PGE 2023".

Action : BoS members have approved the revision of regulation for M.Tech under "VTR PGE 2023". The members have suggested to offer the course "Technical Writing" to be mandatory under independent learning category and also appreciated the inclusion of mandatory publication.

ITEMS FOR DISCUSSION AND RATIFICATION

Agenda 25.06 : **Value Education Elective and Program Specialised Elective offered under VTUR15 section 7.2.6 and 7.2.8 for the Winter Semester of AY 2022-2023**

Discussion : The Chairman – BoS presented the Value Education Elective and Program Specialised Elective offered under VTUR15 for the Winter Semester of AY 2022-2023.
Refer: Annexure 2

Courses offered for Value Education

S.NO	COURSE CODE	COURSE NAME	CREDITS
1	1155CE101	Emerging Green Technologies	1
2	1155CE103	Social Justice	1

Course offered for Program Specialised Elective

S.NO	COURSE CODE	COURSE NAME	CREDITS
1	1152CE901	Abaqus for Civil Engineers	3

Action : Members have noted and ratified.

Agenda 25.07 : **Courses offered under Industry/Higher Learning Institute Interaction**

Discussion : The Chairman – BoS presented the Value Education Elective and Program Specialised Elective offered under VTUR15 for the Winter Semester of AY 2022-2023
Refer: Annexure 3

Action : Members have noted and ratified.

Course offered under Industry/Higher Learning Institute Interaction – Specialized Courses

S.NO	COURSE CODE	COURSE NAME	CREDIT	REGULATION
1	10215CE901	Basics of Building Planning & Approval Process	1	VTR UGE 21

2	1157CE928	Basics of Building Planning & Approval Process	1	VTUR 15

ITEMS FOR REPORTING AND RECORDING

Agenda 25.08 : Policy for identifying advanced and slow learners.
Discussion :

Activities for Slow learners	Activities for Advanced learners
• Peer learning model by forming a group 2 to 3 slow learners with one advanced learner in the particular course under the supervision of course faculty. • Provision of additional classes with min. of 10 – 12 periods for problem solving/ revision session. • Providing notes for easy understanding. • Makeup and demonstration classes for practical courses • Assignment in the form of solving previous semester end examination question papers of the same course • Counselling by senior faculty members in the department • Giving additional learning materials like question bank, university question papers etc.	• Enrichment activities: Guiding and encouraging to communicate research papers in Conferences/Seminars/Journals, and advanced coursework to provide opportunities to explore their interests and develop their skills. • Guiding the students for GATE/Competitive Examinations • Contribution in questionnaire preparation and conduction of case studies • Encouragement to complete NPTEL/Swayam and similar courses • Assistance for industry internships and field trainings • Provision to explore the talents through MoU's with reputed institutions

Action : The policy framed for identifying advanced and slow learners were presented and the board members have appreciated and approved it.

Agenda 25.09 : **Any other Points**
Discussion : NIL
Action : NIL

Meeting ended with a Vote of thanks proposed by Dr. S. Samson, Professor, Department of Civil Engineering.

Submitted to Vice-Chancellor for approval

Dr. A. Geetha Selvarani – Chairman, BoS.

37th MEETING of BOARD of STUDIES

Minutes

for

B.Tech(Computer Science & Engineering)

M.Tech(Computer Science and Engineering)

M.Tech(Big Data Analytics)

&

M.Tech(Network Engineering)

[CBCS]

On

27.05.2023

Department of Computer Science & Engineering

School of Computing

Department of Computer Science and Engineering
School of Computing
37th MEETING of BOARD of STUDIES
For
B.Tech(CSE), M.Tech(CSE), M.Tech(BDA), and M.Tech(NE)

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Department of Computer Science and Engineering
School of Computing
37th MEETING of BOARD of STUDIES
For
B.Tech(CSE), M.Tech(CSE), M.Tech(BDA), and M.Tech(NE)

Date: 27.05.2023

Venue: 33023

AGENDA

The Chair expressed his happiness in welcoming all the new members for the 36th meeting of BOS and thanked them for sparing their valuable time.

Item No	Agenda
A.	**Opening**
1.	Confirmation of 36thBoS meeting minutes held on 25.02.2023 (Annexure-I)
2.	To review the Action Taken Report on the minutes of the 36th meeting of the Board of Studies (Annexure-II)
B.	**Items to be considered**
3.	To discuss and approve any changes in the Program Core Course Structure and course contents proposed in this BoS, to be offered in the programme B.Tech Computer Science and Engineering under the regulation VTR UGE 2021 keeping in view of National Education Policy (NEP) 2020, ACM IEEE, AICTE Model Curriculum, NASSCOM and Digital India Skills to be implemented with effect from the academic year Summer2023-2024(Annexure-III)
4.	To discuss and approve any changes in theProgram Electives category and in various specialization in the **existing B.Tech (CSE) curriculum VTR UGE 2021** keeping in view of NEP 2020, ACM IEEE, AICTE Model Curriculum, NASSCOM and Digital India Skills to be implemented with effect from the academic year Summer 2023 - 2024 in view of employability and Skill (Annexure-IV)
5.	To discuss and approve the introduction of **new industry (ATOS) collaborated specialization Cloud Infrastructure Management in the existing** B**.Tech (CSE) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-V)

S.No	Course Code	Course Name	L	T	P	C
1	10212CS251	Virtualization Techniques	2	0	2	3
2	10212CS252	Windows Client Administration Operating System	2	0	2	3
3	10212CS253	Windows Server Administration Operating System	2	0	2	3
4	10212CS254	Cloud Fundamentals using Azure	2	0	2	3
5	10212CS255	Administering Microsoft Exchange Server	2	0	2	3
6	10212CS256	Office 365 Administration	2	0	2	3

6. To discuss and approve the introduction of **new industry (ATOS) collaborated specialization Network and Server Management in the existing** B**.Tech (CSE) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-VI)

S.No	Course Code	Course Name	L	T	P	C
1	10212CS257	Data Center Hosting – Windows operating System	2	0	2	3
2	10212CS258	Data Center Hosting – Unix operating System	2	0	2	3
3	10212CS259	Advanced Switching and Networking Techniques	2	0	2	3
4	10212CS260	Advanced Routing Techniques and Security	2	0	2	3
5	10212CS261	Juniper Networking Techniques	2	0	2	3
6	10212CS262	Storage Management	2	0	2	3

7. To discuss and approve the introduction of **new industry (ATOS) collaborated specialization Application Modernization Service in the existing** B**.Tech (CSE) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-VII)

S.No	Course Code	Course Name	L	T	P	C
1	10212CS263	IIS Web Server Technologies	2	0	2	3
2	10212CS264	Application Server Technologies	2	0	2	3
3	10212CS265	Web Sphere Application Server	2	0	2	3
4	10212CS266	WebSphere MQ	2	0	2	3
5	10212CS267	Middleware Technologies	2	0	2	3
6	10212CS268	Database Administration Using MSSQL Server	2	0	2	3
7	10212CS269	Oracle Database Administration	2	0	2	3

8. To discuss and approve the introduction of **new industry (ATOS) collaborated specialization MainFrame in the existing** B**.Tech (CSE) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-VIII)

S.No	Course Code	Course Name	L	T	P	C
1	10212CS270	Introduction to System Programming zOS commands and Panel on IBMZ	2	0	2	3
2	10212CS271	Fundamentals of Networking, CICS and IMS	2	0	2	3
3	10212CS272	zOS Administration	2	0	2	3
4	10212CS273	zOS System Service Structure	2	0	2	3
5	10212CS274	IBM System z Parallel Sysplex Operations	2	0	2	3
6	10212CS275	IBM MQ System Administration for zOS	2	0	2	3

9. To discuss and approve the introduction of new courses under Program Elective Category and in various specialization **in the existing B.Tech (CSE) curriculum under the regulation VTU R15** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-IX)

B.Tech CSE with specialization in Data Analytics

S.No	Course Code	Course Name	L	T	P	C
1	1152CS239	Introduction to Data Science	2	0	2	3
2	1152CS243	Data Visualization Techniques	2	0	2	3
3	1152CS244	Predictive modelling and Analytics	2	0	2	3
4	1152CS245	Introduction to Deep Learning	2	0	2	3

B.Tech CSE with specialization in Networking and Cyber Security

S.No	Course Code	Course Name	L	T	P	C
1	1152CS237	Digital Forensics	2	0	2	3
2	1152CS238	Blockchain Technology and its Application	2	0	2	3
3	1152CS241	Identity Access Management	2	0	2	3
4	1152CS242	Fundamentals of Cloud Security	2	0	2	3
5	1152CS247	Introduction to IBM z/OS and Mainframe Computers	2	0	2	3

B.Tech CSE with specialization in Artificial Intelligence

S.No	Course Code	Course Name	L	T	P	C
1	1152CS238	Blockchain Technology and its Application	2	0	2	3
2	1152CS240	Natural Language Processing	2	0	2	3
3	1152CS243	Data Visualization Techniques	2	0	2	3
4	1152CS245	Introduction to Deep Learning	2	0	2	3
5	1152CS246	Computer Vision	2	0	2	3

10. To discuss and approve the courses to be offered in Online MOOCs platforms under Open Elective Category for B.Tech (CSE) under regulation VTR UGE 2021 and Independent Learning Category (MOOCs) for B.Tech CSE under regulation VTU R15 during the Summer 2023-2024. (Annexure-X)

Open Elective

S.No	Course Code	Course Name	L	T	P	C	Offered by
1	10213GE301	Programming Challenges	0	1	4	2	Leet Code

S.No	Course Code	Course Name	Course Provider	Duration in weeks	Credits
1.	10213CS411	Next Generation Sequencing Technologies : Data Analysis And Applications	NPTEL	12 weeks	2
2.	10213CS412	Genetic Engineering: Theory And Application	NPTEL	12 Weeks	2
3.	10213CS413	Medical Image Analysis	NPTEL	12 Weeks	2
4.	10213CS414	Reinforcement Learning	NPTEL	12 Weeks	2
5.	10213CS415	Applied Accelerated Artificial Intelligence	NPTEL	12 Weeks	2
6.	10213CS416	Design & Implementation Of Human-Computer Interfaces	NPTEL	12 Weeks	2
7.	10213CS417	Introduction To Haskell Programming	NPTEL	8 Weeks	1
8.	10213CS418	Pattern Recognition And Application	NPTEL	12 Weeks	2

Independent Learning

S.No.	Course Code	Course Name	Course Provider	Duration in weeks	Credits
1.	1156CS124	Next Generation Sequencing Technologies : Data Analysis And Applications	NPTEL	12 weeks	2
2.	1156CS125	Genetic Engineering: Theory And Application	NPTEL	12 Weeks	2
3.	1156CS126	Medical Image Analysis	NPTEL	12 Weeks	2
4.	1156CS127	Reinforcement Learning	NPTEL	12 Weeks	2
5.	1156CS128	Applied Accelerated Artificial Intelligence	NPTEL	12 Weeks	2
6.	1156CS129	Design & Implementation Of Human-Computer Interfaces	NPTEL	12 Weeks	2
7.	1156CS130	Introduction To Haskell Programming	NPTEL	8 Weeks	1
8.	1156CS131	Pattern Recognition And Application	NPTEL	12 Weeks	6 2

11. To discuss and approve the courses to be offered in Online MOOCs platforms **under Independent Learning Category (MOOCs)** during the Summer 2023-2024for PG programmes.

S.No.	Course Code	Course Name	Course Provider	Duration in weeks	Credits
1.	2163CS454	Next Generation Sequencing Technologies: Data Analysis and Applications	NPTEL	12 weeks	2
2.	2163CS455	Genetic Engineering: Theory and Application	NPTEL	12 Weeks	2
3.	2163CS456	Medical Image Analysis	NPTEL	12 Weeks	2
4.	2163CS457	Reinforcement Learning	NPTEL	12 Weeks	2
5.	2163CS458	Applied Accelerated Artificial Intelligence	NPTEL	12 Weeks	2
6.	2163CS459	Design & Implementation of Human-Computer Interfaces	NPTEL	12 Weeks	2
7.	2163CS460	Introduction To Haskell Programming	NPTEL	8 Weeks	1
8.	2163CS461	Pattern Recognition and Application	NPTEL	12 Weeks	2

Items to be Ratified

12 Ratification of following **new course offered** and the course contents under **Institute Elective – General Engineering Category** during Summer Semester 2022-2023 for B.Tech(CSE) under regulation **VTUR15** in view of **Skill enhancement and Employability** suggested by Semiens. (Annexure-XI)

Course Code	Course Name	Category	Credit
1154GE204	Low-Code Development Intermediate Level	Institute Elective	2

13. Ratification of courses offered by **Industry Experts** for B.Tech(CSE) for **Skill enhancement and Employment opportunities**under Industry/Higher Institute Interaction LearningCategory during the **Winter semester of academic year 2022-2023** for B.Tech(CSE) (Annexure-XII)

S.No	Course Code	Course Name
1	1157CS126	Game Development for Android
2	1157CS132	Deep Learning Approaches
3	1157CS135	Introduction to Convolutional Neural networks
4	1157CS134	Fundamentals of Deep Learning
5	1157CS133	Theory and Application of Smart IoT
6	1157CS124	Hardware and Software Components for building Smart IoT
`7	1157CS138	Digital Forensics and Incident Response
8	1157CS137	Cybersecurity Threat Defense and Incident Handling
9	1157CS128	ML Ops: Machine Learning Operations
10	1157CS129	Metaverse
11	1157CS130	ARM architecture
12	1157CS131	Federated Learning
13	1157CS132	IoS Apps development

14. Ratification of **Value added Courses** offered during the Winter Semester 2022-2023 for B.Tech(CSE). (Annexure-XIII)

15 Any other cognate item

School of Computing
37th MEETING of BOARD of STUDIES
For
B.Tech(CSE), M.Tech(CSE), M.Tech(BDA), and M.Tech(NE)

Date: 27.05.2023 – 10.00 am
Venue: 33023

Members Present:

Sl.No	Name and Designation	Nominee	Signature
1	Dr. V. Srinivasa Rao, Professor & Dean(SoC) Vel Tech	Chairperson	
2	Dr.Debasis Samanta Associate Professor Department of Computer Science and Engineering, IIT Kharagpur,	Academic Expert Nominee	
3	Dr. Sarma Venkataraman (Retired as Group Director from ISRO/DoS in June 2020) Director, CR Rao AIMSCS. University of Hyderabad Campus, Gachibowli, Telangana.	Academic Expert Nominee	
4	Mr. Subbaraman Balasubramanyan Vice President - Strategic Initiatives - HCL Technologies Ltd Immediate Past-Chairman - CII - Madurai Zone, Madurai, Tamil Nadu.	Industry Expert Nominee	
5	Mr.Ashwin RaghunathaChari Vice President, Global Insurance Capgemini, India	Industry Expert Nominee	
6	Mr.Beniston Alumni, 2011 Passed out Associate Director, Bounteous, Chennai	Alumni	
7	Dr.E.Kannan, Professor, CSE, Vel Tech	Professor Nominee	
8	Dr.N.Malarvizhi, Professor, CSE, Vel Tech	Professor Nominee	
9	Dr.R.Suguna, Professor, CSE, Vel Tech	Professor Nominee	
10	Dr.N.Gomathi, Professor, CSE, Vel Tech	Professor Nominee	
11	Dr.M.Kavitha, Professor, CSE, Vel Tech	Professor Nominee	
12	Dr.N.R.Rajalakshmi, Professor, CSE, Vel Tech	Professor Nominee	
13	Dr.M.ShyamalaDevi, Professor, CSE, Vel Tech	Professor Nominee	
14	Dr.R.Srinivasan, Professor, CSE, Vel Tech	Professor Nominee	
15	Dr.S.Sridevi, Professor, CSE, Vel Tech	Professor Nominee	
16	Dr.A.Bhagyalakshmi, Professor, CSE, Vel Tech	Professor Nominee	

17	Dr.S.Jagan, Professor, CSE, Vel Tech	Professor Nominee	
18	Dr.M.S.Muralidhar, Associate Professor & Head, CSE, Vel Tech	Associate Professor Nominee	
19	Dr.G.Tamilmani, Associate Professor, CSE, Vel Tech	Associate Professor Nominee	
20	Mrs.V.Usha, Associate Professor, CSE, Vel Tech	Assistant Professor Nominee	
21	Mr.A.S. Syed Fiaz, Assistant Professor, CSE, Vel Tech	Assistant Professor Nominee	

Invited Members

S.No	Name	Designation
1	Dr.V.DhilipKumar	Associate Professor & Head, Dept of AI&DS
2	Dr.R.Parthasarathy	Associate Professor & Head, Dept of CSD

The Chair expressed his happiness in welcoming all the members for the 37th meeting of BOS and thanked them for sparing their valuable time.

<table>
<tr><td>37-BoS-01</td><td>Confirmation of 36thBoS meeting minutes held on 25.02.2023</td></tr>
<tr><td>Action Taken:</td><td>The minutes of 36th BoS meeting minutes held on 25.02.2023 was circulated to members through e-mail, the members confirmed the minutes.
[Annexure - I]</td></tr>
<tr><td>37-BoS-02</td><td>To review the Action Taken Report on the minutes of the 36th meeting of the Board of Studies</td></tr>
<tr><td>Resolution</td><td>The members reviewed the action taken report on the decisions of 35th BoS meeting minutes held on 25.02.2023 [Annexure - II]</td></tr>
<tr><td colspan="2">Items to be Considered</td></tr>
<tr><td>37-BoS-03</td><td>To discuss and approve any changes in the Program Core Course Structure and course contents proposed in this BoS, to be offered in the programme B.Tech Computer Science and Engineering under the regulation VTR UGE 2021 keeping in view of National Education Policy (NEP) 2020, ACM IEEE, AICTE Model Curriculum, NASSCOM and Digital India Skills to be implemented with effect from the academic year Summer2023-2024</td></tr>
<tr><td>Discussion</td><td>Chairman presented the changes made in the Program Core courses
Dr. Sarma Venkataraman suggested to expand network security or to remove security concepts.
Dr.Arish suggested to change the title of Unit – II as Data Pre processing in Machine Learning Course and suggested to remove text classification use case.</td></tr>
<tr><td>Resolution</td><td>By considering the suggestion of the members, some changes are made in the course contents of the Program Core course. The approved courses will be offered with effect from Summer 2023-2024. Course structure and details are available in [Annexure - III]</td></tr>
<tr><td>37-BoS-04</td><td>To discuss and approve any changes in the Program Electives category and in various specialization in the <u>existing B.Tech (CSE) curriculum VTR UGE 2021</u> keeping in view of NEP 2020, ACM IEEE, AICTE Model Curriculum, NASSCOM and Digital India Skills to be implemented with effect from the academic year Summer 2023 - 2024 in view of employability and Skill</td></tr>
<tr><td>Discussion</td><td>Chairman presented the changes made in the Program Elective courses
Dr. Sarma Venkataraman suggested to tie up with hospitals so that datasets can be collected for health care analysis and also suggested to keep High Performance Computing related courses by taking guidance from CDAC, Pune.

Dr.Arish suggested to give equal weightage to regression, classification and clustering concepts and also said that use cases should with different dataset can be given to students to explore.</td></tr>
<tr><td>Resolution</td><td>The suggestion of all the members are considered and changes will be made in the specialization tracks accordingly. The approved courses will be offered with effect from Summer 2023-2024. Course structure and details are available in[Annexure - IV]</td></tr>
<tr><td>37-BoS-05</td><td>To discuss and approve the introduction of <u>new industry (ATOS) collaborated specialization Cloud Infrastructure Management in the existing</u> B<u>.Tech (CSE) curriculum under the regulation VTR UGE 2021</u> to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill</td></tr>
<tr><td>Discussion</td><td>Chairman presented the courses under new specialization <u>Cloud Infrastructure Management</u>
<table>
<tr><th>S.No</th><th>Course Code</th><th>Course Name</th><th>L</th><th>T</th><th>P</th><th>C</th></tr>
<tr><td>1</td><td>10212CS251</td><td>Virtualization Techniques</td><td>2</td><td>0</td><td>2</td><td>3</td></tr>
<tr><td>2</td><td>10212CS252</td><td>Windows Client Administration Operating System</td><td>2</td><td>0</td><td>2</td><td>3</td></tr>
</table></td></tr>
</table>

	3	10212CS253	Windows Server Administration Operating System	2	0	2	3
	4	10212CS254	Cloud Fundamentals using Azure	2	0	2	3
	5	10212CS255	Administering Microsoft Exchange Server	2	0	2	3
	6	10212CS256	Office 365 Administration	2	0	2	3

All members appreciated the initiatives taken in collaborating with ATOS for offering courses as per the industry requirements for students better skilling

Resolution

Experts reviewed and approved the courses and course contents of new specialization Cloud Infrastructure Management. Course structure and details are available in [Annexure - V]

37-BoS-06

To discuss and approve the introduction of **new industry (ATOS) collaborated specialization Network and Server Management in the existing** B**.Tech (CSE) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill

Discussion

Chairman presented the courses under new specialization **Network and Server Management**

S.No	Course Code	Course Name	L	T	P	C
1	10212CS257	Data Center Hosting – Windows operating System	2	0	2	3
2	10212CS258	Data Center Hosting – Unix operating System	2	0	2	3
3	10212CS259	Advanced Switching and Networking Techniques	2	0	2	3
4	10212CS260	Advanced Routing Techniques and Security	2	0	2	3
5	10212CS261	Juniper Networking Techniques	2	0	2	3
6	10212CS262	Storage Management	2	0	2	3

All members appreciated the initiatives taken in collaborating with ATOS for offering courses as per the industry requirements for students better skilling

Resolution

Experts reviewed and approved the courses and course contents of new specialization Network and Server Management. Course structure and details are available in [Annexure - VI]

37-BoS-07

To discuss and approve the introduction of **new industry (ATOS) collaborated specialization Application Modernization Service in the existing** B**.Tech (CSE) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill

Discussion

Chairman presented the courses under new specialization **Application Modernaization Service.**

S.No	Course Code	Course Name	L	T	P	C
1	10212CS263	IIS Web Server Technologies	2	0	2	3
2	10212CS264	Application Server Technologies	2	0	2	3
3	10212CS265	Web Sphere Application Server	2	0	2	3
4	10212CS266	WebSphere MQ	2	0	2	3
5	10212CS267	Middleware Technologies	2	0	2	3
6	10212CS268	Database Administration Using MSSQL Server	2	0	2	3
7	10212CS269	Oracle Database Administration	2	0	2	3

All members appreciated the initiatives taken in collaborating with ATOS for offering courses as per the industry requirements for students better skilling

Resolution

Experts reviewed and approved the courses and course contents of new specialization Application Modernization Service. Course structure and details are available in [Annexure - VII]

37-BoS-08

To discuss and approve the introduction of **new industry (ATOS) collaborated specialization MainFrame in the existing** B**.Tech (CSE) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill

Discussion

Chairman presented the courses under new specialization **Mainframe**

S.No	Course Code	Course Name	L	T	P	C
1	10212CS270	Introduction to System Programming zOS commands and Panel on IBMZ	2	0	2	3
2	10212CS271	Fundamentals of Networking, CICS and IMS	2	0	2	3
3	10212CS272	zOS Administration	2	0	2	3
4	10212CS273	zOS System Service Structure	2	0	2	3
5	10212CS274	IBM System z Parallel Sysplex Operations	2	0	2	3
6	10212CS275	IBM MQ System Administration for zOS	2	0	2	3

Dr. Sarma Venkataraman suggested that based on market viability Mainframe courses can be offered. He also suggested to educate the students before offering ATOS courses. All members appreciated the initiatives taken in collaborating with ATOS for offering courses as per the industry requirements for students better skilling.

Resolution

Experts reviewed and approved the courses and course contents of new specialization Mainframe. Course structure and details are available in [Annexure - VIII]

37-BoS-09

To discuss and approve the introduction of new courses under Program Elective Category and in various specialization **in the existing** B**.Tech (CSE) curriculum under the regulation VTU R15** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill

Discussion

Chairman presented the new courses under under Program Elective Category and in various specialization **in the existing** B**.Tech (CSE) curriculum under the regulation VTU R15**

B.Tech CSE with specialization in Data Analytics

S.No	Course Code	Course Name	L	T	P	C
1	1152CS239	Introduction to Data Science	2	0	2	3
2	1152CS243	Data Visualization Techniques	2	0	2	3
3	1152CS244	Predictive modelling and Analytics	2	0	2	3
4	1152CS245	Introduction to Deep Learning	2	0	2	3

B.Tech CSE with specialization in Networking and Cyber Security

S.No	Course Code	Course Name	L	T	P	C
1	1152CS237	Digital Forensics	2	0	2	3
2	1152CS238	Blockchain Technology and its Application	2	0	2	3
3	1152CS241	Identity Access Management	2	0	2	3
4	1152CS242	Fundamentals of Cloud Security	2	0	2	3
5	1152CS247	Introduction to IBM z/OS and Mainframe Computers	2	0	2	3

B.Tech CSE with specialization in Artificial Intelligence

S.No	Course Code	Course Name	L	T	P	C
1	1152CS238	Blockchain Technology and its Application	2	0	2	3

		2	1152CS240	Natural Language Processing	2	0	2	3
		3	1152CS243	Data Visualization Techniques	2	0	2	3
		4	1152CS245	Introduction to Deep Learning	2	0	2	3
		5	1152CS246	Computer Vision	2	0	2	3
Resolution	Experts approved the introduction of 11 new courses under Program Elective Category and in various specialization in the B.Tech (CSE) curriculum under the regulation VTU R15 to be offered with effect from Summer 2023-2024. Course structure and details are available in [Annexure - IX]							
37-BoS-10	To discuss and approve the courses to be offered in Online MOOCs platforms under Open Elective Category for B.Tech (CSE) under regulation VTR UGE 2021 and Independent Learning Category (MOOCs) for B.Tech CSE under regulation VTU R15 during the Summer 2023-2024. (Annexure-X)							
Discussion	Chairman presented the courses to be offered in Online MOOCs platforms under Open Elective Category for B.Tech (CSE) under regulation VTR UGE 2021 and Independent Learning Category (MOOCs) for B.Tech CSE under regulation VTU R15 during the Summer 2023-2024.							
Resolution	Experts approved the courses to be offered in Online MOOCs platforms under Open Elective Category for B.Tech (CSE) under regulation VTR UGE 2021 and Independent Learning Category (MOOCs) for B.Tech CSE under regulation VTU R15 during the Summer 2023-2024. Course structure and details are available in [Annexure - X]							
37-BoS-11	To discuss and approve the courses to be offered in Online MOOCs platforms **under Independent Learning Category (MOOCs)** during the Summer 2023-2024 for PG programmes.							
Discussion	Chairman presented the courses to be offered in Online MOOCs platforms **under Independent Learning Category (MOOCs)** during the Summer 2023-2024 for PG programmes.							
Resolution	Experts approved the courses to be offered in Online MOOCs platforms **under Independent Learning Category (MOOCs)** during the Summer 2023-2024 for PG programmes. Course structure and details are available in [Annexure - X]							
Items to Ratified								
37-BoS-12	Ratification of following **new course offered** and the course contents under **Institute Elective – General Engineering Category** during Summer Semester 2022-2023 for B.Tech(CSE) under regulation **VTUR15** in view of **Skill enhancement and Employability** suggested by Semiens.							
Discussion	Chairman presented the new course offered and the course contents under Institute Elective – General Engineering Category during Summer Semester 2022-2023 for B.Tech(CSE) under regulation VTUR15 in view of Skill enhancement and Employability suggested by Semiens.							
Resolution	Experts ratified the industry collaborated Low Code Development course offered under Institute Elective category. Course Content is available in [Annexure-XI]							
37-BoS-13	Ratification of courses offered by **Industry Experts** for B.Tech(CSE) for **Skill enhancement and Employment opportunities** under Industry/Higher Institute Interaction LearningCategory during the **Winter semester of academic year 2022-2023** for B.Tech(CSE)							
Discussion	Chairman presented the courses offered by **Industry Experts** for B.Tech(CSE) for **Skill enhancement and Employment opportunities** under Industry/Higher Institute Interaction LearningCategory during the **Winter semester of academic year 2022-2023** for B.Tech(CSE)							
Resolution	Experts ratified the courses offered by Industry Experts for B.Tech(CSE) for Skill enhancement and Employment opportunitiesunder Industry/Higher Institute Interaction LearningCategory during the Winter semester of academic year 2022-2023 for B.Tech(CSE). Course Content is available in [Annexure-XII]							

37-BoS-14	Ratification of **Value added Courses** offered during the Winter Semester 2022-2023 for B.Tech(CSE).
Discussion	Chairman presented the **Value added Courses** offered during the Winter Semester 2022-2023 for B.Tech(CSE).
Resolution	Experts ratified the the **Value added Courses** offered during the Winter Semester 2022-2023 for B.Tech(CSE). Course Content is available in [Annexure-XIII]
37-BoS-14	Any other Cognate Item
Discussion	Mr.Ashwin suggested to implement pedagogical approaches based on the type of the course which improves the understanding level of students. Dr. Sarma Venkataraman suggested that Hackathons shall be conducted for few courses and evaluation need to be done based on the Institutional facility. So that students will get experiential learning and Competency skill ability.

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

4th MEETING of BOARD of STUDIES

Minutes

for

B.Tech Computer Science and Design

Programme[CBCS]

On

27.05.2023

B.Tech Computer Science and Design

School of Computing

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6	Discuss on the courses to be offered in Online MOOCs platforms under Open Elective Category	6
7	Any other Items	6
8	ANNEXURE-I – [Confirmation of 3rd BoS meeting minutes]	7
9	ANNEXURE-II – [Action Taken Report]	8
10	ANNEXURE-III – [Approval of Foundation Core, Program Core Course Structure and course contents of few Program Electives]	10
11	ANNEXURE-IV – [Approval of courses to be offered in Online MOOCs platforms under Open Elective Category]	39

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

School of Computing
4th MEETING of BOARD of STUDIES
For
B.Tech Computer Science and Design

Date: 27.05.2023 – 2.00 pm
Venue: SoC Block

<table>
<tr><th>Item No</th><th>Agenda</th></tr>
<tr><td colspan="2">A. Opening</td></tr>
<tr><td>1.</td><td>Confirmation of 3rd BoS meeting minutes held on 29.10.2022</td></tr>
<tr><td>2.</td><td>To review the Action Taken Report on the minutes of the 3rd meeting of the Board of Studies</td></tr>
<tr><td colspan="2">B. Items to be considered</td></tr>
<tr><td>3.</td><td>To discuss and approve any changes in the Program Core Course Structure and course contents of few Program Electives are proposed in this BoS as per the list attached, to be offered in the programme B.Tech Computer Science and Design under the regulation VTR UGE 2021 with effect from Summer 2023-2024</td></tr>
<tr><td>4.</td><td>To discuss and approve the courses to be offered in Online MOOCs platforms under Open Elective Category during the academic year Summer 2023-2024for B.Tech Computer Science and Design
<table>
<tr><th>S. No</th><th>Course Code</th><th>Course Name</th><th>L</th><th>P</th><th>C</th><th>Offered by</th></tr>
<tr><td>1</td><td>10213GE301</td><td>Programming Challenges</td><td>0</td><td>4</td><td>2</td><td>Leet Code</td></tr>
</table>
<table>
<tr><th>S. No</th><th>Course Code</th><th>Course Name</th><th>Course Provider</th><th>Duration in weeks</th><th>Credits</th></tr>
<tr><td>1.</td><td>10213CD411</td><td>Next Generation Sequencing Technologies: Data Analysis and Applications</td><td>NPTEL</td><td>12 weeks</td><td>2</td></tr>
<tr><td>2.</td><td>10213CD412</td><td>Genetic Engineering: Theory and Application</td><td>NPTEL</td><td>12 Weeks</td><td>2</td></tr>
<tr><td>3.</td><td>10213CD413</td><td>Medical Image Analysis</td><td>NPTEL</td><td>12 Weeks</td><td>2</td></tr>
<tr><td>4.</td><td>10213CD415</td><td>Applied Accelerated Artificial Intelligence</td><td>NPTEL</td><td>12 Weeks</td><td>2</td></tr>
<tr><td>5.</td><td>10213CD416</td><td>Design & Implementation of Human-Computer Interfaces</td><td>NPTEL</td><td>12 Weeks</td><td>2</td></tr>
<tr><td>6.</td><td>10213CD418</td><td>Pattern Recognition and Application</td><td>NPTEL</td><td>12 Weeks</td><td>2</td></tr>
</table>
</td></tr>
<tr><td>5.</td><td>Any other cognate item</td></tr>
</table>

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

School of Computing
4th MEETING of BOARD of STUDIES
For
B.Tech Computer Science and Design

Date: 27.05.2023 – 2.00 pm
Venue: SoC Block

Members Present:

Sl.No	Name and Designation	Nominee	Signature
1	Dr. V. Srinivasa Rao, Professor, Dean (SoC)	Chairperson	
2	Dr. C. Mala, Professor Department of Computer Science Engineering NIT, Tiruchirapalli, Tamil Nadu	Academic Expert Nominee	
3	Dr. Komondoor V.Raghavan Associate Professor Department of Computer Science and Automation Indian Institute of Science, Bangalore, Karnataka	Academic Expert Nominee	
4	Mr. Sivaprakasam Perumal Software Engineer, Hewlett-Packard Enterprise, Chennai, Tamil Nadu	Industry Expert Nominee	
5	Mr. E. Sunil, Assistant General Manager, ATRIA Convergence Technologies Ltd, T.Nagar, Chennai, Tamil Nadu	Industry Expert Nominee	
6	Ms. Malini Associate Consultant- Data Analytics Det Norske Veritas	Alumni	
7	Dr. N. Malarvizhi, Professor	Professor Nominee	
8	Dr. M. Kavitha, Professor	Professor Nominee	
9	Dr. N.R. Rajalakshmi, Professor	Professor Nominee	
10	Dr. M. Shyamala Devi, Professor	Professor Nominee	
11	Dr. R. Srinivasan, Professor	Professor Nominee	
12	Dr. J. Visumathi, Professor	Professor Nominee	
13	Dr. S. Sridevi, Professor	Professor Nominee	
14	Dr. A. Bhagyalakshmi, Professor	Professor Nominee	
15	Dr. S. Jagan, Professor	Professor Nominee	

16	Dr. N. Rajkumar, Professor	Professor Nominee	
17	Dr.V.Dhilipkumar, Associate Professor and Head – AI & DS	Associate Professor Nominee	
18	Dr. R. Parthasarathy, Associate Professor and Head - CSD	Associate Professor Nominee	
19	Mrs. T. Kujani, Assistant Professor	Assistant Professor Nominee	
20	Mrs. C. Shyamala Kumari, Assistant Professor	Assistant Professor Nominee	

Invited Members

S.No	Name	Designation
1	Dr.M.S.Muralidhar	Associate Professor – Head - CSE

The Chair expressed his happiness in welcoming all the members for the 4th meeting of BOS and thanked them for sparing their valuable time.

04-BoS-01	Confirmation of 3rd BoS meeting minutes held on 29.10.2022
Action Taken:	The minutes of 3rd BoS meeting minutes held on 29.10.2022 was circulated to members through e-mail, the members confirmed the minutes. [Annexure - I]
04-BoS-02	To review the Action Taken Report on the minutes of the 3rd meeting of the Board of Studies
Resolution	The members reviewed the action taken report on the decisions of 3rd BoS meeting minutes held on 29.10.2022 [Annexure - II]
04-BoS-03	To discuss and approve any changes in the Program Core Course Structure and course contents of few Program Electives are proposed in this BoS as per the list attached, to be offered in the programme B.Tech Computer Science and Design under the regulation VTR UGE 2021 with effect from Summer 2023-2024
Discussion	Experts suggested that students shall use different datasets for same case study during practical sessions. They also suggested to include tutorial and practice hours for few courses. Dr. Komondoor V. Raghavan suggested to include courses related to design of hardware and design of systems keeping in view of recent trends.
Resolution	By considering the suggestion of the members, changes and these will be offered with effect from Summer 2023-2024. Course structure and details are available in [Annexure - III]
04-BoS-04	To discuss and approve the courses to be offered in Online MOOCs platforms under Open Elective Category during the academic year Summer 2023-2024 for B.Tech Computer Science and Design
Resolution	The members approved the following list of MOOC courses and course content to be offered under Open Elective Category during the academic year Summer, 2023-2024 for B.Tech Computer Science and Design. [Annexure-IV]
04-BoS-05	Any other Cognate Item
Resolution	The next BoS meeting will be conducted in Oct / Nov 2023

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

2nd MEETING of BOARD of STUDIES

Minutes

for

B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) Programme

[CBCS]

On

05.06.2023

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6.	**Annexure - IV** - To discuss and approve any changes in the Program Electives category	31

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)

School of Computing

2nd MEETING of BOARD of STUDIES
For
B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)

Date: 05.06.2023
Time : 2.30 pm
Venue: 33023

AGENDA

Item No	Agenda
A. Opening	
1.	Confirmation of 1st BoS meeting minutes held on 22.10.2022 (Annexure-I)
2.	To review the Action Taken Report on the minutes of the 1st meeting of the Board of Studies (Annexure-II)
B. Items to be considered	
3.	To discuss and approve the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) under the regulation VTR UGE 2021 with effect from 2023-2024. (Annexure-III)
4.	To discuss and approve the few courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) under the regulation VTR UGE 2021 with effect from 2023-2024. (Annexure-IV)
5.	Any other cognate item

School of Computing
1st Meeting of Board of Studies
For
B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)

Members Present: **Date:05.06.2023**

Sl.No	Name and Designation	Nominee	Signature
1	Dr. V. Srinivasa Rao, Professor and Dean, SoC, Vel Tech	Chairperson	
2	Dr.V.Masilamani, Associate Professor & Head Department of Computer Science Engineering IIITDM Kancheepuram, Chennai, Tamil Nadu	Academic Expert Nominee	
3	Dr.Saravanan Krishnan Senior Assistant Professor& Head, Department of Computer Science Engineering Anna University, Tirunelveli, Tamil Nadu	Academic Expert Nominee	
4	Ms.T. K.Chandravadhana, Senior Technical Consultant and Atos Expert, Java Cloud Full Stack Engineer , Atos FSI, Chennai, Tamil Nadu	Industry Expert Nominee	
5	R.V.Chandrashekhar, Manager - Cyber Liaison Ford Motor Private Ltd, Chennai, Tamil Nadu	Alumni	
6	Dr.M.Kavitha Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
7	Dr.N.R.Rajalakshmi Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
8	Dr.S.Sridevi Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
9	Dr.M.S.Muralidhar	Associate Professor	

	Associate Professor & Head Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Nominee	
10	Dr.V.Dhilip kumar Associate Professor & Head Department of AI & DS Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Associate Professor Nominee	
11	Dr.R.Thangaselvi Assistant Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Assistant Professor Nominee	
12	Mrs.K.Prema Assistant Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Assistant Professor Nominee	

Invited Members

S.No	Name	Designation
1	Dr.J.Visumathi	Professor and Head, Department of IT, Vel Tech
2	Mrs.Kujani	Assistant Professor, CSE, Vel Tech

The Chair expressed his happiness in welcoming all the members for the 2nd meeting of BOS and thanked them for sparing their valuable time.

02-BoS-03	**To discuss and approve the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) under the regulation VTR UGE 2021 with effect from 2023-2024.**
Discussion	Chairman BoS presented the proposed credit structure and course categories to be offered in the new programme B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) under the regulation VTR UGE 2021 **Dr.V.Masilamani** suggested to include edge computing concepts in the Microprocessor course **Dr.Saravanan Krishnan** suggested to include ETL tools in Machine Learning Course
Resolution	The members approved the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) under the regulation VTR UGE 2021 with effect from 2023-2024. Course Structure and Course details are shown in (Annexure-III)
02-BoS-04	**To discuss and approve the few courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) under the regulation VTR UGE 2021 with effect from 2023-2024.**
Discussion	**The Chairman BoS** presented the courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) under the regulation VTR UGE 2021 with effect from 2023-2024.
Resolution	The members approved the courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) under the regulation VTR UGE 2021 to be offered with effect from 2023-2024. Course Structure and Course details are shown in (Annexure-IV)
02-BoS-05	**Any other Cognate Item**
Resolution	The Chairman informed next BoS meeting may be scheduled in the month of December 2023

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

2nd MEETING of BOARD of STUDIES

Minutes

for

B.Tech Computer Science and Engineering

(Cyber Security) Programme

[CBCS]

On

05.06.2023

B.Tech Computer Science and Engineering (Cyber Security)

School of Computing

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6.	**Annexure - IV** - To discuss and approve any changes in the Program Electives category	30

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)
Avadi, Chennai-600062, Tamil Nadu, India

2nd MEETING of BOARD of STUDIES
For
B.Tech Computer Science and Engineering (Cyber Security)

Date: 05.06.2023
Time : 2.30 pm
Venue: 33023

AGENDA

Item No	Agenda
A. Opening	
1.	Confirmation of 1st BoS meeting minutes held on 22.10.2022 (Annexure-I)
2.	To review the Action Taken Report on the minutes of the 1st meeting of the Board of Studies (Annexure-II)
B. Items to be considered	
3.	To discuss and approve the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Cyber Security) under the regulation VTR UGE 2021 with effect from 2023-2024. (Annexure-III)
4.	To discuss and approve the few courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Cyber Security) under the regulation VTR UGE 2021 with effect from 2023-2024. (Annexure-IV)
5.	Any other cognate item

School of Computing
2nd Meeting of Board of Studies
For
B.Tech Computer Science and Engineering (Cyber Security)

Members Present: **Date:05.06.2023**

Sl.No	Name and Designation	Nominee	Signature
1	Dr. V. Srinivasa Rao, Professor and Dean, SoC, Vel Tech	Chairperson	
2	Dr.V.Masilamani, Associate Professor & Head Department of Computer Science Engineering IIITDM Kancheepuram, Chennai, Tamil Nadu	Academic Expert Nominee	
3	Dr.Saravanan Krishnan Senior Assistant Professor& Head, Department of Computer Science Engineering Anna University, Tirunelveli, Tamil Nadu	Academic Expert Nominee	
4	Ms.T. K.Chandravadhana, Senior Technical Consultant and Atos Expert, Java Cloud Full Stack Engineer , Atos FSI, Chennai, Tamil Nadu	Industry Expert Nominee	
5	R.V.Chandrashekhar, Manager - Cyber Liaison Ford Motor Private Ltd, Chennai, Tamil Nadu	Alumni	
6	Dr.M.Kavitha Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
7	Dr.N.R.Rajalakshmi Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
8	Dr.S.Sridevi Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
9	Dr.M.S.Muralidhar	Associate Professor	

	Associate Professor & Head Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Nominee	
10	Dr.V.Dhilip kumar Associate Professor & Head Department of AI & DS Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Associate Professor Nominee	
11	Dr.R.Thangaselvi Assistant Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Assistant Professor Nominee	
12	Mrs.K.Prema Assistant Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Assistant Professor Nominee	

Invited Members

S.No	Name	Designation
1	Dr.J.Visumathi	Professor and Head, Department of IT, Vel Tech
2	Mrs.Kujani	Assistant Professor, CSE, Vel Tech

The Chair expressed his happiness in welcoming all the members for the 2nd meeting of BOS and thanked them for sparing their valuable time.

02-BoS-03	**To discuss and approve the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Cyber Security) under the regulation VTR UGE 2021 with effect from 2023-2024.**
Discussion	Chairman BoS presented the proposed credit structure and course categories to be offered in the new programme B.Tech Computer Science and Engineering (Cyber Security) under the regulation VTR UGE 2021 **Dr.V.Masilamani** suggested to include edge computing concepts in the Microprocessor course
Resolution	The members approved the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Cyber Security) under the regulation VTR UGE 2021 with effect from 2023-2024. Course Structure and Course details are shown in (Annexure-III)
02-BoS-04	**To discuss and approve the few courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Cyber Security) under the regulation VTR UGE 2021 with effect from 2023-2024.**
Discussion	**Dr.V.Masilamani** suggested to include security related concepts in Artificial Intelligence course.
Resolution	The members approved the courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Cyber Security) under the regulation VTR UGE 2021 to be offered with effect from 2023-2024. Course Structure and Course details are shown in (Annexure-IV)
02-BoS-05	**Any other Cognate Item**
Resolution	The Chairman informed next BoS meeting may be scheduled in the month of December 2023

2nd MEETING of BOARD of STUDIES

Minutes

for

B.Tech Computer Science and Engineering (Data Science) Programme

[CBCS]

On

05.06.2023

B.Tech Computer Science and Engineering (Data Science)

School of Computing

2nd MEETING of BOARD of STUDIES
For
B.Tech Computer Science and Engineering (Data Science)

Date: 05.06.2023
Time : 2.30 pm
Venue: 33023

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6.	**Annexure - IV** - To discuss and approve any changes in the Program Electives category	30

B.Tech Computer Science and Engineering (Data Science)

School of Computing

2nd MEETING of BOARD of STUDIES
For
B.Tech Computer Science and Engineering (Data Science)

Date: 05.06.2023
Time : 2.30 pm
Venue: 33023

AGENDA

Item No	Agenda
A. Opening	
1.	Confirmation of 1st BoS meeting minutes held on 22.10.2022 (Annexure-I)
2.	To review the Action Taken Report on the minutes of the 1st meeting of the Board of Studies (Annexure-II)
B. Items to be considered	
3.	To discuss and approve the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Data Science) under the regulation VTR UGE 2021 with effect from 2023-2024. (Annexure-III)
4.	To discuss and approve the few courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Data Science) under the regulation VTR UGE 2021 with effect from 2023-2024. (Annexure-IV)
5.	Any other cognate item

School of Computing
2nd Meeting of Board of Studies
For
B.Tech Computer Science and Engineering (Data Science)

Members Present: **Date:05.06.2023**

Sl.No	Name and Designation	Nominee	Signature
1	Dr. V. Srinivasa Rao, Professor and Dean, SoC, Vel Tech	Chairperson	
2	Dr.V.Masilamani, Associate Professor & Head Department of Computer Science Engineering IIITDM Kancheepuram, Chennai, Tamil Nadu	Academic Expert Nominee	
3	Dr.Saravanan Krishnan Senior Assistant Professor& Head, Department of Computer Science Engineering Anna University, Tirunelveli, Tamil Nadu	Academic Expert Nominee	
4	Ms.T. K.Chandravadhana, Senior Technical Consultant and Atos Expert, Java Cloud Full Stack Engineer , Atos FSI, Chennai, Tamil Nadu	Industry Expert Nominee	
5	R.V.Chandrashekhar, Manager - Cyber Liaison Ford Motor Private Ltd, Chennai, Tamil Nadu	Alumni	
6	Dr.M.Kavitha Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
7	Dr.N.R.Rajalakshmi Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
8	Dr.S.Sridevi Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Professor Nominee	
9	Dr.M.S.Muralidhar Associate Professor & Head Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Associate Professor Nominee	
10	Dr.V.Dhilip kumar	Associate Professor	

	Associate Professor & Head Department of AI & DS Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Nominee	
11	Dr.R.Thangaselvi Assistant Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Assistant Professor Nominee	
12	Mrs.K.Prema Assistant Professor, Department of CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology	Assistant Professor Nominee	

Invited Members

S.No	Name	Designation
1	Dr.J.Visumathi	Professor and Head, Department of IT, Vel Tech
2	Mrs.Kujani	Assistant Professor, CSE, Vel Tech

The Chair expressed his happiness in welcoming all the members for the 2nd meeting of BOS and thanked them for sparing their valuable time.

02-BoS-03	**To discuss and approve the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Data Science) under the regulation VTR UGE 2021 with effect from 2023-2024.**
Discussion	Chairman BoS presented the proposed credit structure and course categories to be offered in the new programme B.Tech Computer Science and Engineering (Data Science) under the regulation VTR UGE 2021 **Dr.V.Masilamani** suggested to include edge computing concepts in the Microprocessor course
Resolution	The members approved the changes made in the courses and course contents of Program Core courses to be offered in the programme B.Tech Computer Science and Engineering (Data Science) under the regulation VTR UGE 2021 with effect from 2023-2024. Course Structure and Course details are shown in (Annexure-III)
02-BoS-04	**To discuss and approve the few courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Data Science) under the regulation VTR UGE 2021 with effect from 2023-2024.**
Discussion	Experts suggested to change the title of Data Science Course and also suggested few changes in the course contents
Resolution	The members approved the courses and course contents under Program Elective category to be offered in the programme B.Tech Computer Science and Engineering (Data Science) under the regulation VTR UGE 2021 to be offered with effect from 2023-2024. Course Structure and Course details are shown in (Annexure-IV)
02-BoS-05	**Any other Cognate Item**
Resolution	The Chairman informed next BoS meeting may be scheduled in the month of December 2023

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF ELECTRICAL & COMMUNICATION

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

30th MEETING - BOARD OF STUDIES

Date: 03-06-2023 Time: 10:30 A.M. Venue: Simulation Lab, Room No.2213

AGENDA

Items for confirmation

30.01 To confirm and approve the 29th Minutes of Board of Studies meeting of Electrical and Electronics Engineering held on 12thDecember 2022.

30.02 To record the leave of absence of members

Items for discussion

30.03 Curriculum and syllabi of **Program Core Courses** for M.Tech. Power Electronics Programme under New Regulations "**VTU PGE 2023**"

30.04 Curriculum and syllabi of **Program Elective Courses** for M.Tech. Power Electronics Programme under New Regulations "**VTU PGE 2023**"

30.05 Summer semester courses offering list for the academic year (AY) 2023-24

30.06 Self-learning courses from NPTEL/SWAYAM for AY 2023-24

30.07 Industry/Higher Learning Institute Interaction courses for the AY 2023-24

30.08 Policy for identifying slow & advanced learners and activities

Items for ratification

30.09 Ph.D. Course Work: Courses offered inAY 2022-23

30.10 Industry/Higher Learning Institute Interaction courses and Self-learning courses offered in AY 2022-23

Items for reporting

30.11 Result analysis of summer semester AY 2022-23

30.12 Interim feedback analysis of winter semester AY 2022-23

30.13 Faculty and students achievements

30.14 Any other items: NBA Accreditation

BoS Members

S.No.	Name of the Member	Designation
1	**Dr. P. Chandrasekar** Professor and Head Department of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai	Chairman, Board of Studies
External Experts		
2	**Dr. S. Senthil Kumar** Professor Department of Electrical Engineering National Institute of Technology Trichy	Academic Expert
3	**Mr. Kiran Krishna Dhandale** Technical Lead GE Renewables Chennai	Industry Expert
Internal Experts		
4	**Dr. P. K. Dhal** Professor Dept of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai	Member
5	**Dr. S. Ramesh** Professor Dept of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai	Member
6	**Dr. K. Karunanithi** Professor Dept of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai	Member
7	**Dr. S. Sivakumar** Associate Professor Dept of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai	Member
8	**Dr. K. Vinoth** Associate Professor Dept of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai	Member
9	**Dr. K. Karthikumar** Associate Professor Dept of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai	Member

S.No.	Name of the Member	Designation
10	**Mrs. Priscilla Whitin** Assistant Professor Dept of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai	Member
11	**Dr. S. Vinoth John Prakash** Assistant Professor Dept of Electrical and Electronics Engineering Vel Tech RangarajanDr.Sagunthala R&D Institute of Science and Technology Chennai	Member
12	**Mr. R. Sreedhar** Assistant Professor Dept of Electrical and Electronics Engineering Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai	Member
13	**Mr. S.G. Raja,** M.Tech. Batch 2017-2019, Lead Customer Service, Danfoss Industries Pvt.Ltd., Chennai.	Alumni

The Chairman-Board of studies welcomed all the members for the BoS meeting and thanked them for sparing their valuable time. The Chair introduced the External BoS members.

Items for Confirmation

AGENDA 30.01:	**To confirm and approve the 29th Minutes of Board of Studies meeting of Electrical and Electronics Engineering held on 12th December 2022.**
DISCUSSION:	The minutes of meeting of 29th Board of Studies is confirmed and approved.
AGENDA 30.02:	**To record the leave of absence of members**
DISCUSSION:	No absentee

Items for Discussion and Approval

AGENDA 30.03:	**Curriculum and syllabi of program core courses for M.Tech. Power Electronics programme under New Regulations "VTU PGE 2023"**
DISCUSSION:	The curriculum structure and list of program core courses to be offered under New Regulations**"VTU PGE 2023"** for M.Tech. Power Electronics are presented and discussed. The Expert member have given the following suggestions: **Dr. S. Senthil Kumar**, External Expert (Academic) suggested to include the followings:

	▪ Suggested recommended to combine the two program core courses, “Analysis of Power Converters” and “Analysis of Inverters” as a single course in the name of “Analysis of Power Electronics Circuits”. It is also suggested to offer “Power Electronics Drives” course by combining “Solid State DC Drives” and “Solid State AC Drives” courses. • Suggested to offer the following courses as core courses in the First Semester. ➢ Analysis of Power Electronics Circuits. ➢ Switched Mode Power Conversion ➢ Modern Control Theory ➢ Modeling and Analysis of Electrical Machines • Suggested to offer the following courses as core courses in the Second Semester. ➢ Power Electronics Drives ➢ Special Electric Machines ➢ Industrial Control & Automation ➢ Electric Vehicle Technology **Mr.Kiran Krishna Dhandale,** External Expert (Industry) suggested to include the followings: • Suggested to introduce program core courses such as “Electric Vehicle Technology”, “Smart Grid” and “Industrial Control & Automation”. • Suggested to include thermal analysis of machines and power electronics components wherever it is necessary. Also he recommended to add topics relevant to Standard and protocols wherever it is necessary. **Mr.S.G.Raja**, Alumni representative suggested the following: ▪ Modify the existing two laboratory courses viz. Power Electronic Circuit Simulation Laboratory and Power Electronics & Drives Laboratory as “Power Converters Laboratory” and “Power Electronics Drives Laboratory”. The additional simulation experiments on Modelling of EV and renewable energy system is to be included in Power Electronics Drives Laboratory.
ACTION:	The suggestion given by the expert members are incorporated in curriculum and syllabi.
AGENDA 30.04:	**Curriculum and syllabi of program elective courses for M.Tech. Power Electronics Programme under New Regulations "VTU PGE 2023"**
DISCUSSION:	The curriculum structure and list of program elective courses to be offered under New Regulations "VTU PGE 2023" for M.Tech. Power

	Electronics are presented and discussed. **Dr. S. Senthil Kumar**, External Expert (Academic) suggested to include the followings: • Requested to have more number of courses under program elective category. • Insisted to have course related to component sizing of power electronics circuits. • Recommended to offer open elective course in third semester. **Mr.Kiran Krishna Dhandale,** External Expert (Industry) suggested to include the followings: ▪ Further, it is insisted to include the program elective courses viz. "Project Management and Finance", "Electromagnetic Interference and Electromagnetic Compatibility" and also courses related to solar, wind and biomass energy. • Suggested to ensure that independent course "Business Communication/Technical Writing" is aligned in such way that it can focus on writing a research paper. Further, suggested to provide industry internship for the students.
ACTION:	The suggestion given by the expert members are incorporated in curriculum and syllabi.
AGENDA 30.05:	**Summer semester courses offering list for the academic year (AY) 2023-24**
DISCUSSION:	The list of courses to be offered in summer semester AY 2023-24 are discussed and recommended.
ACTION:	It is attached as annexure-I.
AGENDA 30.06:	**Self-learning courses from NPTEL/SWAYAM for AY 2023-24.**
DISCUSSION:	The list of Self-learning courses to be offered from NPTEL/SWAYAM for B.Tech – EEE and M.Tech. - Power Electronics are presented and recommended.
ACTION:	It is attached as annexure-II.
AGENDA 30.07:	**Industry/Higher Learning Institute Interaction courses for the AY 2023-24**
DISCUSSION:	The tentative list of industry/higher learning institute interaction course to be offered during summer semester AY 2023-24 are presented and recommended.
ACTION:	It is attached as annexure-III.
AGENDA 30.08:	**Policy for identifying slow & advanced learners and activities.**
DISCUSSION:	It is discussed and recommended.
ACTION:	It is attached as annexure-IV.

Items for Ratification

AGENDA 30.09:	PhD Course Work: Courses for the AY 2022-23
DISCUSSION:	The syllabus of M.Tech. – Power Electronics programme elective course “Nanotechnology” offered as a Ph.D. programme course work is presented and ratified.
ACTION:	It is attached as annexure-V.
AGENDA 30.10:	**Industry/higher learning institute interaction courses and self-learning courses offered in AY 2022-23**
DISCUSSION:	The industry/higher learning institute interaction course and self-learning courses offered during winter semester AY 2022-23 is presented and ratified.
ACTION:	It is attached as annexure-VI.

Items for Reporting

AGENDA 30.11:	**Result analysis of summer semester AY 2022-23**
DISCUSSION:	The detailed result analysis of summer semester AY 2022-23 is presented and discussed.The experts appreciated the performance of students.
ACTION:	It is attached as annexure-VII.
AGENDA 30.12:	**Interim feedback analysis of winter semester AY 2022-23**
DISCUSSION:	The interim feedback taken during winter semester AY 2022-23 for UG courses are presented and the experts appreciated.
ACTION:	It is attached as annexure-VIII.
AGENDA 30.13:	**Faculty and students achievements AY 2022-23**
DISCUSSION:	The achievements and recognitions of faculty and students during AY 2022-23 are presented. The expert members greatly appreciated the performance of students.
ACTION:	It is attached as annexure-IX.
AGENDA 30.14:	**Any other items: NBA Accreditation**
DISCUSSION:	It is reported to the members of BoS that National Board of Accreditation (NBA) has given three years of accreditation for EEE department (from AY 2022-23 to 2024-25). The expert members greatly appreciated the faculty members for their contribution to attain NBA accreditation.
ACTION:	It is attached as annexure-X.

CHAIRMAN – BoS

M.Tech. Power Electronics
Curriculum
VTU PGE 2023

The minimum credits for completing the M.Tech. Programme in Power Electronics is **80** as per the National Higher Education Qualifications Framework (NHEQF) Level 7 Master's Degree (e.g. M.E.; M.Tech. etc.).

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Curriculum Structure

S.No.	Course Category	Minimum Credits Required
1.	Program Core	34
2.	Program Elective	18
3.	Open Elective	03
4.	Independent Learning	04
5.	Project Work	21
	TOTAL	**80**

SEMESTER – I

S.No.	Course Code	Course Title	L	T	P	C
1.	20231EE101	Analysis of Power Electronics Circuits	3	1	0	4
2.	20231EE102	Switched Mode Power Conversion	3	0	0	3
3.	20231EE103	Modern Control Theory	3	1	0	4
4.	20231EE104	Modeling and Analysis of Electrical Machines	3	1	0	4
5.		**Program Elective I**	3	0	0	3
6.		**Program Elective II**	3	0	0	3
7.		**Independent Learning I***	-	-	-	2
8.	20231EE301	Power Converters Laboratory	0	0	2	1
					Total	**24**

L – Lecture; T-Tutorial; P-Practical; C-Credits

***NPTEL/SWAYAM Course**

SEMESTER – II

S.No.	Course Code	Course Title	L	T	P	C
1.	20231EE105	Power Electronics Drives	3	1	0	4
2.	20231EE106	Special Electric Machines	3	0	0	3
3.	20231EE107	Industrial Control & Automation	3	0	0	3
4.	20231EE108	Electric Vehicle Technology	3	1	0	4
5.		**Program Elective III**	3	0	0	3
6.		**Program Elective IV**	3	0	0	3
7.	20234EE704	**Project Phase I**	0	0	6	3
8.	20231EE302	Power Electronics Drives Laboratory	0	0	2	1
					Total	**24**

SEMESTER – III

S.No.	Course Code	Course Title	L	T	P	C
1.	20231EE109	Smart Grid	3	0	0	3
2.		**Program Elective V**	3	0	0	3
3.		**Program Elective VI**	3	0	0	3
4.		**Open Elective**	3	0	0	3
5.		**Independent Learning II***	-	-	-	2
6.	20234EE705	**Project Phase II**	0	0	12	6
					Total	**20**

***NPTEL/SWAYAM Course**

SEMESTER – IV

S.No.	Course Code	Course Title	L	T	P	C
1.	20234EE706	**Project Phase III**	0	0	24	12
					Total	**12**

Program Core (PC) Courses

S.NO.	COURSE CODE	COURSE NAME	L	T	P	C
1.	20231EE101	Analysis of Power Electronics Circuits	3	1	0	4
2.	20231EE102	Switched Mode Power Conversion	3	0	0	3
3.	20231EE103	Modern Control Theory	3	1	0	4
4.	20231EE104	Modeling and Analysis of Electrical Machines	3	1	0	4
5.	20231EE105	Power Electronics Drives	3	1	0	4
6.	20231EE106	Special Electric Machines	3	0	0	3
7.	20231EE107	Industrial Control & Automation	3	0	0	3
8.	20231EE108	Electric Vehicle Technology	3	0	0	3
9.	20231EE109	Smart Grid	3	0	0	3
LABORATORY COURSES						
10.	20231EE301	Power Converters Laboratory	0	0	2	1
11.	20231EE302	Power Electronics Drives Laboratory	0	0	2	1

Program Elective (PE) Courses

S.NO.	COURSE CODE	COURSE NAME	L	T	P	C
1.	20232EE101	Power Electronics Application in Renewable Energy Systems	3	0	0	3
2.	20232EE102	Control and Instrumentation for Power Electronics System	3	0	0	3
3.	20232EE103	Flexible AC Transmission Systems	3	0	0	3
4.	20232EE104	High Voltage Direct Current Transmission	3	0	0	3
5.	20232EE105	Control & Integration of Renewable Energy Sources	3	0	0	3
6.	20232EE106	Advanced Control System	3	0	0	3
7.	20232EE107	Soft Switching Converter Technologies	3	0	0	3
8.	20232EE108	Industrial Control Electronic	3	0	0	3
9.	20232EE109	Grid Converters For Renewable Energy Applications	3	0	0	3
10.	20232EE110	E-Vehicle Technology and Mobility	3	0	0	3
11.	20232EE111	Instrumentation and Automation	3	0	0	3
12.	20232EE112	Energy Auditing and Management	3	0	0	3
13.	20232EE113	Power Quality	3	0	0	3
14.	20232EE114	Electromagnetic Interference and Compatibility	3	0	0	3
15.	20232EE115	Digital Controller in Power Electronics Applications	3	0	0	3

S.NO.	COURSE CODE	COURSE NAME	L	T	P	C
16.	20232EE116	Control Design Techniques for Power 3 Electronic Systems	3	0	0	3
17.	20232EE117	Evolutionary Algorithms Application in Power Engineering	3	0	0	3
18.	20232EE118	Distributed Generation and Micro-Grids	3	0	0	3
19.	20232EE119	Software Tool for Power Electronics Application	3	0	0	3
20.	20232EE120	IoT for Smart Systems	3	0	0	3
21.	20232EE121	Energy Storage Technologies	3	0	0	3
22.	20232EE122	MEMS Design: Sensors and Actuators	3	0	0	3
23.	20232EE123	Battery Systems Engineering	3	0	0	3
24.	20232EE124	Battery Management and Control	3	0	0	3
25.	20232EE125	Solar Energy Engineering	3	0	0	3
26.	20232EE126	Wind Energy Conversion Systems	3	0	0	3
27.	20232EE127	Thermodynamic Analysis of Energy Systems	3	0	0	3
28.	20232EE128	Energy Conservation and Management in Domestic Sectors	3	0	0	3
29.	20232EE129	Biomass Energy Resources	3	0	0	3
30.	20232EE130	Nanotechnology	3	0	0	3

Note: Students shall earn 6 credits under Program Electives category thro' **NPTEL/SWAYAM**.

Open Elective (OE) Courses

S.NO.	COURSE CODE	COURSE NAME
1.	20233EE101	Machine Learning and Deep Learning - Fundamentals and Applications
2.	20233EE102	Deep Learning
3.	20233EE103	Applied Optimization for Wireless, Machine Learning, Big Data
4.	20233EE104	The Joy of Computing using Python
5.	20233EE105	Cloud Computing
6.	20233EE106	Introduction To Industry 4.0 and Industrial Internet of Things
7.	20233EE107	Introduction To Internet of Things
8.	20233EE108	Environmental Science
9.	20233EE109	Fundamentals of Artificial Intelligence

(Source: NPTEL/SWAYAM)
Note: Students shall earn the required 3 credits under Open Elective category thro' **NPTEL/SWAYAM**.

Independent Learning (IL) Courses

S.NO.	COURSE CODE	COURSE NAME	L	T	P	C
1.	20234EE401	Research Methodology*	-	-	-	2
2.	20234EE402	Business Communication*	-	-	-	2
3.	20234EE403	Technical Writing*	-	-	-	2
4.	20234EE704	Project Phase I	0	0	6	3
5.	20234EE705	Project Phase II	0	0	12	6
6.	20234EE706	Project Phase III	0	0	24	12

***Note:** Students shall earn Research Methodology – 2 Credits and Business Communication/Technical Writing – 2 Credits thro' **NPTEL/SWAYAM.**

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF ELECTRICAL AND COMMUNICATION

MINUTES OF MEETING

39th BOARD OF STUDIES

on

27.05.2023

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

AGENDA – 39th BOARD OF STUDIES MEETING

Agenda No	Agenda
	Item for Confirmation
1	To confirm the minutes of meeting of the 38th Board of Studies held on 24.09.2022
	Items for Reporting
2	Courses offered under Ph.D. Course work during winter semester of AY 2022- 23
3	Courses offered under Independent Learning (MOOC) category during winter semester of AY 2022- 23
4	Policy for Identifying the Slow & Advanced Learners and Activities
5	Major Changes proposed in the M.Tech. Regulations VTU PGE 2023
6	End Semester results of summer semester AY 2022- 23 and Placement details of 2019 -2023 batch
	Items for Discussion
7	New Courses to be offered under (Independent Learning MOOC) category
8	New Courses proposed under Ph.D. Course work Syllabi
9	New Lab proposed under VTR UGE2021
10	Discussion on Program Elective and Specialization Elective courses of VTR UGE 2021 to be offered during summer of AY 2023- 24
11	Any other Points

The 39th BoS meeting started with a warm welcome by the Chairman of the BoS. Board Chairman appraised the External BoS members about the **NBA Accreditation** of the department for the duration of **three years till June 2025(extension for 3 years)**. The Institution is also accredited with by **NAAC** with the **Highest Grade, A++ for five years**.

Agenda #1: To confirm the minutes of meeting of the 38thBoard of Studies held on 24.09.2022

Discussion #1 The BoS chairman briefed the action taken for the agenda points discussed in 38thBoard of Studies meeting held on 24.09.2022. The points are given below

Agenda No	Agenda
	Item for Confirmation
1	To confirm the minutes of meeting of the 37th Board of Studies held on 18.02.2022
	Item for Reporting
2	New Courses offered under Ph.D. Course work Syllabi
3	New Courses offered under Industry/Higher Learning Institute category
4	New Courses offered under Independent Learning (MOOC) category
	Items for Discussion
5	Discussion on Vision, Mission, PEOs and PSOs of the department
6	Discussion on Program Structure, Curriculum and Syllabi in Program Core courses and Program Elective courses of VTR UGE 2021
7	Any other Points

S.No.	Course Title	Suggestions by Members	Action Taken
1.	10211EC102 Analog Electronics	• Unit I – To include overview of semiconductors • Unit V – Multi vibrators may be removed	• Included the overview of semiconductors in Unit I • Multi vibrators were removed from Unit V since it was covered in LIC.
2.	10211EC103 Digital Electronics	• Suggested to change the verbs used in COs • Unit I – Suggested to include Number Systems	• Verbs used were changed in COs as Illustrate and Apply. • The topic Number system was included in Unit I
3.	10211EC104 Linear Integrated Circuits	• CO3 and CO4 – Statements can be simplified	• Statements of CO3 and CO4 were simplified as follows • CO3 Analyze the performance of waveform generators and active filters. • CO4 Interpret the performance of various types of ADC and DAC using Op-Amp, PLL operation and its applications
4.	10211EC105 Control Systems	• Simplify CO2 • Unit V – Title to be changed	• CO2 was simplified as below • Determine the Time response of I order and II order systems for various test signals and analyze

			the stability of the given system. Unit V title was changed as Analysis using State Space Approach
5.	10211EC108 Communication Systems	• Simplify CO4 • Unit II – Course content may be reduced • Unit III – Noise in AM and FM may be included • Unit V–QAM may be included • Text Books: Reduce the number of text books and other books may be added under reference book	• CO4 was simplified as below • Apply the concept of sampling and various wave form coding schemes • Course content in Unit II was reduced • Noise in AM and FM were included and incorporated in Unit III and QAM was included in Unit V • Two books were removed from text books and included under reference book category.
6.	10211EC109 Microprocessor and Microcontroller	• Unit V – Title to be Changed	• Title of Unit V was changed as PIC Microcontroller And ARM Processor
7.	10211EC110 Data Communication Networks	• Unit I – 'Introduction' Term in title may be changed • Unit V – may be mapped with K3 level	• The term Introduction was alone removed from Title of Unit I • Unit V was mapped to K3 level
8.	10211EC112 Wireless Communication	• Unit II – Overview of SISO,SIMO,MISO may be included • Unit II – Beam Forming may be included	• Overview of SISO,SIMO and MISO were included in Unit II • Beam Forming was included in Unit II
9.	10211EC113 Antenna Theory	• Unit III – Introduction may be removed • Unit IV – CODEC algorithm may be included under smart antenna design and implementation	• The term Introduction alone was removed from title of Unit I • CODEC algorithm was included under smart antenna design and implementation
10	10211EC114 VLSI Design	• Simulations to be included	• Simulations using VHDL were added to the Unit V
11.	10211EC115Optical and Microwave Communication systems	• Course content may be reduced as it is very vast	• Some contents of unit III, IV and V were removed from the syllabus
12.	10211EC201 Embedded OS and Device Drivers	• This course may be introduced in 5th Semester • Unit V – Syllabus may be elaborated • Add Reference Books	• To meet the prerequisite, the course will be offered in VI Semester • The following sub topics were added in Unit V. • Linux Serial Driver – function

			pointers, data flow, Ethernet Driver - I 2C Subsystem on Linux • Additional Reference books were added
13.	10211EC301 Analog and Integrated Circuits Lab	• COs should be shortened • A/D and D/A converters, PLL, Differentiator and Integrator experiments may be included	• COs were shortened as below • CO1 Simulate, analyze, and implement the electronic circuits using BJT • CO2 Simulate, analyze and implement the electronic circuits using op-amp • CO3 Simulate, analyze, and implement the electronic circuits using timer IC and MOS S • ADC, DAC, PLL, Differentiator and Integrator experiments were added
14	10211EC303 Signals and Systems Lab	• To include MATLAB book by Sanjit K Mithra in text books	• MATLAB book by Sanjit K Mithra was included in text books
15	10211EC305 Communication Lab	• Study experiments may be replaced	• Study experiments were removed and replaced by new design experiments.
16	10211EC306 Optical and Microwave Engineering Lab	• CO1 – Design and Simulate term can be used • CO2 & CO4 – Statement may be framed shortly • Include 'VI Characteristics' of Gunn Diode	• Design and Simulate term were used in CO1as follows • CO1 Design and simulate the characteristics of microstrip transmission line, distributed elements, Tee junctions and couplers using ANSYS HFSS s/w. • For CO2 & CO4 the statements were reframed. • CO2 Setup microwave bench using Reflex klystron/Gunn source, and study its characteristics. • CO4 Explore the applications of Microwave Integrated circuits, devices and optical systems. • 'VI Characteristics' of Gunn Diode was included
17	General Remarks	• Recent editions may be included in text books and reference books • COs should be brief.	• Recent editions were included in text books and reference books • The lengthy COs were reframed in simpler form

All the members reviewed the action taken for the points discussed above and suggested to move on to next agenda.

Action #1: Resolved, that the action taken for the points discussed in the 38th Board of Studies are hereby approved by the members of BoS and shall be finalized.

Agenda #2: Courses offered under Ph.D. Course work during winter semester of AY 2022- 23

Discussion #2: The BoS chair reported the syllabus of the PhD course 40211EC127 -Digital Video Signal Processing and Applications with the recommendations from internal BoS members for the PhD scholar offered during the winter semester of AY 2022- 23.

Action #2: Resolved, that the inclusion of course in the PhD are hereby ratified by the members of BoS.

Agenda #3: Courses offered under Independent Learning (MOOC) category during winter semester of AY 2022- 23 with the recommendations from internal BoS members

Discussion #3: The BoS chair reported the list of new courses offered under Independent Learning (MOOC) category during winter semester of AY 2022- 23. The subjects

- 1156EC465 – Optical Wireless Communications for Beyond 5G Networks and IoT
- 1156EC468 - Embedded Systems Design
- 1156EC469 - Biomedical Signal Processing with the recommendations from internal BoS members

Action #3: Resolved, that the inclusion of course new courses offered under Independent Learning (MOOC) category during winter semester of AY 2022- 23 for the following subjects are hereby approved by the members of BoS.

- 1156EC465 – Optical Wireless Communications for Beyond 5G Networks and IoT,
- 1156EC468 - Embedded Systems Design
- 1156EC469 - Biomedical Signal Processing

Agenda #4: Policy for Identifying the Slow & Advanced Learners and Activities

Discussion #4: The BoS chair reported the Policy for Identifying the Slow & Advanced Learners and Activities and was discussed.

Action #4: Resolved, that the inclusion of the Policy for Identifying the Slow & Advanced Learners and Activities is hereby approved by the members of BoS.

Agenda #5: Major Changes proposed in the M.Tech. Regulations VTU PGE 2023

Discussion #5: The BoS chairman reported Major Changes proposed in the M.Tech. Regulations VTU PGE 2023

Action #5: Resolved, that the inclusion of Major Changes proposed in the M.Tech. Regulations VTU PGE 2023 is hereby approved by the members of BoS.

Agenda #6: End semester results of AY 2022- 23 and Placement Details

Discussion #6: The BoS chair presented the Student Performance during the summer semester of AY 2022- 2023 for the batches 2019-2020, 2020 -2021 an 2021 -2022. The BoS chair also reported that the results of 2021-22 batch was pulled down due to their poor performance in the courses Linear Integrated Circuits and Fourier Series and Transform Techniques. The Chair also reported the placement details of 2019-2020 batch in core and IT companies.

Action #6: Resolved, Performance of students during summer semester of AY 2022- 23 and Placement details is hereby approved by the members of BoS.

Agenda #7: New Courses to be offered under (Independent Learning MOOC) category during summer semester of AY 2023- 24 with the recommendations from internal BOS members

Discussion #7: The BoS chair reported the list of new courses to be offered under Independent Learning - MOOC category during summer semester of AY 2023- 24 with the recommendations from internal BoS members

- 1156EC470 - Analog Electronic Circuit
- 1156EC471 - Modern Digital Communication Techniques
- 1156EC472 - Introduction To Semiconductor Devices
- 1156EC473 - Machine Learning And Deep Learning Fundamentals And Applications)

Action #7: Resolved, that the inclusion of proposed list of new courses to be offered under Independent Learning - MOOC category is hereby approved by the members of BoS

Agenda #8: New Courses to be offered New Courses proposed under Ph.D. Course work Syllabi with the recommendations from internal BoS members

Discussion #8: The BoS chair reported the list of New Courses proposed under Ph.D. Course work namely

- 40211EC128 - Blockchain Technology
- 40211EC129 - Security and Privacy in IoT

during summer semester of AY 2022- 23 with the recommendations from internal BoS members

Action #8: Resolved, that the inclusion of two new courses in the PhD category are hereby approved by the members of BoS.

Agenda #9: New Lab proposed under VTR UGE2021 Syllabi with the recommendations from internal BoS members

Discussion #9: The BoS chair reported the New Lab proposed under VTR UGE21 Syllabi (1021EC303 – Signal Processing Lab) during summer semester of AY 2022- 23 with the recommendations from internal BoS members. This lab was earlier conducted as Signals and Systems lab. As the lab focused on Signal Processing and filters the lab was renamed as Signal Processing Lab and experiments were modified accordingly.

Action #9: Resolved, that the inclusion of New Lab proposed under VTR UGE2021 category is hereby approved by the members of BoS.

Agenda #10: Discussion on Program Elective and Specialization Elective courses of VTR UGE 2021 to be offered during summer of AY 2023- 24

Discussion #10: The BoS Chair reported the list of Program Elective and Specialization Elective courses of VTR UGE 2021 to be offered during summer semester of AY 2023- 24. While discussing the Program Elective course 10211EC202 Internet of Things, BoS members appreciated the contents of the course. The BoS Chair reported that the department will be offering a new Specialization in IoT from the forthcoming AY 2023-2024. The Institution has a **Centre of Excellence in IoT and Smart Factory** established by our University as joint Venture with **ZF Commercial Vehicles Control System India Ltd** worth **Rs.24 Lakhs** (along with 24 PCs). The BoS chair informed the members that the Curriculum and the syllabi are being finalized in collaboration to meet industry requirements.

The suggestions given by the BoS members based on the agenda wise are listed below for further action.

Agenda	Course Title	Suggestions by Members
2	PhD Course works	• Have at least 6 COs for PhD courses. Unit V can have two COs • Include application based contents in Unit V • Try to have one or two Text books with majority of the syllabus coverage. Others may be included as Reference Books • COs with K3 level is preferable
3	NPTEL Courses	• Faculty can do NPTEL Courses before the students are allotted to facilitate the students to have better understanding of the course • Every Wednesday classes may be scheduled for students to complete the assignments on time by having a healthy discussion
4	Slow Learners and Fast	• The fast learner who assists the slow learners may be

	Learners policy	provided with some form of appreciation. • Follow up initiatives for slow learners who fail in the end semester exams must be taken
5	M.Tech Courses	• Conduct retest for absentees of Internal exam • Avoid Introduction in Title • Case studies can be included
6	Placement details	• Record of students placed in off campus may also be maintained
9	10211EC303 Signal Processing Lab	• Elaborate the experiment titles as Design and Simulation & Design and implementation. • Recent Textbooks may be included
10	10211EC304 Microprocessor and Microcontroller Lab	• Mini project may be removed
10	10212EC109 Embedded System Design	• Unit I to Unit V contents may be modified
10	10212EC204 Embedded C Programming	• Modify the Course outcomes • In Unit I Introduction to M0 may be changed to M4 • From Unit II to IV Heading has to be modified as per the content • Lab experiments to be modified
10	10212EC171 Basics of Flexible Electronics	• Course Name to be changed as Flexible Electronics • Title of Unit I is to be changed to Measurements And Sensors • Suggested to reduce the unit contents
10	10212EC172 Smart City	• Suggested to change the Course Title. • Suggested to reduce the unit contents
10	10213EC107 Industrial Automation	• suggested to reduce the course content • In Unit I V Introduction of Automation is to be changed as Fundamentals of Automation
10	10213EC108 Building Automation	• Suggested to reduce the course content • In Unit I Introduction To Building Management System And Automation is to be changed to Building Management System And Automation Fundamentals
10	10211EC202 Internet of Things	• Design and Simulate may be added in Experiments 3 and 5
10	1021EC222 Principles of Networking and Cybersecurity	• Mini project may be removed
10	10212EC216 FPGA Architecture Technologies and Tools	• Review of PLD may be included in Unit I
10	10213EC111 - Intelligent Transportation Systems	• Headings may be modified avoiding the abbreviation ITS

10	10211EC111 – Discrete-Time Signal Processing	• Reconsider K4 knowledge levels of course outcomes and they may be reduced to K3 levels
10	10212EC213 – Digital Image and Video Processing	• Heavy content in unit 2 and unit 3, to be covered in six hours for a theory-dominated integrated course.
10	10212EC156 – Data Analysis and Visualization	• Avoid using 'Introduction to' in unit titles • Reconsider K4 knowledge levels of course outcomes
10	10212EC228 - Data Science and Visualization	• Course content may be reduced.
10	Principles of Data Science	• Pre-requisites may be included • Case Studies may be included
10	10213EC106 - Image Processing and its Applications	• Contents in unit 3 and unit 5 may be reduced considering other department students
10	10213EC112 Wireless Communication Technologies	• To include 5G waveforms in Unit V • Suggested to add NPTEL lectures in reference
10	10211EC104 Linear Integrated Circuits	• To include only basics of Op-Amp in Unit I • Suggested to add Non- Linear term in title Unit II • Active filter topic may be removed from Unit III and may be included in Unit IV and then the title to be changed accordingly. PLL topic may be removed from Unit IV and included in Unit V
10	10211EC107 Electromagnetics and Transmission Lines	• Suggested to concise the content of Unit I
10	General Remarks	• As majority of the faculty are PhD holders with vast experience Question paper setters may be from Internal Faculty and percentage of External QP setters may be reduced considerably. • The knowledge levels for UG courses may start with K2 levels for CO1 and may end with K3/K4 for CO5. • Student Representative suggested to display the prize winner details of the competitions conducted at department level and institution level in the Department Notice Boards.

Action #10: Resolved, that the curriculum and syllabi in Program Elective and Specialization Elective of VTR UGE2021 are hereby approved by the members of BoS and shall be finalized after incorporation of the suggested modifications in the next BoS.

HoD / ECE **Dean / SoEC**

36th MEETING of BOARD of STUDIES

Minutes

for

B.Tech (Information Technology)

and

M.Tech (Information and Cyber Security)

[CBCS]

On

01.06.2023

Department of Information Technology

School of Computing

School of Computing
Department of Information Technology
36th MEETING of BOARD of STUDIES
For
B.Tech (IT) & M.Tech (ICS)
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School of Computing
Department of Information Technology
36th MEETING of BOARD of STUDIES
for
B.Tech(IT) & M.Tech(ICS)

Date: 01.06.2023 – 10:00 AM

Venue: IT Department

AGENDA

Item No	Agenda
A.	**Opening**
1.	Confirmation of 35thBoS meeting minutes held on 23.09.2022. (Annexure-I)
2.	To review the Action Taken Report on the minutes of the 35th meeting of the Board of Studies (Annexure-II)
B.	**Items to be considered**
3.	To discuss and approve any changes in the **Course Structure** proposed in this BoS, to be offered in the programme B.Tech Information Technology unser the regulation VTR UGE 2021 keeping in view of National Education Policy (NEP) 2020, ACM IEEE, AICTE Model Curriculum, NASSCOM and Digital India Skills to be implemented with effect from the academic year Summer 2023-2024(Annexure-III)
4	To discuss and approve the introduction of **new courses** to be offered under the category of **Foundation core** in the **existing B.Tech (IT) curriculum VTR UGE 2021** keeping in view of NEP 2020, ACM IEEE, AICTE Model Curriculum, NASSCOM and Digital India Skills to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-IV)
5	To discuss and approve the introduction of **new courses** to be offered under the category of **Program Core** in the **existing B.Tech (IT) curriculum VTR UGE 2021** keeping in view of NEP 2020, ACM IEEE, AICTE Model Curriculum, NASSCOM and Digital India Skills to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-V)
6.	To discuss and approve the introduction of **new courses** to be offered under the category of **Program Electives** in the **existing B.Tech (IT) curriculum VTR UGE 2021** keeping in view of NEP 2020, ACM IEEE, AICTE Model Curriculum, NASSCOM and Digital India Skills to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-VI)
7.	To discuss and approve the introduction of **new industry collaborated specialization Digital Workplace in the existing B.Tech (IT) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-VII)

S.No	Course Code	Course Name	L	T	P	C
		Digital Workplace				
1	10212IT251	Virtualization Techniques	2	0	2	3
2	10212IT252	Windows Client Administration Operating System	2	0	2	3
3	10212IT253	Windows Server Administration Operating System	2	0	2	3
4	10212IT254	Cloud Fundamentals using Azure	2	0	2	3

5	10212IT255	Administering Microsoft Exchange Server	2	0	2	3
6	10212IT256	Office 365 Administration	2	0	2	3

8. To discuss and approve the introduction of **new industry collaborated specialization Network and Server Management in the existing** B**.Tech (IT) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-202 4in view of employability and Skill (Annexure-VIII)

S.No	Course Code	Course Name	L	T	P	C
		Network and Server Management				
1	10212IT257	Data Center Hosting – Windows Operating System	2	0	2	3
2	10212IT258	Data Center Hosting – Unix Operating System	2	0	2	3
3	10212IT259	Advanced Routing Techniques and Security	2	0	2	3
4	10212IT260	Advanced Switching and Networking Techniques	2	0	2	3
5	10212IT261	Juniper Networking Techniques	2	0	2	3
6	10212IT262	Storage Management	2	0	2	3

9. To discuss and approve the introduction of **new industry collaborated specialization Application Modernization Service Specialization in the existing** B**.Tech (IT) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-IX)

S.No	Course Code	Course Name	L	T	P	C
		Application Modernization Service Specialization – Core				
1	10212IT263	Web Sphere and Web Logic	2	0	2	3
2	10212IT264	Web Server Technologies	2	0	2	3
3	10212IT265	Application Server Technologies	2	0	2	3
4	10212IT266	Middleware Technologies	2	0	2	3
5	10212IT267	Database Administration Using MSSQL Server	2	0	2	3
6	10212IT268	Database Administration Using Oracle Server	2	0	2	3

10. To discuss and approve the introduction of **new specialization (Artificial Intelligence & Machine Learning) in the existing** B**.Tech (IT) curriculum under the regulation VTR UGE 2021** to be implemented with effect from the academic year Summer 2023-2024 in view of employability and Skill (Annexure-X)

S.No	Course Code	Course Name	L	T	P	C
		Artificial Intelligence – Core				
1	10212IT269	Optimization Techniques	3	1	0	3
2	10212IT270	Data Visualization	3	0	2	4
4	10212IT271	Deep Learning	3	0	2	4
5	10212IT272	Computer Vision	3	0	2	4
6	10212IT273	Natural Language Processing	3	0	2	4
7	10212IT274	Reinforcement Learning	3	1	0	3
8	10212IT275	Cognitive Computing	3	0	2	4

11 To discuss and approve the courses to be offered in Online MOOCs platforms under open Elective of B.Tech(IT) under regulation VTR UGE 2021 and Independent Learning Category (MOOCs) under regulation VTU R 15 during the **Summer semester of academic year 2023-2024** for B.Tech(IT). (Annexure-XI)

Open Elective

S.No.	Course Code	Course Name	Course Provider	Duration in weeks	Credits
1.	10213IT401	Next Generation Sequencing Technologies : Data Analysis And Applications	NPTEL	12 weeks	2
2.	10213IT402	Genetic Engineering: Theory And Application	NPTEL	12 Weeks	2
3.	10213IT403	Medical Image Analysis	NPTEL	12 Weeks	2
4.	10213IT404	Reinforcement Learning	NPTEL	12 Weeks	2
5.	10213IT405	Applied Accelerated Artificial Intelligence	NPTEL	12 Weeks	2
6.	10213IT406	Design & Implementation Of Human-Computer Interfaces	NPTEL	12 Weeks	2
7.	10213IT407	Introduction To Haskell Programming	NPTEL	8 Weeks	1
8.	10213IT408	Pattern Recognition And Application	NPTEL	12 Weeks	2

Independent Learning

S.No.	Course Code	Course Name	Course Provider	Duration in weeks	Credits
1.	1156IT401	Next Generation Sequencing Technologies : Data Analysis And Applications	NPTEL	12 Weeks	2
2.	1156IT402	Genetic Engineering: Theory And Application	NPTEL	12 Weeks	2
3.	1156IT403	Medical Image Analysis	NPTEL	12 Weeks	2
4.	1156IT404	Reinforcement Learning	NPTEL	12 Weeks	2
5.	1156IT405	Applied Accelerated Artificial Intelligence	NPTEL	12 Weeks	2
6.	1156IT406	Design & Implementation Of Human-Computer Interfaces	NPTEL	12 Weeks	2
7.	1156IT407	Introduction To Haskell Programming	NPTEL	8 Weeks	1
8.	1156IT408	Pattern Recognition And Application	NPTEL	12 Weeks	2

12. To discuss and approve the courses to be offered in Online MOOCs platforms **under Independent Learning Category (MOOCs)** during the Summer semester of academic year 2023-2024 for PG programmes.

S.No.	Course Code	Course Name	Course Provider	Duration in weeks	Credits
1.	2163IT401	Next Generation Sequencing Technologies : Data Analysis And Applications	NPTEL	12 weeks	2
2.	2163IT402	Genetic Engineering: Theory And Application	NPTEL	12 Weeks	2
3.	2163IT403	Medical Image Analysis	NPTEL	12 Weeks	2
4.	2163IT404	Reinforcement Learning	NPTEL	12 Weeks	2
5.	2163IT405	Applied Accelerated Artificial Intelligence	NPTEL	12 Weeks	2
6.	2163IT406	Design & Implementation Of Human-Computer Interfaces	NPTEL	12 Weeks	2
7.	2163IT407	Introduction To Haskell Programming	NPTEL	8 Weeks	1
8.	2163IT408	Pattern Recognition And Application	NPTEL	12 Weeks	2

Items to be Ratified

13. Ratification of removal of following Course under the category of Foundation Core Course under the regulation VTR UGE 2021 with effect from Summer 2022-2023.

Course Code	Course Name	Category	Credit
10210CS306	IT Workshop	Foundation Core	1

14. Ratification of **MOOCs courses** offered during the academic year 2022-2023 for B.Tech(IT). (Annexure-XII)

S.No	Course Name	Course Code	Credits
1	Cloud Computing	10214IT401	2
2	AI: Knowledge Representation and Reasoning	10214IT402	2
3	Big Data Computing	10214IT403	2
4	Programming, Data Structures and Algorithms using Python	10214IT413	2
5	Video Game Design History	10214IT414	1
6	Analyzing Data with Python	10214IT415	1
7	Developing IoT Solutions with Azure IoT	10214IT416	1
8	Introduction to Machine Learning	10214IT423	2
9	Getting Started with AWS Machine Learning	10214IT424	2
10	Bitcoin and Cryptocurrency Technologies	10214IT425	2
11	The bits and bytes of Computer Networking	10214IT426	2

15. Ratification of courses offered by **Industry Experts** for B.Tech(IT) for **Skill enhancement and Employment opportunities** under Industry/Higher Institute Interaction LearningCategory during the **Winter semester of academic year 2022-2023** for B.Tech(IT) (Annexure-XIII)

S.No	Course Name	Course Code	Credits
1	Hardware and Software Components for building Smart IoT	1157IT917	1
2	Cyber Security Threat Defence and Incident Handling	1157IT918	1
3	Theory and Application of Smart IoT	1157IT919	1
4	Django Web Frame Work	1157IT920	1

16 Any other cognate item

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

37th Board of Studies

27th May 2023, Saturday at 10.00 a.m.

Minutes of Meeting

DEPARTMENT OF MECHANICAL ENGINEERING

SCHOOL OF MECHANICAL & CONSTRUCTION

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology

School of Mechanical & Construction

Department of Mechanical Engineering

37th Board of Studies Meeting - Minutes

27 May 2023 @ 10.00 a.m.

AGENDA NO. **AGENDA**

OPENING

37 BoS 01 To confirm the minutes of meeting of the 36th BoS meeting held on 05.01.2023.

Minutes of meeting of the 36th BoS meeting held on 05.01.2023 was confirmed by the members of BoS.

37 BoS 02 Action taken report on the Minutes of 36th BoS meeting

Action taken report on the Minutes of 36th BoS meeting was presented by the Chairman-BoS and was accepted by the members.

37 BoS 03 To record leave of Absence of members

All members were present.

ITEMS FOR CONSIDERATION AND APPROVAL

37 BoS 04 PG Programmes regulation and curriculum revision

Discussions:

The chairman BoS presented the new PG programmes regulation and curriculum revision for M.Tech. Metallurgical and Materials Science Engineering and Industrial Safety and Engineering.

External member Dr. Paul Robert asked why the independent learning credits has reduced from 8 to 4. The Chairman-BoS explained the same based on the R-23 regulation norms and the member was satisfied.

Regarding the course Advanced Finite Element Analysis:

Dr. Raghavan suggested to introduce a prerequisite course before directly studying the Advanced Finite Element Analysis course or FEA lab could be introduced in the curriculum and syllabi. The chairman BoS noted and accepted to introduce in the syllabus.

Regarding the Textbook and reference book:

Member recommended to include the new edition of text and reference book for all the courses. The Chairman-BoS accepted to include.

Regarding the course Quality, reliability and standards

After reading the contents of this course member recommended to change Unit-V to Quality Maintenance instead Quality Standards and also suggested to revise the course title to Quality, Reliability and Maintenance.

Dr. Paul Robert suggested to introduce a new course named Reliability, Availability, Maintenance, and Sustainability. The Chairman-BoS accepted to introduce and present the contents during the next BoS meeting for approval.

37 BoS 05 New Program Elective courses under R21 regulations

Regarding the course Project Based Advanced Machining Processes:

Member Dr. Raghavan recommended to include other advanced machining processes such as Plasma arc machining, Laser machining, etc. in the course contents. Members also suggested to arrange for Industrial visits relevant to the advanced machining processes. The Chairman-BoS agreed to include the suggested topics.

Regarding the course 3D Modeling and Printing:

After reading the course contents the member recommended to frame an assessment rubric since the course covers theory, practical, and project. The Chairman-BoS agreed to frame assessment rubrics.

Regarding the course 3D Modelling and Assembly Creation by using CREO

Member Mr. Ravikumar Samuthiram asked to change the software CREO into CATIA/UG NX as most industries are using this software for design and development which creates employability opportunities for students. He also suggested to offer more employability-related courses. The Chairman-BoS accepted the members' suggestions.

Regarding the course Power Plant Engineering

Member Dr. Raghavan suggested to allocate more lecture hours for the first 3 units. He also recommended to include electrical energy concepts in Unit-V as most Automobile manufacturers leap into electric vehicle production.

37 BoS 06 MOOC Courses (NPTEL) recommended under self-learning courses for UG and PG Programs for the Summer Semester of AY 2023 – 24

The Chairman – BoS presented the list of NPTEL courses recommended under self-learning courses for UG (7.2.7.1) & PG (7.2.4.1) Programs for the forthcoming Winter Semester of AY 2022-23.

Members accepted and recommended.

37 BoS 07 Policy for Slow and Advanced Learners

Members noted and accepted the policy framed by the department.

ITEMS FOR DISCUSSION AND RATIFICATION

37 BoS 08 List of Institute Elective Courses being offered, under section 7.2.5 of R15 Summer Semester of AY 2023-24.

The Chairman – BoS presented the list of Institute Elective Courses offered under section 7.2.5 for the Summer Semester of AY 2023-24.

Members accepted and ratified.

37 BoS 09 List of Open Elective Courses offered under regulation R21 for the Summer Semester of AY 2023-24.

The Chairman-BoS presented the List of Open Elective Courses offered under regulation R21 for the Summer Semester of AY 2022-23.

Members accepted and ratified.

ITEMS FOR REPORTING AND RECORDING

37 BoS 10 No. of Students awarded credits for independent learning – MOOC Courses under VTUR15 7.2.7.1 for UG & under VTUR16 7.2.4.1 for PG During Winter Semester of AY 2022-23.

The Chairman – BoS presented the details of Students awarded credits for independent learning – MOOC Courses under VTUR15 7.2.7.1 for UG & under VTUR16 7.2.4.1 for PG during Winter Semester of AY 2021-22.

Members have noted.

37 BoS 11 No. of Students awarded credits for independent learning - Seminar under VTUR15 Sec.7.2.7.2 (a) in Winter Semester of AY 2022 – 23 and number of students registered during the Winter Semester of AY 2022-23.

Chairman-BoS reported the No. of Students awarded credits for independent learning - Seminar under VTUR15 Sec.7.2.7.2 (a) in Winter Semester of AY 2022 – 23 and number of students registered during the Summer Semester of AY 2022-23.

Members have noted.

37 BoS 12 No. of students registered for industry internship under 7.2.8.2

The Chairman – BoS presented the details of No. of students registered for industry internship under 7.2.8.2 during WS2022-23.

Members have noted.

37 BoS 13 Courses offered by International Faculty/Industry Experts under VTUR15 Section 7.2.8.3, Specialized Courses

The Chairman-BoS presented the details of courses offered by International Faculty/Industry Experts under VTUR15 Section 7.2.8.3, Specialized Courses during WS2022-23.

Members have noted.

37 BoS 14 Results of End Semester Examinations – Nov/Dec 2022

The Chairman-BoS presented the result analysis of end semester examinations held during Nov/Dec 2022 for the Program Core courses.

Members have noted.

37 BoS 15 **Any other points**

Members accepted and ratified the changes presented by the Chairman BoS for the course Thermal Engineering under R21 regulation.

Members suggested to increase the visibility of the key features of the department for better student admission.

Members recommended to offer more employability-related courses for both UG and PG programs.

The chairman BoS announced that the B.Tech. Mechanical Engineering program has got 3 years accreditation from NBA.

Members noted and appreciated all the faculty members.

SCHOOL OF LAW

Minutes of 10th Board of Studies in Law Physical Meeting held on 02-06- 2023.

OPENING

Prof. A. Subrahmanyam, Prof. and Dean, School of Law and Chairman BOS in Law welcomed the members of the 10th Board of Studies in Law Meeting. The Chairman explained about the activities of the School of Law and requested the members to give their views for the academic year 2023-2024.

The following is the agenda for 10th BOS in Law Meeting:

10. BoS 1 - **To Confirm the Minutes of meeting of the 10th BoS held on 10-01-2023.**

Chairman of BOS in Law presented to the members about resolutions of 9th BOS in Law Physical meeting held on 10-01-2023. The Board has confirmed minutes of earlier meeting.

10. BoS 2 - **Action taken report on Minutes of 9th BoS meeting.**

Chairman of BOS in Law presented to the members about action taken report to all the Resolutions taken relating to 9th BOS meeting on 10.01.2023.

10. BoS 3 - **To Record leave of absence of members.**

All the members of Board of Studies have attended the BOS Meeting. All Internal members and one external member (Ex-Judge of High court) have physically attended and two external members have attended in online mode.

ITEMS FOR CONSIDERATION AND APPROVAL

10.BoS 4 - **Modification of Existing Syllabus:**

Since we have completed 5 years after starting LL.B course in School of Law and also first batch of students from School of Law are passing out this year, the Board felt that it is absolutely necessary to go for the modification of LL.B syllabus in line with regulation of BCI as well as UGC guidelines.

The following items mentioned in this have been discussed in the board for modification of the existing syllabus.

a.) Added one more Law subject (History of Courts, Legislature and Legal Profession in India)in First Semester raising total 6 subjects (4 Non- Law and 2 Law subjects).

b.) One new subject replaced to Third Semester i.e., Intellectual Property Rights Litigation in the place of History of Courts, Legislature and Legal Profession in India,

c.) 4 Seminar on Social Sciences papers in 2^{nd}, 4^{th}, 6^{th} & 8^{th} semesters are removed and 2 new Law subjects are introduced, such as,

1.) Legal Methods and Legal Research – 2^{nd} Semester.
2.) Mediation and Conciliation – 6^{th} Semester.

d.) Board convinced to introduce 4 elective papers in each semester starting from 7^{th} semester to 10^{th} semester, replacing subjects provided in earlier options. These 4 elective papers are common to B.A; LL.B & B.Com; LL.B courses. Every student has given an opportunity to select one subject out of 4 subjects in 7^{th}, 8^{th}, 9^{th} & 10^{th} Semesters.

e.) Now the total credits for each programme B.A; LL.B & B.Com; LL.B are 233 credits as against 225 credits in the earlier regulation.

The above items have been discussed by the board in detail and they have been approved by all the members of the board regarding modification of the existing syllabus in order to suit the changes that took place in the legal arena as well as for the benefit of the students.

ITEMS FOR REPORTING AND DISCUSSION

10. BoS 5 - **Introduction of new syllabus for 5YDC LL.B with Choice Based Credit System.**

Discussion:

10. BoS 6 – **Academic initiatives taken to improve the academic and student's strength.**

i) Internal Examinations and Assessment
ii) Project Work Presentations
iii) Completion of syllabus for winter semester, 2023.
iv) Mandatory Internship Programme for LL.B students.
v) Ph.D. Scholars academic work improvements.

Chairman, BOS in Law has presented to the members about academic initiatives taken during present period. Chairman informed to the Board about the manner of conducting of internal examinations including Project Works submission and conducting of Project Presentations by the students. Board has appreciated Internship Programme undertaken by the students of School of Law in attending many important institutions for sharpening of their professional skills. The members of the board also informed by the Dean, the progress of the work done by the Ph.D scholars of School of Law. The Board has appreciated the efforts taken by the School of Law for carrying out the above activities effectively.

10. BoS 7 –**Selection of new faculty and relieving of existing faculty**

Chairman of BOS in Law has also informed to the Board about selection of 8 Faculty members recently and relieving of 8 faculty members in School of Law. Chairman BoS also informed to the board about maintaining the total strength of 46 faculty members as per the UGC norms in the School of Law. The Board has appreciated the efforts of

University authorities in keeping full strength of the faculty members for maintaining the higher standards of Legal Education in the School of Law.

10. BoS 8 – **Students and Faculty Achievements**

Chairman BoS has informed the board about the students achievements National and State level such as Ms. Harini. S, B.A., LL.B, 3rd year student participating in the National Republic Day Parade in Delhi on 26.01.2022, and also participated in International Chess Olympiad Valedictory programme by unfolding the flag and handing over to the Chairman of the next International Chess Olympiad. Jagadeesh Rao, BA,LLB 3rd year student bagged National level Rifle shooting completion first prize and Ms.U.Shobitha and Lyngdoh, 5thyear BA;LLB students bagging State level Law Quiz Competition Prizes conducted by SHRC of Tamil Nadu. Faculty members also received first and second prizes in Sports Competitions conducted by the University and this has been appreciated by the members of the board.

Our School Of Law has received its first ICSSR Funded Research Project by one of our faculty member named Dr. Illakiya. K, Assistant Professor of Political Science worth Rs. 4, 55,000. This is also the second Research Project from ICSSR in the entire Vel Tech University and also the first research project in the non-engineering stream in this year.

10. BoS 9 -**Any other matter.**

Chairman BOS has also informed to the board about the Memorandum Of Understanding(MOU) with the National Law University, Ranchi and also happy to inform that two faculty members under this programme came to School of Law and delivered Special Lectures as a part of Faculty exchange Programme.

Chairman BOS has also informed to the board about conducting of many special lectures by inviting renowned Resource Persons from many parts of the country.

The Board also discussed about day to day academic activities of the School of Law and maintenance of discipline among the students.

All the members of the board have expressed their happiness in taking initiative by Dean, School of Law for arranging all the above three items.

At the end, Prof. (Dr.) B. Someswara Rao, Professor & Head, School of Law thanked all the external members, Justice KBK Vasuki, Former Judge, High Court of Madras, Prof. R. Revathi, Professor of Law, Dr. B.R. Ambedkar Law University and Prof. T. Seethakumari, Professor & Dean, Sri Padmavathi Mahila Viswavidyalayam, Tirupathi for their presence and academic contribution to the School of Law and requested their continuous cooperation always from them in future. He also thanked Chairman, BoS in Law and all other BoS members for their sincere and effective cooperation and contribution in the academic activities of the School of Law.

Date: 02.06.2023

CHAIRMAN-BOS IN LAW

(A. SUBRAHMANYAM)
Dean of Law

Chairman Board of Studies in Law

Prof. A. Subrahmanyam, Prof. and Dean of Law

Internal Members Present:

1. Prof. (Dr.) M. Sarojanamma, Prof. of Law
2. Prof. (Dr.) B. Someswara Rao, Prof. of Law & HOD
3. Dr. A. Jayakumar, Asso. Prof. of Economics
4. Mr. M. Dhanasekar, Asst. Prof. of Sociology
5. Dr. Y. Ebenezer, Asst. Prof. of Economics
6. Ms. Kalpana, S, Asst. Prof. of Law

External Members by Circulation:

7. Prof. (Dr.) R. Revathi,
8. Prof. (Dr.) T. Seethakumari,
9. Honorable Justice KBK Vasuki,

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF
MEDIA TECHNOLOGY & COMMUNICATION

MINUTES OF MEETING

14th BOARD OF STUDIES

on

29.05.2023

VTU R21

B.Sc. (VISUAL COMMUNICATION)

B.Sc. (MULTIMEDIA)

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF MEDIA TECHNOLOGY AND COMMUNICATION

14th BOARD OF STUDIES

(29th May 2023, Monday)

MEMBERS OF THE BOARD OF STUDIES

S. No	Name, Designation and Organization	Functional Designation	Signature
1	Dr. E. Suresh Paul Dean and Professor School of Media Technology and Communication, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai.	Chair Person	
2	Dr. M. Shuaib Mohamed Haneef Associate Professor, Department of Electronic Media and Mass Communication, Pondicherry University, Puducherry.	External Expert Member	29/5/2023
3	Ms. Malini Head- Department of Multimedia and Animation, Loyola College, Chennai.	External Expert Member	29.5.23.
1	Mr. R. Venkatesh Babu CEO, Global Villagers, Chennai	Industry Expert Member	29/5/23
2	Mr. Deepak Nair Director, Story bucket studies and Animation	Industry Expert Member	—

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF MEDIA TECHNOLOGY AND COMMUNICATION

14th BOARD OF STUDIES

(29th May 2023, Monday)

MEMBERS OF THE BOARD OF STUDIES

S. No	Name, Designation and Organization	Functional Designation	Signature
1	Dr. M. Saravanan Associate Professor School of Media Technology and Communication,	Internal Member	
2	Mr. M. Lakshmi Narayanan Assistant Professor School of Media Technology and Communication,	Internal Member	
3	Mr. M. Dhayanithi Assistant Professor School of Media Technology and Communication,	Special Invitee	
4	Mr. R. Feroz Khan Assistant Professor School of Media Technology and Communication,	Special Invitee	
5	Ms. V. Renuga Varshini Assistant Professor School of Media Technology and Communication,	Special Invitee	29/5/23
6	Mr. N.N. Arunkumar Assistant Professor School of Media Technology and Communication,	Special Invitee	
7	Mr. B. Ramesh Lal Assistant Professor School of Media Technology and Communication,	Special Invitee	29/5/2023
8	Mr. Selva Vinayagam Assistant Professor School of Media Technology and Communication,	Special Invitee	

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SCHOOL OF MEDIA TECHNOLOGY AND COMMUNICATION

14th BOARD OF STUDIES

(29th May 2023, Monday)

MEMBERS OF THE BOARD OF STUDIES

S. No	Name, Designation and Organization	Functional Designation	Signature
1.	Mr. Arjun. A - VTA804 Copy Writer, Link N Merge, Chennai.	Alumni	
2.	Mr. Vignesh. N, - VTA755 Freelancer Graphic Designer, Chennai.	Alumni	
3.	Mr. Karthi Ganesan - VTA1205 III BSc Visual Communication School of Media Technology and Communication	Student	
4.	Mr. Jasper Raj. S - VTA1387 II BSc Visual Communication School of Media Technology and Communication	Student	
5.	Mr. Surjith Kumar. A - VTA1391 II BSc Multimedia School of Media Technology and Communication	Student	
6.	Mr. Karthikeyan. A - VTA1810 I BSc Visual Communication School of Media Technology and Communication	Student	
7.	Mr. M. Harish - VTA1762 I BSc Multimedia School of Media Technology and Communication	Student	

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School of Media Technology & Communication
Department of Visual Communication
&
Department of Multimedia

Minutes of the 14th Board of Studies meeting held on 29th May 2023

The 14th Board of Studies - B.Sc. (Visual Communication) & B.Sc. (Multimedia) under VTU R21 Regulation was held in Block 37 between 10.00 am to 2.30 pm and the following members were present during the meeting:

Chair Person

Dr. E. Suresh Paul, Dean & Professor - School of Media Technology & Communication.

Academic Expert

Dr. M. Shuhaib Mohammed Haneef, Associate Professor – Department of Electronic Media and Mass Communication, Pondicherry University, Puducherry.

Ms. Malini, Head & Assistant Professor – Department of Multimedia and Animation, Loyola College, Chennai.

Industry Expert

Mr. R. Venkatesh Babu, CEO – Global Villagers, Chennai.

Internal Members

Dr. M. Saravanan, Associate Professor, School of Media Technology & Communication
Mr. M. Lakshmi Narayanan, Asst. Professor, School of Media Technology & Communication

Special Invitees

Mr. M. Dhanyanithi, Asst. Professor, School of Media Technology & Communication
Mr. R. Ferozkhan, Asst. Professor, School of Media Technology & Communication
Mr. N. N. Arun Kumar, Asst. Professor, School of Media Technology & Communication
Mr. B. Ramesh Lal, Asst. Professor, School of Media Technology & Communication
Ms. V. Renuga Varshini, Asst. Professor, School of Media Technology & Communication
Mr. Selva Vinayagam, Asst. Professor, School of Media Technology & Communication.

Dr. E. Suresh Paul, Dean – School of Media Technology & Communication & Chair Person of the Board of Studies welcomed the members.

The following is the agenda of the 14th BoS.

Agenda No	Agenda
14BoS – 01	Presentation by Chair of Board of Studies
14BoS – 02	Student's feedback about the Curriculum
14BoS – 03	Discussion on curriculum and 1st semester syllabus for B.Sc. Visual Communication
14BoS – 04	Discussion on curriculum and 3rd semester syllabus for B.Sc. Visual Communication
14BoS – 05	Discussion on curriculum and 5th semester syllabus for B.Sc. Visual Communication
14BoS – 06	Discussion on curriculum and 1st semester syllabus for B.Sc. Multimedia
14BoS – 07	Discussion on curriculum and 3rd semester syllabus for B.Sc. Multimedia
14BoS – 08	Discussion on curriculum and 5th semester syllabus for B.Sc. Multimedia
14BoS – 09	Discussion on slow and advanced learners
13BoS – 10	Discussion about organizing International Conference or International Seminar.
13BoS – 11	Any other items.

Agenda 14 BoS – 01 Presentation by Chair of Board of Studies

The Chair Person introduced himself and other faculty members and students, and explained curriculum for B.Sc. (Visual Communication) & B.Sc. (Multimedia) under VTU R21 Regulation. He also requested the members to give their open views to tune the curriculum and syllabus to the expectations of the Industry. In addition, The Chair Person asked the External Members to get the feedback from students.

Discussion:

The members advised to proceed to discuss the syllabus.

Action:

The members have noted and moved on to the next agenda.

Agenda14 BoS – 02 Students' feedback about the Curriculum `

Student Representatives:

1. Mr. Kaarthik Ganesan, (VTA1205) III B.Sc. Visual Communication
2. Mr.S. Jasper Raj, (VTA1387) II B.Sc. Visual Communication
3. Mr.A. Surjith Kumar, (VTA1391) II B.Sc. Multimedia
4. Mr.A. Karthikeyan, (VTA1810) I. B.Sc. Visual Communication
5. Mr. M. Harish, (VTA1762) I B.Sc. Multimedia

Alumini Student Representative:

1. Mr. A. Arjun (VTA804)
2. Mr. N.Vignesh (VTA755)

The BoS Chairperson asked the student representatives from each class to share their views in their curriculum. Seven students were participated in the Board of Studies meeting.

Discussion:

The following are the feedback given by the students

- Videography and editing subjects can be included in the syllabus (VTU R21 Regulation).
- Students requested to give importance to the emerging subject like UI/UX Design.
- In order to obtain knowledge, ideas and skills without any break the Photography course can be offered in continuous semesters.
- both theoretical courses Acting for animation and motion graphics can be changed into the practical courses.
- Students requested to have the high configured computer systems for Multimedia Lab.

The following are the feedback given by the Alumini

- Students gave self-introduction with current occupation and designation; throw light on industry workflow and how the program apt for the industry needs.

Action

The members have noted and moved on to the next agenda.

Agenda 14 BoS - 03 Discussion on curriculum and 1st semester syllabus for B.Sc. Visual Communication

The BoS Chairperson discussed the curriculum and the course structure of the 1st Semester for B. Sc. Visual Communication. The Courses offered in 1st semester are: Tamil (50210VC101), Basic Tamil (50210VC102), Hindi (50210VC104), General English (50210VC103), Visual Communication Concepts & Principles (50211VC101), Visual Literacy (50211VC318), Graphic Design (50211VC303), Basics of Computer (50218VC301) and Environmental Studies (50218VC302).

Discussions:

Course Code	Course Category	Course Name	Changes
50210VC101	Foundation I	Tamil	No changes
50210VC102	Foundation I	Basic Tamil	No changes
50210VC104	Foundation I	Hindi	No changes
50210VC103	Foundation II	General English	No changes
50211VC101	Programme Core I	Visual Communication Concepts & Principles	No changes
50211VC318	Programme Core II	Visual Literacy	No changes
50211VC303	Programme Core III	Graphic Design	No changes
50218VC301	Ability Enhancement Courses	Basics of Computer	No changes
50218VC302	Ability Enhancement Courses	Environmental Studies	No changes

The members of the BoS approved the curriculum and the syllabus for the 1st semester courses for B.Sc. Visual Communication.

Action

The members have noted and moved on to the next agenda.

Agenda 14 BoS - 04 Discussion on curriculum and 3rd semester syllabus for B.Sc. Visual Communication

The BoS Chairperson discussed the curriculum and the course structure of the 3rd Semester.
The Courses offered in 3rd semester are: Advertising (50211VC209), Media Laws and Ethics(50211VC110), Writing for Media(50211VC211), Web Designing(50211VC312), Performing Skills(50213MM101) and Visual Analysis Techniques (50218VC304).

Discussion:

Course Code	Course Category	Course Name	Changes
50211VC209	Programme Core IX	Advertising	No Changes
50211VC110	Programme Core X	Media Laws and Ethics	No Changes
50211VC211	Programme Core XI	Writing for Media	No Changes
50211VC312	Programme Core XII	Web Designing	No Changes
50213MM101	Open Elective I	Performing Skills	No Changes
50218VC304	Ability Enhancement Courses	Visual Analysis Techniques	No Changes

The members of the BoS approved the curriculum and the syllabus for the 3rd semester courses for B.Sc. Visual Communication.

Action

The members have noted and moved on to the next agenda.

Agenda 14 BoS - 05 **Discussion on curriculum and 5th semester syllabus for B.Sc. Visual Communication**

The BoS Chairperson discussed the curriculum and the course structure of the 5th Semester for B. Sc. Visual Communication. The Courses offered in 5th semester are: Television Production(50211VC315), Media Management(50211VC116), Advertising Photography(50212VC204), Sound Design(50212VC205), PR Campaign(50212VC206), E-Content Development(50213MM103) and Portfolio presentation(50218VC306).

Discussions:

Course Code	Course Category	Course Name	Changes
50211VC315	Programme Core XV	Television Production	No Changes
50211VC116	Programme Core XVI	Media Management	No Changes
50212VC204	Programme Elective III & IV	Advertising Photography	No Changes
50212VC205		Sound Design	No Changes
50212VC206		PR Campaign	No changes
50213MM103	Open Elective III	E-Content Development	No Changes
50218VC306	Ability Enhancement Courses	Portfolio Presentation	No Changes

The members of the BoS approved the curriculum and the syllabus for the 5th semester courses for B.Sc. Visual Communication.

Action

The members have noted the changes and moved on to the next agenda.

Agenda 14 BoS - 06 Discussion on curriculum and 1st semester syllabus for B.Sc. Multimedia

The BoS Chairperson discussed the curriculum and the course structure of the 1st Semester for B. Sc. Multimedia. The Courses offered in 1st semester are: Tamil (50210MM101), Basic Tamil (50210MM102), Hindi (50210MM104), General English (50210MM103), Fundamentals of Multimedia (50211MM118), Photography - Framing and Composition (50211MM219), Drawing (50211MM303), Basics of Computer (50218MM301) and Environmental Studies (50218MM302).

Discussions:

Course Code	Course Category	Course Name	Changes
50210MM101	Foundation I	Tamil	No changes
50210MM102	Foundation I	Basic Tamil	No changes
50210MM104	Foundation I	Hindi	No changes
50210MM103	Foundation II	General English	No changes
50211MM118	Programme Core I	Fundamentals of Multimedia	No changes
50211MM219	Programme Core II	Photography - Framing & Composition	No Changes
50211MM303	Programme Core III	Drawing	No Changes
50218MM301	Ability Enhancement Courses	Basics of Computer	No changes
50218MM302	Ability Enhancement Courses	Environmental Studies	No Changes

The members of the BoS approved the curriculum and the syllabus for the 1st semester courses for B.Sc. Multimedia.

Action

The members have noted and moved on to the next agenda.

Agenda 14 BoS - 07 Discussion on curriculum and 3rd semester syllabus for B.Sc. Multimedia

The BoS Chairperson discussed the curriculum and the course structure of the 3rd Semester for B. Sc. Multimedia. The Courses offered in 3rd semester are: UI/UX Design for Web Application (50211MM209), Sound Design for Animation (50211MM210), 2D Digital Animation (50211MM311), 3D Character Modeling (50211MM312), Stop Motion Animation (50213VC301), and Visual Analysis Techniques (50218MM304)

Discussions:

Course Code	Course Category	Course Name	Changes
50211MM209	Programme Core IX	UI/UX Design	No Changes
50211MM210	Programme Core X	Sound Design for Animation	No Changes
50211MM311	Programme Core XI	2D Digital Animation	No Changes
50211MM312	Programme Core XII	3D Character Modeling	BoS members suggested to modify the syllabus content.
50213VC301	Open Elective I	Stop Motion Animation	No Changes
50218MM304	Ability Enhancement Courses	Visual Analysis Techniques	No Changes

The members of the BoS approved the curriculum and the syllabus for the 3rd semester courses for B.Sc. Multimedia.

Action

The members have noted and moved on to the next agenda.

Agenda 14 BoS - 08 Discussion on curriculum and 5th semester syllabus for B.Sc. Multimedia

The BoS Chairperson discussed the curriculum and the course structure of the 5th Semester for B. Sc. Multimedia. The Courses offered in 5th semester are: Visual Effects (50211MM314), 3D Environmental Design (50211MM315), Video Editing (50211MM316), Digital Intermediate (50212MM204), Augmented Reality Virtual Reality (50212MM205), 3D Stereoscope (50212MM206) and Portfolio Presentation (50218MM306).

Discussions:

Course Code	Course Category	Course Name	Changes
50211MM314	Programme Core XIV	Visual Effects	BoS members suggested to include the assignments.
50211MM315	Programme Core XV	3D Environmental Design	BoS members suggested to add assignments in the course.
50211MM316	Programme Core XVI	Video Editing	No changes
50212MM204	Programme Elective I	Digital Intermediate	No changes
50212MM205	Programme Elective II	Augmented Reality Virtual Reality	No changes
50212MM206	Programme Elective III	3D Stereoscope	No changes
50218MM306	Ability Enhancement Courses	Portfolio Presentation	No changes

The members of the BoS approved the curriculum and the syllabus for the 5th semester courses for B.Sc. Multimedia.

Action

The members have noted and moved on to the next agenda.

Agenda 14 BoS - 09 Discussion on slow and advanced learning students

The BoS Chairperson discussed about slow and advanced learners for B.Sc. Visual Communication and B. Sc. Multimedia Programme students.

Discussions:

The BoS members have suggested in the following:

- The members advised to encourage peer learning among students.
- The Bos members Ms. Malini suggested that the faculty to take class in bilingual language for better understanding.
- Dr. M. Shuaib Mohammed Haneef suggested that the faculty to take the first 40mins class in English and remaining duration take class in Tamil Language.

Action

The members have noted and moved on to the next agenda.

Agenda 14 BoS - 10 Discussion on Organizing International Conference

The BoS Chairperson discussed about organizing International Conference in the Academic year 2023-24.

Discussions:

The BoS members encouraged to organize international conference. In addition, the members are suggested in the following.

- The conference topic areas such as UI/UX Design, AI (Artificial Intelligence), AR/VR (Augmented/Virtual reality and Mixed reality), Media trends and Journalism etc.
- Conference preparation duration and work division.
- They suggested to conduct the conference in hybrid mode.
- The members suggested to an online portal for conference abstract /full paper submission and reviewing process.
- Tentative date it is decided to conduct the International conference in Febuary 2024.

Action

The members have noted and moved on to the next agenda.

Agenda14 BoS – 11 any other items

The chairperson discussed with BOS members to introduce UG 4 years BSc Honors Programme, Instead of 3 Years degree Programme.

Discussion:

- The BOS members suggested to offer one-year certificate course programme like Videography, Photography and Editing. In addition, they advised that to aligned the subjects with NSDC for the course completed certificate.

- Along with other institutional electives new subjects like Journalism could be added.

Action:

The BoS Chairperson has assured to include the suggestions as recommended and appropriate.
The meeting concluded at 02.30 pm hrs with a vote of thanks by Dr. M. Saravanan, Associate Professor. School of Media Technology and Communication.

Date: 29th May 2023 **Chairman – BOS**

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SCHOOL OF MANAGEMENT
[SoM]

DEPARTMENT OF COMMERCE AND BUSINESS ADMINISTRATION

26th BOARD OF STUDIES -SoM

FOR

BACHELOR OF COMMERCE AND BUSINESS ADMINISTRATION

(B.Com & B.B.A)

on

May 29, 2023

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF MANAGEMENT
[SoM]

DEPARTMENT OF COMMERCE AND BUSINESS ADMINISTRATION

BOARD OF STUDIES

Members of the Board of Studies for the Department of Commerce and Business Administration held their meeting on May 29, 2023 at 10.00 a.m. onwards

Venue: Block 35 Seminar Hall.

BoS Members

S.No	Name of the Member	Designation	Signature
1	Dr.J.Sridevi, Head, Department of Commerce and Business Administration, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai	Chairman, Board of Studies	
External Experts			
3	Dr.J.Arul Suresh, Associate Professor, Department of Commerce, Loyola College, Chennai, 600034. Mobile: +91 9884855522 :E-mail:jaruluresh@gmail.com	Academic Expert	
4	Ms.Angel Edzoe, CEO, Edzone Company, Mylapore, Chennai, Mobile: +91 9566141577 E-mail:angelinindira@ezone.com	Industrial Expert	
5	Ms. Pooja Bishoyi, Executive HR. Revone HR Consulting Services Pvt. Ltd., Chennai. Mobile: +91 9498003324 E-mail:pooja.bishoyi710@gmail.com	Alumni	
Internal Experts			
6	Prof.Dr.M.S.R.Mariyappan, Dean, School of Management, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai,600062. Mobile: +91 9994919597 :E-mail: deansomgt@veltech.edu.in	Internal Member	
7	Dr.C.Vijai, Associate Professor, Department of Commerce and Business Administration, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai,600062. Mobile: +91 9600582848	Internal Member	

	E-mail: drvijai@veltech.edu.in		
8	Dr.K.Gunasekaran, Assistant Professor, Department of Commerce and Business Administration, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai,600062. Mobile: +91 8056881033 E-mail: drkgunasekaran@veltech.edu.in	Internal Member	
9	Dr.G.Chandramouleeswaran, Assistant Professor, Department of Commerce and Business Administration. Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai,600062. Mobile: +91 9003744234 E-mail: drchandramowleeswaran@veltech.edu.in	Internal Member	
10	Dr.M.Karthikeyan. Assistant Professor, Department of Commerce and Business Administration. Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai,600062. Mobile: 9788638586 E-mail: drkarthikm@veltech.edu.in	Special Invitee	

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SCHOOL OF MANAGEMENT
[SoM]

DEPARTMENT OF COMMERCE AND BUSINESS ADMINISTRATION
26TH BOARD OF STUDIES MEETING
AGENDA

Date: 29.05.2023 Monday **Time: 10.00 a.m.**

The following items for Confirmation, discussion, and approval on the Board of Studies Meeting:

Agenda	Items for Confirmation
26 BoS 01	Presentation about the Department
26 BoS 01	To Confirm the minutes of meeting of the 25th BoS held on 21.12.2022.
26 BoS 02	Action taken report on minutes of 25th BoS meeting.
26 BoS 03	To record leave of absence of members : Ms.Pooja Bishoyi Alumni- leave

Agenda	Items for Consideration and Approval
26 Bos 01	To discuss and approve B.Com. Programme **Course Contents For V Semester** under Regulations VTR UGAS 2021. (For Batch: 2021-2024/ Academic Year: 2023-2024).
26 BoS 02	To discuss and approve B.Com. Programme (General / Corporate Secretaryship /Accounting and Finance/Professional Accounting**) updated Course Contents for III Semester** under Regulations VTR UGAS 2021. (For Batch: 2022-2025 / Academic Year: 2023-2024).
26 BoS 03	To discuss and approve B.Com. Programme (General / Corporate Secretaryship /Accounting and Finance/Professional Accounting) **Updated Course Contents for I Semester** under Regulations VTR UGAS 2021. (For Batch: 2023-2026 / Academic Year: 2023-2024).
26 BoS 04	To discuss and approve B.Com. Programme **Introduction of new Specialization Computer Applications** under Regulations VTR UGAS 2021, (For the Batch 2023-2024) Academic Year: 2023-2024).
26 BoS 05	To discuss and approve B.B.A. Programme **Course Contents for V Semester** under Regulations VTR UGAS 2021. (For Batch: 2021-2024/ Academic Year: 2023-2024
26 BoS 05	To discuss and approve B.B.A Programme **Updated Course Contents for III Semester** under Regulations VTR UGAS 2021. (For Batch: 2022-2025 / Academic Year: 2023-2024).
26 BoS 03	To discuss and approve B.B.A Programme **Course Contents for I Semester** under Regulations VTR UGAS 2021. (For Batch: 2023-2026 / Academic Year: 2023-2024
26 BoS 04	To discuss and approve B.B.A Programme **Introduction of new Specialization**

	"Entrepreneurship" under Regulations VTR UGAS 2021. (For Batch: 2023-2026 / Academic Year: 2023-2024).
26 BoS 10	To discuss and approve Open Electives Courses for UG programmes under Regulations VTR UGAS 2021. (For Batch: 2021-2024 / Academic Year: 2023-2024).
26 BoS 11	To discuss and approve Zero credit Courses for UG programmes under Regulations VTR UGAS 2021. (For Batch: 2021-2024 / Academic Year: 2023-2024
26 BoS 12	To discuss and approve Academic calendar for the Academic year 2023-24
26 BoS 13	To discuss and approve the total credits if the students have earned additional credits over and above the mandatory requirement, as per student's choice, the credits will be fixed as per programme structure.
	ITEMS FOR REPORTING AND RECORDING
26 BoS 14	Programme conducted/Faculty and Students achievements
26 BoS 15	Any other items : B.Com Eligibility Criteria- to conduct bridge course for other streams
26 BoS 16	Vote of Thanks

BACHELOR OF COMMERCE (B.Com.)

Program Outcomes (POs)	
1	Apply the knowledge of accounting, auditing and Income Tax filing skills to the solution of various complex business issues.
2	Potential to lead individual as well a team in achieving the organization targets and it give raise to effectively to a team environment.
3	Create value through optimization in different business contexts.
4	Possess a high sense of business ethics which helps the enterprise to attract more investments.
Program Educational Objectives (PEOs)	
1	Graduates can pursue higher education in commerce and allied domain.
2	Preparing graduates to meet industry needs with strong foundation in commerce for a successful career around the globe.
3	Develop the independent learning competence in graduates by inducing their knowledge and skills to learn and contribute to the conglomeration of new ideas for the benefit of the society at large.
4	Graduates are expected to develop values and code of ethics to become a responsible citizen.
Program Specific Outcomes (PSOs)	
1	Develop the professional knowledge and skills in commerce.
2	Prove themselves in different professional exams like CA, CS, CMA etc.
3	Pursue their career in the areas of accounting, banking, auditing, tax consulting as well as other financial supporting services anywhere in the globe.
4	Inculcate the grip of value added courses to strengthen the human values in the real time.

BACHELOR OF BUSINESS ADMINISTRATION (B.B.A.)

Programme Outcomes (POs)	
1	Interpret a complex issue into a coherent written statement and oral presentation.
2	Gain information from various business functional areas and be competent in all domains.
3	Perform effectively as an individual, and as a member or leader in cross cultural groups and in multidisciplinary settings.
4	Express the fundamentals of creating and managing innovation, new business development and high growth potentialities. They also become socially and ethically responsible business leaders.
Programme Educational Objectives (PEOs)	
1	Pursue additional skill enhancement programs for career upliftment..
2	Understand the key business areas and can face different types of modern enterprise.
3	Develop entrepreneurial skills that will enable them to become successful entrepreneurs.
4	Become a multi-facet personality with a sense of environmental consciousness and a responsible citizen with ethical values.
Programme Specific Outcomes (PSOs)	
1	Acquire and enhance managerial and operational skills in various disciplines of business.
2	Analyze the entrepreneurial opportunities for developing our country.
3	Accomplish critical thinking, decision making and problem-solving expertise to give feasible solutions for business issues.
4	Emphasize the foundations of business ethics for preparing citizenship both local and global arena.

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SCHOOL OF SCIENCES AND HUMANITIES

DEPARTMENT OF ENGLISH

MA ENGLISH

Minutes of the 3rd Board of Studies meeting held on 29th May 2023

The 3rd Board of Studies - M.A. (English) was held in the Language Lab (9103), Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology, Chennai from 11.00 a.m. to 12.30 p.m. and the following members were present during the meeting:

Chairman:

Dr Bindu. M.R, Professor and Head, Department of English, School of Sciences and Humanities, Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science & Technology, Chennai

Academic Experts (External):

1. Dr T. Shrimathy Venkatalakshmi, Professor & Director, Centre for Liberal Arts for Science, Engineering and Technology (CLASET), Anna University, Chennai.
2. Dr. Ajit. I, Assistant Professor (SG), Department of English, Vellore Institute of Technology, Chennai.

Internal Members:

1. Dr R. Udhayakumar, Associate Professor, Department of English, VTU, Chennai.
2. Dr A Prakash, Associate Professor, Department of English, VTU, Chennai.
3. Dr P. Revathi, Assistant Professor, Department of English, VTU, Chennai.
4. Dr Murugavel S, Assistant Professor, Department of English, VTU, Chennai.
5. Dr M. Vinoth Kumar, Assistant Professor, Department of English, VTU, Chennai

Others Present:

1. Ms B. Lavanya, Assistant Professor, Department of English, VTU, Chennai.
2. Ms D. Angala Parameswari, Assistant Professor, Department of English, VTU, Chennai.
3. Dr M. Ramesh, Assistant Professor, Department of English, VTU, Chennai.
4. Ms M.C. Priyadharshini, Assistant Professor, Department of English, VTU, Chennai
5. Mr S. Rajaraman, Assistant Professor, Department of English, VTU, Chennai.
6. Dr A. Manikandan, Assistant Professor, Department of English, VTU, Chennai.
7. Dr G. Yamini, Assistant Professor, Department of English, VTU, Chennai
8. Mr J. Jerin Austin Dhas, Assistant Professor, Department of English, VTU, Chennai
9. Dr B. Bairavi, Assistant Professor, Department of English, VTU, Chennai
10. Dr J. Jesintha Princy, Assistant Professor, Department of English, VTU, Chennai.

The Agenda of the 3rd BoS

The following is the agenda of the 3rd BoS-MA English Programme

S. NO.	AGENDA NO.	AGENDA
1	03BoS-01	Welcome Address by the chairman of the Board of Studies
2	03BoS-02	Discussion on the Programme Structure
3	03BoS-03	Discussion on the existing Programme Structure and syllabus
4	03BoS-04	Discussion on credits reduction
5	03BoS-05	Discussion on the changes made in the existing syllabus, course titles and codes
6	03BoS-06	Discussion on the regulation ‘PMAS 23’
7	03BoS-07	Discussion on the distribution of credits for the project
8	03BoS-08	Discussions on the proposed university exam question paper pattern
9	03BoS-09	Others
10	03BoS-10	Vote of Thanks

Agenda 03 BoS – 01: Welcome Address by the Chairperson of the Board of Studies

Dr Bindu M.R., Head of the Department & Chairman of the Board of Studies, School of Sciences and Humanities welcomed the external & internal members and others present for the 3rd PG Board of Studies Meeting.

Discussion: The Chairman conveyed the academic success of the postgraduate course that is now being provided by the Department of English within the School of Science and Humanities to the External Members. The Chairman gave a brief presentation on the academic function and handed over the session to the PG Coordinator, Dr P. Revathi, Internal Member of the Board of Studies.

Action: The Academic Experts (External members) expressed their gratitude and requested to move on to the further agenda item.

Agenda 03 BoS – 02: Discussion on the Programme Structure

Discussion: Dr. P. Revathi, a Member of the Board of Studies discussed on proposed Programme Structure and Programme Profile to be offered with major changes in the academic year 2023-2024. The updated curriculum was submitted to the BoS Academic Experts (External Members) with the request that it be approved wherever it was deemed essential.

The following is a list of the proposed Programme Structure:

S.NO	PROGRAMME STRUCTURE
1	PROGRAMME CORE
2	PROGRAMME ELECTIVE
3	OPEN ELECTIVE
4	INDEPENDENT LEARNING
5	LIFE SKILLS
6	EXTENSION ACTIVITIES

Action: The External Members swotted the Programme Structure

Agenda 03 BoS – 03: Discussion on the Existing Programme Structure and Syllabus

Discussion: The existing Programme Structure and Syllabus were discussed in detail and the difference between the existing and proposed was highlighted. In the proposed Programme

Structure the Institute Elective has been changed to Open Elective. In the Open elective, students should choose any two courses of 12 weeks duration based on their area of interest in NPTEL/Swayam. In the existing programme elective students studied only offline courses whereas, in the proposed structure 2 courses i.e., 6 credits to be studied in NPTEL/Swayam under the Programme Elective category. The following is a list of the Existing Programme Structure:

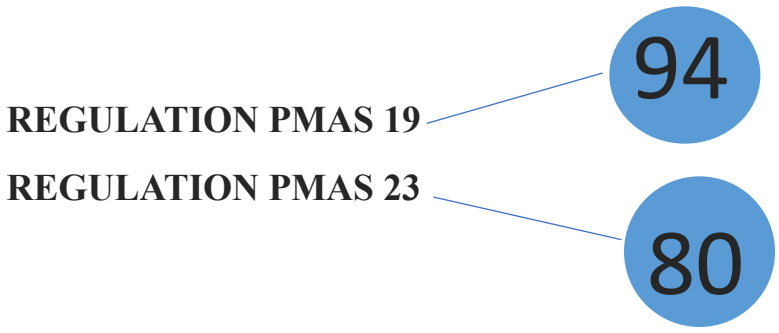
S.NO	PROGRAMME STRUCTURE
1	PROGRAMME CORE
2	PROGRAMME ELECTIVE
3	OPEN ELECTIVE
4	INDEPENDENT LEARNING
5	LIFE SKILLS
6	EXTENSION ACTIVITIES

Action: The External Members approved the proposed Programme Structure and two courses i.e., 6 credits) in NPTEL/Swayam under the Programme Elective category.

Agenda 03 BoS – 04: Discussion on Credits Reduction

Discussion: The credit reduction for the proposed academic year 2023-2024 was put forwarded to the external members. The credits for the academic year 2019-2023 were 94, and it has been proposed to reduce them to 80 credits for the academic year 2023-2024. The minimum credit required for M.A. is 80.

STRUCTURE (2019-2023)	CREDIT	STRUCTURE (2023-2024)	CREDIT
Programme Core	48	Programme Core	44
Programme Elective	12	Programme Elective	15
Institute Elective	6	Open Elective	6
Independent Learning	20	Independent Learning	12
Life Skills	4	Life Skills	2
Extension Activities	4	Extension Activities	1
TOTAL	**94**	**TOTAL**	**80**



Action: The credit decrease for MA English from 94 credits to 80 credits was accepted and approved by the external members of the committee.

Agenda 02 BoS – 05: Discussion on the Changes made in the Existing Syllabus, Course Titles and Codes

Discussion: To obtain approval, the academic experts (external members) were provided with a complete explanation of the syllabus, which included the course title and course code.

NEW COURSE CODE AND COURSE NAME

		Programme Core	
S.NO	Course Code	Course Name	Changes
1	91231EN101	POETRY	Poetry I and Poetry II were merged and named Poetry
2	91231EN102	DRAMA	Drama I and II were merged and named Drama
3	91231EN103	POSTCOLONIAL LITERATURE	The board has agreed to the inclusion of this new course in the syllabus.
4	91231EN104	BRITISH PROSE AND FICTION	British Prose and British Fiction were merged and named British Fiction and Prose.
5	91231EN105	SHAKESPEARE STUDIES	The board Suggested replacing Merchant of Venice with **Midsummer Night's Dream**. The students must engage in non-detailed study of all the dramas of Shakespeare and the prescribed ones should be studied in a detailed manner. Include- Comedy -**As You Like It** Tragedy - **Macbeth** Romance - **Cymbeline**
6	91231EN106	INTRODUCTION TO ENGLISH LANGUAGE TEACHING AND LINGUISTICS	No Change
7	91231EN107	INDIAN WRITING IN ENGLISH	The board advised including more contemporary writers. Ananda Coomaraswamy: **The Dance of Shiva** will be

			retained in the syllabus and Dr A.P.J. Abdul Kalam – Give Us a Role Model will be removed from the syllabus. Girish Karnad's **Wedding Album** and Vijay Tendulkar's **Kamala** are included.
8	91231EN108	AMERICAN LITERATURE	No Change
9	91231EN109	LITERARY CRITICISM AND LITERARY THEORY	No Change
10	91231EN110	CANADIAN STUDIES	The board has agreed to the inclusion of this new course in the syllabus.
11	91231EN111	AUSTRALIAN LITERATURE	The board recommended including the contemporary writer Patrick White's - **Voss** in the syllabus.
		Programme Elective	
1	91232EN101	FILM STUDIES	The Board agreed to the change in Course outcomes and K levels.
2	91232EN102	COPY EDITING	The board suggested to include **Introducing Technology based Proofreading like Chat GPT, Grammarly, Quilbot,** etc.
3	91232EN103	DALIT STUDIES	The board recommended including Kantha Ilaiah's: **Why I am not a Hindu** in the syllabus.
4	91232EN104	CHILDREN LITERATURE	The board suggested including any one of Issac Bashevis Singer's short stories in the syllabus.
5	91232EN106	E-WRITING	The board has advised enlightening the students on the online resources available for enriched writing among the students.
6	91232EN401	ONLINE COURSE: NPTEL/SWAYAM/MOOC	The board agreed with the pattern set for this category. Totally 15 credits (ie., 17.5% of total credits) shall be earned through' NPTEL / Swayam only.
		Open Elective	
1	91233EN401	ONLINE COURSE SWAYAM/MOOC	The board has agreed to the change that was made in the open elective category. Students should choose any two courses of 12 weeks duration based on their area of interest in NPTEL/Swayam.
		Independent Learning	
1	91234EN801	INTERNSHIP	No Change
2	91234EN701	MAJOR PROJECT- PHASE I	The Board has agreed to the change in credit distribution – 6 credits to 2 credits
3	91234EN702	MAJOR PROJECT- PHASE II	The Board has agreed to the change in credit distribution – 6 credits to 8 credits
		Life Skills	

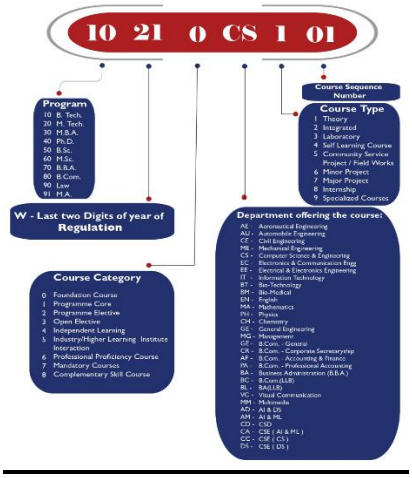
1	91235EN401	Online Course (Business English/Technical Writing etc)	Offline course to online. In this category, Board agreed that students should choose the Business Communication/Technical Writing course in NPTEL/Swayam.
		Extension Activities	
1	91236EN601	Minor Project	The board agreed to the change in credit allocation. Credits have been reduced from 2 to 1 credit.

Action:

The members of the BoS approved the curriculum and the syllabi for the M.A. English programme AY 2023-2024.

Agenda 03 BoS – 06 Discussions on the Regulations:

The PMAS 23 Regulations were presented to the members of the Board of Studies and detailed the changes made to the syllabus, course title and course code by using the course numbering scheme.



REGULATION PMAS 23

Action: The External members approved the course code that was framed as per the regulation numbering scheme.

Agenda 03 BoS – 07: Discussion on the Distribution of Credits for the Project

Discussion: The distribution of credits for the project was discussed in detail. Earlier the credits for the Major Project Phase I and II were evenly distributed as 6 for each and the total credits were 12, but now it's been distributed as Major Project Phase I as 2 credits and Phase II as 8 credits and overall, it is reduced to 10 credits from 12 credits.

S.NO	Course Code	Course Name	Credits
1	91234EN701	MAJOR PROJECT- PHASE I	2
2	91234EN702	MAJOR PROJECT- PHASE II	8

Action: The board agreed on the new credit allotted for Major Project Phase I and Phase II.

Agenda 02 BoS – 08: Discussions on the Proposed University Exam Question Paper Pattern

Discussion: It is proposed to the board regarding the change in the end-semester question paper pattern.

The proposed End Semester question paper pattern (External Exam) is given below:

Part A: 20 Marks (10 x 2 Marks) and

Part B: 40 Marks (5 x 8 Marks)

Total = 60 marks

Continuous Evaluation Marks: 40 (Mid-Term Tests: 30 Marks (Average of Two Tests), Seminar/Assignment: 10 Marks)

Action: The Board approved the proposed pattern.

Agenda 02 BoS – 09: Others

Discussion 1: It was put forward to the committee to change a topic in the B.Tech course - Professional Communication II. The committee has agreed to change the topic in Unit V Grammar: Writing purpose statements to Changing the words from one form to another.

Action: The committee has decided to amend the above mentions change in the UG Course- Professional Communication II.

Discussion 2: Dr. A. Prakash, proposed 4 guide papers to the Academic Expert to get approval for which the Ph.D scholars are supposed to take their course work in the following semester. The following are the papers proposed by the board.

S.NO	Course Name	Changes
1	Transhumanism in the Select Novels of Vernor Vinge	The Members suggested changing the title of the course to Transhumanism and not being specific but generic.

2	Richard Powers and Paulo Coelho's Novels Through Eco-Critical Lens	The Members suggested changing the title of the course to Eco Criticism and not being specific but generic.
3	Mysteries in the novels of Agatha Christie	The Members suggested changing the title of the course and not being specific but generic.
4	Writing Skills	The course paper Writing Skills should incorporate the following suggestions: In the syllabus topics such as drafting, brainstorming, and different stages in writing are to be included. • Exercises in writing skills should run parallel with the ELT teaching. • Exercises and topics should be taken from specialized books on writing. • The course should be titled Mechanics of Writing. • Trishia Hedge's books are recommended to get a clear view of framing the writing skill syllabus. Overall, it was asked to remodify.

Action: The Academic experts asked to rework the title and not be specific but to be generic in framing the syllabus even if it is a guide paper. One of the external members pointed out that if it is generic, it will be helpful for the scholar to get a wide knowledge of his/her research. The board accepted to make the necessary changes that were asked to carry out.

Discussion 3: The implementation of the value-added course "Interview Skills" for B.Tech programme has been proposed to the board.

Action: The board has approved the syllabus.

Discussion 4: The Academic experts have suggested promoting the presence of M.A, English in the university through print and online like Facebook, Instagram, WhatsApp, English associations etc.,

Action: The Head of the Department acknowledged and promised to follow the comments passed by the Academic experts.

Discussion 5: The board suggested establishing integrated M.A. English that includes multidisciplinary study and research. To be on the safer side, the board has advised the members to follow the state structure syllabus.

Action: The Head of the Department acknowledged the Discussions on the start-up of M.A. integrated courses

Discussion 6: The board requested the inclusion of a Shakespeare paper in the syllabus at the previous Board of Studies meeting.

Action: As the board requested the inclusion of a Shakespeare paper in the syllabus the course for the 2023-2024 academic year is been included in the syllabus.

Discussion 7: The committee members in the previous BoS meeting requested to conduct Guest lectures for the students by bringing experts from various reputed Universities.

Action: A guest lecture was conducted for I & II MA students and PhD Scholars on the topic, "Tips to Crack UGC NET/SET".

Dr Vinoth Kumar, a Member of the Board of Studies gave the vote of thanks and the meeting came to an end.

Date: 29.05.2023 **Chairman – BoS**

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Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF SCIENCES AND HUMANITIES

DEPARTMENT OF MATHEMATICS

Academic Year 2023-24

FIFTH BOARD OF STUDIES

Minutes of the Meeting

on

01.06.2023

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

SCHOOL OF SCIENCES AND HUMANITIES

DEPARTMENT OF MATHEMATICS

Fifth Board of Studies Meeting

(01-06-2023)

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SCHOOL OF SCIENCES AND HUMANITIES

DEPARTMENT OF MATHEMATICS

Fifth Board of Studies Meeting

(01-06-2023)

MEMBERS OF THE BOARD OF STUDIES

Sl. No.	Name, Designation and Organization
	Chairman
1.	**Dr. M. L. Suresh** Professor & Head, Department of Mathematics, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai-62. **Email** : hodmaths@veltech.edu.in **Mobile** : 9444116609
	External Experts
2.	**Dr. D. Arivudainambi** Professor, Department of Mathematics, Anna University, Chennai-600025 Email id :arivu@annauniv.edu Mobile No:9884062624
3.	**Dr. Bapuji Pullepu** Associate Professor Department of Mathematics SRM Institute of Science and Technology Kattankulathur-603203 Tamilnadu, India Email id: bapujip@srmist.edu.in Mobile No: 9840045443

Sl. No.	Name, Designation and Organization
Internal Experts	
4.	**Dr. E. Chandrasekaran** Professor, Department of Mathematics, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai-62. **Email** : drchandrasekarane@veltech.edu.in **Mobile :** 9444821368
5.	**Dr. J. Viswanath** Professor, Department of Mathematics, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai-62. **Email** : jviswanath@veltech.edu.in **Mobile :** 9884809168
6.	**Dr. T. Gunasekar** Associate Professor, Department of Mathematics, Vel Tech. Email id: gunasekar.t@veltech.edu.in Mobile No. 9543343390
7.	**Dr. J. Naresh Kumar** Associate Professor, Department of Mathematics, Vel Tech. Email id: jnareshkumar@veltech.edu.in Mobile No. 9894809569
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9.	**Dr. R. Narmada Devi** Associate Professor, Department of Mathematics, Vel Tech. Email id: drrnarmadadevi@veltech.edu.in Mobile No. 8870122446

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SCHOOL OF SCIENCES AND HUMANITIES

DEPARTMENT OF MATHEMATICS

Fifth Board of Studies Meeting

(01-06-2023)

MEMBERS OF THE BOARD OF STUDIES

Sl. No.	Name, Designation and Organization	
Chairman		**Signature**
1.	**Dr. M. L. Suresh** Professor & Head, Department of Mathematics, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai-62. **Email** : hodmaths@veltech.edu.in **Mobile** : 9444116609	
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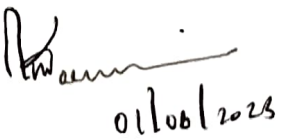
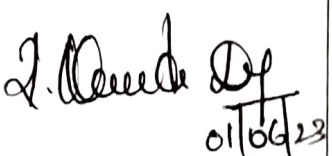
8	**Dr. A. Meenakshi** Associate Professor, Department of Mathematics, Vel Tech. Email id: drameenakshi@veltech.edu.in Mobile No. 9940070544	
9	**Dr. R. Narmada Devi** Associate Professor, Department of Mathematics, Vel Tech. Email id: drrnarmadadevi@veltech.edu.in Mobile No. 8870122446	

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School of Sciences and Humanities

Department of Mathematics

Minutes of the Fifth Board of Studies meeting held on 1st June. 2023

The Fifth Board of Studies was held in Video Conference Hall (Room No: 4101) between 10.00 am and 1.00 pm and the following members were present during the meeting:

Chairman

Dr.M. L.Suresh, Professor & Head, Department of Mathematics,

School of Sciences and Humanities.

Academic Experts

Dr.D. Arivudainambi, Professor, Department of Mathematics, Anna University, Chennai.

Dr.Bapuji Pullepu, Associate Professor, Department of Mathematics,

SRM Institute of Science and Technology, Kattankulathur, Chennai.

Internal Members

Dr. E. Chandrasekaran, Professor, Department of Mathematics.

Dr. J. Viswanath, Professor, Department of Mathematics.

Dr. T. Gunasekar, Associate Professor, Department of Mathematics.

Dr. J. Naresh Kumar, Associate Professor, Department of Mathematics.

Dr. A. Meenakshi, Associate Professor, Department of Mathematics.

Dr. R. Narmada Devi, Associate Professor, Department of Mathematics.

Special Invitee

Dr. V. Sundarapandian, Professor, Department of Mathematics.

Dr. M. L.Suresh, Head, Department of Mathematics & Chairman of the Board of Studies welcomed the members and outlined the objectives of the meeting.

Agenda No.	Agenda
05BoS-01	Presentation by Chairman - Board of Studies.
05BoS-02	Ratification of the following Courses: **Open Elective**: 1.Operations Research (3credits) 2.Statistical Analysis using R (Integrated course) (3credits) **Program Elective**: 3. Fuzzy Differential Equation.
05BoS-03	Courses for discussion and approval:
	Programme Elective (Specialized Course)
	1. Probability and Stochastic Processes. 2. Introduction to Queueing Theory.
	Foundation Course
	1. Calculus and Ordinary Differential Equations.
05BoS-04	**Discussion and approval of PG program core and elective courses.**
	Program core courses.
	1. Stochastic Processes 2. Numerical Analysis Reducing the credit from 94 to 80 and internal assessment pattern.
	Program Elective courses
	1. Mathematical Statistics 2. Differential Geometry
05BoS-05	**Discussion on new PG regulation and credits for M.Sc Mathematics programme:**
	Reduction of credits from 94 to 80 and the internal assessment pattern.
05BoS-06	Discussion and approval of uniform credits in each semester.
05BoS-07	Any other items.

05BoS–01: Presentation by Chairman Board of Studies

The Chairman welcomed the members and outlined the objectives of the meeting.

The Chairman presented the academic progress of the post and under graduate programmes offered in the Department of Mathematics, School of Sciences and Humanities in the form of power point presentation.

Discussion:

The External members appreciated the progress.

Action:

The members moved on to the next agenda.

05BoS–02: Ratification of the following Courses:

Open Elective courses:

1. Operations research
   Members recommended to change the title of the Unit II as Simplex method and also to add the book "Ravindran, Phillips, Solberg, Operations Research, Principles and Practice, 2nd edition, John Wiley & Sons, 2007" as one of the reference book.

2. Statistical analysis using R (Integrated course)

Program Elective:

3.Fuzzy Differential Equation

Members ratified the open and program elective courses after discussion.

05BoS–03: Courses for discussion:

Specialized Programme Elective Courses (4 credit)

1. Probability and Stochastic Processes.
2. Introduction to Queueing Theory.

Members discussed the specialized courses to be offered for the research scholars as a course work. Members approved the courses.

Further, in the UG programme under foundation course **"Calculus and Ordinary Differential Equations"** offered for B.Tech engineering course, it is suggested to re order the units II and III without change in syllabus so that the students can learn Integral Calculus in their second unit before studying Vector Calculus in third unit.

Members approved the changes in the foundation course and moved onto the next agenda.

05BoS-04: Discussion and approval of Curriculum and Syllabus for the new courses in M.Sc., Mathematics Programme.

Programme Core:

Proposed to introduce

(i) Stochastic Processes

Members recommended that in Unit I under the title three important theorems, each theorem to be stated separately.

(ii) Numerical Analysis courses as program core (PC) papers.

Committee members discussed and approved the entire syllabus of PC courses.

Programme Elective:

Proposed to introduce

(i) Mathematical Statistics

Members recommended to reorder the Units.

(ii) Differential Geometry

Committee discussed and approved the entire syllabus of programme elective courses.

05BoS–05: Discussion on new PG regulation and credit changes (Common for School of Science and Humanities) for M.Sc Mathematics programme:

Reducing the credit from 94 to 80:

Discussion on reducing the total credits from 94 to 80 as it is common to all PG programs.

The following changes were made in reducing existing 94 credits to 80 credits.

REVIEW OF CREDITS

Course Category	Existing Credits	Proposed credits
Programme Core	48 (51.06%)	44 (55%) *
Programme Elective	12 (12.77%)	15(18.75)
Open Elective	6 (6.38%)	6 (7.5%) *
Internship/Seminar	4	2
Independent Learning	4	-
Major Project	12	10(2+8)
Life Skills	4	2
Extension Activities	4	1
Total	**94**	**80**

The members approved the total credit change from 94 to 80.

- Independent learning 4 credits was shared in PC and PE.
- Major project credit reduced from 12 to 10. In project phase-I, 2-credits allotted for literature survey and problem identification and allotted 8 credits for project phase-II.
- Extension activity one credit (minimum 40 hours) to be earned by NSS, Unnat Bharat Abhiyan.., etc.
- Members recommended the following

  (i) Programme Elective (two courses, 6 credits).

  (ii) Open elective (two courses, 6 credits)

  (iii) Life skill (2 credits)

  On the whole 5 courses (14 credits) maybe earned through either through online platforms like NPTEL/SWAMYAM/MOOC or through offline.

Internal mark assessment:

Assessment Method						
Assessment				**Maximum Marks**	**Valuation**	**Final Mark**
	Internal	**1**	**Mid Term Test-I**	30	Direct	Average of (**1**+**2**)=30
		2	**Mid Term Test-II**	30		
		3	**Seminar**	5	Direct	Average of (**3**+**4**) =10
		4	**Assignment**	5		
Total						**40**
	External	**End Semester Exam**		60	Direct	60
Total (a + b)						**100**

<u>05BoS-06:</u> Discussion and approval of uniform credits in each semester

As per the feasibility of offering the courses in each semester and to maintain average credits in each semester, committee recommended and approved the credits for each semester as follows.

Semester	Existing credits	Proposed credits
I	**23**	**18**
II	**25**	**23**
III	**26**	**23**
IV	**20**	**16**
Total	**94**	**80**

<u>05BoS-07:</u> Other items

<u>Action:</u> Experts Suggestion on Project work as follows:

1. In Phase-I, Students have to learn the basics, literature survey and identification of their proposed topic of their project, two reviews and Vivo Voce along with the submission of report which carries 2 credits.

2. In Phase-II, Students have to identify the problem, solution to the problem, two reviews and Vivo Voce along with the submission of dissertation which carries 8 credits.

3. Committee strongly suggested that the credit splitting for the project Phase-1 and Phase-2 should be 2 credits and 8 credits respectively.

4. M.Sc., students should be encouraged to publish their documentation of new concepts at the end of their project work/research work in reputed journals. Publishing the research paper in reputed journals or international or national conferences are encouraged.

5. Suitable PG courses may be offered as course work for full and part time research scholars.

Date: 01-06-2023 **Chairman –BOS**

COURSE CODE	COURSETITLE	L	T	P	C
	OPERATIONS RESEARCH	**3**	**0**	**0**	**3**

Course Category: Open Elective

i. Preamble:

Operations research helps in solving problems in different environments that require decisions. The students will be introduced to techniques for effective decision making, model formulation and solutions required to solve organizational problems.

ii. Prerequisite Courses:

Mathematics as a Main Subject or Allied Subject in UG Level.

iii. Related Courses:

Linear Algebra
Optimization Techniques

iv. Course Educational Objectives:

The aim of this course is to introduce the field of operations research to the students so as to enable them to apply certain techniques in business and management problems. Basic concepts of Operations Research such as Linear Programming Problem, Network models, Minimal spanning tree algorithm, Shortest route problem, Integer Programming, Decision trees, Two - Person, Zero - Sum Games, etc. will be introduced.

v. Course Outcomes:

After the successful completion of the course, students will be able to:

CO No.	Course Outcome	Level of Learning domain (Based on Revised Bloom's)
CO1	Familiarize with the basic concepts, formation and graphical solutions of Linear Programming problems and its applications.	K3
CO2	Solve Linear Programming Problem by Graphical, Simplex and Big M Method.	K3
CO3	Learn travelling sales man and assignment problem solving techniques.	K3
CO4	Execute techniques of solving network problems by CPM and PERT algorithms.	K3
CO5	Understand the methods of solutions of Two-Person, Zero – Sum Games.	K3

vi. Correlation of Cos with POs:

Co.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	H	H	M			M					M	M
CO2	H	H	M			M					M	M
CO3	H	H	M			M					M	M
CO4	H	H	M			M					M	M
CO5	H	H	M			M					M	M

H–High; M–Medium; L-Low

vii. Course Content:

UNIT I - **BASICS OF OPERATIONS RESEARCH** **(9 Hrs)**

Objectives of Operations Research – Basic concepts of Linear Programming – Mathematical Formulation of LPP –Basic Feasible and Optimal Solution – Assumptions and Limitations of LPP – Various Applications of LPP - Graphical Method.

UNIT II – **SIMPLEX METHOD** **(9 Hrs)**

Maximization and Minimization – Bounded – Unbounded – Degeneracy – Artificial Variable Techniques: Big M Method.

Unit III – **TRANSPORTATION AND ASSIGNMENT PROBLEMS** **(9 Hrs)**

Assumptions in the Transportation problem – Matrix Terminology – Solution of Transportation problem: North West Corner Rule – Least Cost Method – Vogel's Approximation Method – Optimal Solution: MODI Method. Mathematical representation of Assignment Problem – Travelling Salesman Problems – Comparison of Transportation and Assignment Model.

UNIT IV – **NETWORK ANALYSIS** **(9 Hrs)**

Network Analysis for Project Planning – Role of Network Techniques – Network Logic (Arrow Diagram) – Network Techniques: Critical Path Method (CPM) – Programme Evaluation Review Techniques (PERT) – Advantages and Limitations of Network – Distinction between CPM and PERT.

UNIT V – **THEORY OF GAMES** **(9 Hrs)**

Introduction –Two-Person zero – Sum Games – Pure Strategies: Games with saddle point – Mixed Strategies: Games without saddle point – Principles of Dominance – Graphical method – Arithmetic Method.

TOTAL: 45 Hrs

i. Text Book:

1. E. R. Prem Kumar Gupta and Dr D.S. Hira, Operations Research, S. Chand, 7th Revised Edition 2014.

ii. Reference Books:

1. Hamdy A Taha, Operations Research: An Introduction, Pearson/ Prentice Hall India, Eighth Edition, 2007.
2. J K Sharma, Operations Research Theory and Applications, Trinity press, 6th Edition 2016.

3. Gupta P.K, Hira D.S, Problem in Operations Research, S.Chand and Co, 2007.
4. Paneerselvam R., Operations Research, Prentice Hall of India, Fourth Print, 2008.
5. Ravindran, Phillips, Solberg, Operations Research, Principles and Practice, 2nd edition, John Wiley & Sons, 2007.

iii. Online links

1. https://www.sxccal.edu/wp-content/uploads/2020/01/Maths-Anciliary-Sem-3-_OR_-July-14.pdf
2. https://www.studocu.com/in/document/indira-gandhi-national-open-university/operations-research/linear-programming-problems-simplex-method/24352916
3. https://www.acsce.edu.in/acsce/wp-content/uploads/2020/03/1585041316993_Module-4.pdf
4. https://www.projectcubicle.com/pert-method-definition-examples/
5. https://www.investopedia.com/terms/g/gametheory.asp

COURSE CODE	COURSE TITLE	L	T	P	C
	STATISTICAL ANALYSIS USING R	**2**	**0**	**2**	**3**

Course Category: OPEN ELECTIVE (INTEGRATED COURSE)

a. Preamble

This course seeks to develop the computational skill of the students.

b. Prerequisite Courses:

Nil

c. **Related Courses**:

Computation Using MATLAB.

d. **Course Educational Objectives**:

Students will be capable of handling any mathematical techniques using R.

e. **Course Outcomes:**

After the successful completion of the course, students will be able to

CO No.	Course Outcome	Level of Learning domain (Based on revised Bloom's)
CO1	To understand the installation and basic commands in R	**K2**
CO2	To learn about the diagrammatic representation of data and conditional statements.	**K2**
CO3	To familiarize the concepts of statistical measures.	**K2**
CO4	To understand the concepts of hypothesis testing.	**K3**
CO5	To Know about analysis of variance.	**K3**

f. **Correlation of Cos with POs**

Co.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	**H**	**H**	**M**									**M**
CO2	**H**	**H**	**M**									**M**
CO3	**H**	**H**	**M**									**M**
CO4	**H**	**H**	**M**									**M**
CO5	**H**	**H**	**M**									**M**

H – High; M – Medium; L – Low

g. Course Content

Unit - I: Data Types and Operations in R L–6+P–6

Introduction: Installation - Packages and Libraries - Command Line and Data Editor.

Data types and Operations: Scalars – Vectors – Sequences – String - Character - Addition – Subtraction – Multiplication – Division – Power – Integer – Modulo Divisions - Matrices - Built in Functions – Import and export Data.

Unit - II: Diagrammatical Representation and Conditional Statements L–6+P–6

Diagrammatical Representation: Bar diagram -Box plot - Stem and Leaf diagram - Probability plot – Histogram - Pie Chart - Scatter diagram.

Conditional Statement – If and if-else – For loop -While Loop - Switch.

Unit - III: Statistical Measures L–6+P–6

Statistical Measures - Measure of central tendency - Measure of dispersion - Measure of Skewness – Correlation - Linear Regression.

Unit - IV: **Testing of Hypotheses L–6+P–6**

Tests of Hypotheses for Large Sample – Z-test for single mean and proportions - Z-test for difference of sample means and proportions.

Tests of Hypotheses for Small Sample - t-test for single mean and proportions - t-test for difference of sample means and proportions - paired t-test - F test for the equality of variances.

Unit - V: Analysis of Variance **L–6+P–6**

ANOVA - One way classification - Two way classification – Latin square Design.

h. Learning Resources

i. Text Books:

1. S.C. Gupta and V.K. Kapoor, Fundamentals of Mathematical Statistics, Sultan Chand & Sons, 2000.
2. Andy Field, Jeremy Miles, Zoë Field, Discovering Statistics using R, SAGE Publications, 2012.

ii. Reference books:

1. N.Matloff, The Art of R Programming, No Starch Press, Inc., 2011.
2. Joaquim P. Marques De Sa, Applied Statistics using SPSS, Statistica, MATLAB and R, 2nd edition Springer- Verlag Berlin Heidelberg, 2007.
3. Jared P. Lander, R for Everyone: Advanced Analytics and Graphics, Addison-Wesley Professional, 2nd edition, 2017.

iii. **Online Resources**:

1. https://kingaa.github.io/R_Tutorial/
2. https://cran.r-project.org/doc/manuals/R-intro.html
3. https://www.oregon.gov/ODOT/Planning/Documents/R-Manual.pdf
4. https://cran.r-project.org/doc/contrib/Rossiter-RIntro-ITC.pdf
5. https://www.pearson.com/content/dam/one-dot-com/one-dot-com/us/en/files/LeslieChandrakantha-CTCM2018Paper-Chandrakantha.pdf
6. http://www2.ims.nus.edu.sg/preprints/2006-34.pdf

COURSE CODE	COURSE TITLE	L	T	P	C
	FUZZY DIFFERENTIAL EQUATION	**4**	**0**	**0**	**4**

Course Category: Open Elective

a. **Preamble:**

The aim of this course is to introduce Fuzzy Differential Equation from both theoretical and research points of view.

b. **Prerequisite Courses**:

Differential Calculus

c. **Related Courses**:

Fuzzy Logic

d. **Course Educational Objectives**:

The students will be inspired to formulate and solve some practical problems using Fuzzy Differential Equation.

e. **Course Outcomes:**

After the successful completion of the course, students will be able to:

CO No.	Course Outcome	Level of Learning domain (Based on revised Bloom's)
CO1	Understand the concept of fuzzy sets and their operations.	K3
CO2	Familiarize the concept of fuzzy number and fuzzy relation.	K3
CO3	Understand the concept of fuzzy subsets. Comprehend the fuzzy set operation to fuzzy relations fuzzy metric spaces.	K3
CO4	Apply the fuzzy calculus technique for modelling and analysing fuzzy systems.	K3

CO5	Apply fuzzy set theory to formulate and solve fuzzy initial value problems. Comprehend the Hukuhara derivative as a generalization of the classical derivative for fuzzy functions.	K3

f. Correlation of Cos with POs:

Co.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	**H**	**H**	**H**	**M**		**M**	**M**					**M**
CO2	**H**	**H**	**H**	**M**		**M**	**M**					**M**
CO3	**H**	**H**	**H**	**M**		**M**	**M**					**M**
CO4	**H**	**H**	**H**	**M**		**M**	**M**					**M**
CO5	**H**	**H**	**H**	**M**		**M**	**M**					**M**

H – High; M – Medium; L - Low

g. Course Content

Unit 1: Operation of Fuzzy Sets **12 hrs**

Sets - Operation of sets - Characteristics of Crisp sets - Definition of Fuzzy sets - Expanding concepts of Fuzzy sets - Standard operation of fuzzy sets - Standard operation of Fuzzy sets - Fuzzy Complement - Fuzzy union - Fuzzy intersection - T-Norms and T-Co norms.

Unit II: Fuzzy Relation and Fuzzy Number **12 hrs**

Crisp Relation - Properties of relation on a single set - Fuzzy relation - Extension of Fuzzy sets - Concept of Fuzzy number - Operation of Fuzzy number - Triangular Fuzzy number - Other types of Fuzzy number.

Unit III: Fuzzy Arithmetic **12 hrs**

Fuzzy Subsets - Extension principle - Fuzzy Arithmetic for Fuzzy number - Fuzzy metric spaces - Fuzzy function.

Unit IV: Fuzzy Calculus **12 hrs**

Fuzzy calculus for Fuzzy set value function - Fuzzy calculus for Fuzzy Bunches of functions.

Unit V: Fuzzy Differential Equation **12 hrs**

Approaches of Fuzzy Initial Value Problem (FIVP) - Hukuhara Derivative - Strongly generalized derivative - Fuzzy differential inclusions - Extension of the solution - Extension of the derivative operator.

h. Learning Resources

i. Text books:

1. Kwang H Lee, First Course on Fuzzy Theory and Application – Springer Verlag, 2005.

Unit I: Sections 1.1 - 1.6, 2.1 - 2.6
Unit II: Sections 3.1 - 3.4 and 5.1 - 5.4

2. L T Gomes, Fuzzy Differential Equation in Various Approaches, Springer –Verlag, 1995.

Unit III: Sections 2.1 - 2.6

Unit IV: Sections 3.1 - 3.4

Unit V: Sections 4.1 - 4.7

ii. Reference books:

1. H.J. Zimmerman, Fuzzy Set Theory and its Applications, Allied Publishers Ltd., New Delhi, 1991.
2. John Yen, Reza Langari, Fuzzy Logic - Intelligence, Control and Information, Pearson 53.
3. S Chakraverty, Fuzzy Differential Equation and Application for Scientist and Engineers, 1st Edition, Boca Raton Publication, 2016.

iii. **Online Resources:**

1. https://en.m.wikipedia.org/wiki/Fuzzy_set_operations.
2. https://en.m.wikipedia.org/wiki/Fuzzy_relation.
3. https://www.emerald.com/insight/content/doi/10.1108/978-1-78743-868-220181003/full/html.
4. https://www.sciencedirect.com/science/article/abs/pii/0165011486900266.
5. https://en.m.wikipedia.org/wiki/Fuzzy_differential_equation.

COURSE CODE	COURSE TITLE	L	T	P	C
	PROBABILITY AND STOCHASTIC PROCESSES	**3**	**2**	**0**	**4**

Course Category: **Programme Elective (Specialized Course)**

a. Preamble

The aim of this course is to introduce certain fundamental concepts in Probability Theory to research scholars. Emphasis will be laid on the identification of Markov structure in the study of the dynamism in stochastic environment.

b. Prerequisite Courses:

Probability Theory

c. Related Courses:

Renewal Theory, Queueing Theory, Inventory Theory.

d. Course Educational Objectives:

With rapid advancement of Science and Technology, he present day human life is encircled by several stochastic applications. The objective of this course is to provide skill to the students of research domain to solve the real time problems in stochastic nature.

e. Course Outcomes:

After the successful completion of the course, students will be able to:

CO No.	**Course Outcome**	Level of Learning domain(Based on revised Bloom's)
CO1	Analyze the performance in terms of the probabilities and distributions achieved by the determined solutions.	K3
CO2	Familiar with some of the commonly encountered two dimensional random variables and equipped for a possible extension to multivariate analysis.	K3
CO3	Appreciate wide sense stationary with respect to Poisson and Random Telegraph processes.	K3
CO4	Design transition matrix of the Markov chain	K3
CO5	Identify and analysis discrete and continuous time Markov structures.	K3

f. Correlation of Cos with POs:

Co.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1											**M**	**M**
CO2											**M**	**M**
CO3		**M**	**H**								**M**	**M**
CO4		**M**	**H**			**M**			**M**		**H**	**M**
CO5		**M**	**H**			**M**			**M**		**H**	**M**

H–High; M–Medium; L–Low

g. Course Content

UNIT – I RANDOM VARIABLES 15 hrs

Discrete and continuous random variables – Moments – Moment generating functions – Binomial, Poisson, Geometric, Uniform, Exponential, Gamma and Normal distributions – Functions of a random variable.

UNIT- II TWO-DIMENSIONAL RANDOM VARIABLES 15 hrs

Joint distributions – Marginal and conditional distributions – Covariance – Correlation and Linear regression – Transformation of random variables – Central limit theorem (for independent and identically distributed random variables).

UNIT-III RANDOM PROCESSES 15 hrs

Classification – Stationary process – Markov process – Poisson process – Random telegraph process.

UNIT-IV MARKOV CHAINS AND TRANSITION PROBABILITIES 15 hrs

Markov Chains - Classification of States and Chains – Determination of transition probabilities – Stability of a Markov system – Reducible Chains – Markov Chains with Continuous State Space.

UNIT- V MARKOV PROCESSES WITH DISCRETE AND CONTINUOUS STATE SPACE 15 hrs

DISCRETE STATE SPACE: Poisson Process and Related Distributions – Generalization of Poisson Process – Birth and Death Process – Chapman – Kolmogorov Equations – Randomization – Erlang Process.

CONTINUOUS STATE SPACE: Brownian Motion – Wiener Process - Differential Equations for a Wiener Process – Kolmogorov Equations.

h. Learning Sources:

1. https://archive.nptel.ac.in/courses/111/104/111104079/

i. Text Books:

1. Ibe, O.C. Fundamentals of Applied Probability and Random Processes, Elsevier, U.P., Academic Press, 2nd Edition, Boston, 2014.
2. J. Medhi, Stochastic Processes, Third Edition, New Age International Publishers, New Delhi, 2013.

ii. Reference books:

1. J. Medhi, Stochastic Models in Queueing Theory, Second Edition, Academic Press, USA, 2006.
2. George R. Cooper, Clare D. McGillem, Probabilistic Methods of Signal and System Analysis, Oxford University Press, 3rd Edition, New York, 2010.
3. Peebles, P.Z. Probability, Random Variables and Random Signal Principles, Tata McGraw Hill, 4th Edition, New Delhi, 2017.

COURSE CODE	COURSE TITLE	L	T	P	C
	INTRODUCTION TO QUEUEING THEORY	**3**	**2**	**0**	**4**

Course Category: **Programme Elective (Specialized Course)**

a. Preamble

The aim of this course is to introduce certain fundamental concepts in Queueing Theory to research Scholars. Emphasis will be laid on real life applications of Queueing Theory.

b. **Prerequisite Courses**:

Probability Theory, Stochastics Processes

c. **Related Courses**:

Stochastic Processes, Inventory Theory

d. **Course Educational Objectives**:

With rapid advancement of Science and Technology, the present day human life is encircled by several queues. The objective of this course is to provide skill to the research scholars to solve real time queueing problems.

e. Course Outcomes:

After the successful completion of the course, students will be able to:

CO No.	**Course Outcome**	Level of Learning domain(Based on revised Bloom's)
CO1	Understand the basic concepts of Renewal theory	K3
CO2	Understand the basic concepts of Queueing theory	K3
CO3	Identify the different types of Markovian queues	K3
CO4	Categorize the Markovian and non-Markovian queues	K3
CO5	Learn, solving the advanced queueing models by using supplementary variable technique.	K3

f. Correlation of Cos with POs:

Co.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		**M**	**M**	**H**								**M**
CO2		**M**	**M**	**H**								**M**
CO3		**M**	**H**	**H**								**H**
CO4		**H**	**H**	**H**	**M**		**M**		**M**		**M**	**H**
CO5		**H**	**H**	**H**	**M**		**M**		**M**		**M**	**H**

H–High; M–Medium; L–Low

g. Course Content

UNIT I MARKOVIAN QUEUES 15 hrs

Steady State Analysis - Single and multiple channel queues - Erlang's formula - Queues with unlimited waiting space - Finite source queues.

UNIT II ADVANCED MARKOVIAN QUEUES 15 hrs

Bulk input model - Bulk service model - Erlangian models - Priority queue discipline.

UNIT III NON-MARKOVIAN QUEUES 15 hrs

M/G/1 queueing model - Pollaczek-Khintchine formula - Steady-state system size probabilities – Waiting time distributions – Generalization of Little's formula – Busy period analysis of M/G/1 queue.

UNIT IV SYSTEM RELIABILITY 15 hrs

Reliability and hazard functions – Exponential, normal, weibull and Gamma failure distributions – Time – dependent hazard models, Reliability of series and parallel systems.

UNITV APPLICATIONS OF QUEUEING MODELS 15 hrs

Case study of Queueing models with batch arrival, bulk service under non-Markovian environment using supplementary variable technique.

h. Learning Sources

1. https://archive.nptel.ac.in/courses/111/103/111103159/

i. Text Books:

1. Donald Gross, John F. Shortle, James M. Thompsonand Carl M. Harris, Queueing Theory, Fourth Edition, John Wiley and Sons, New York, 2013.
2. Balaguruswamy. E "Reliability Engineering", Tata McGraw Hill Publishing Company Ltd., New Delhi, 2010.

ii. Reference books:

1. J. Medhi, Stochastic Models in Queueing Theory, Second Edition, Academic Press, USA, 2006.
2. Sheldon M. Ross, Introduction to Probability Models, Tenth Edition, Academic Press, USA, 2010.
3. Robert B. Cooper, Introduction to Queueing Theory, Second Edition, Macmillan, 1981.

(Common to CSE&IT)

COURSE CODE	COURSETITLE	L	T	P	C
10210MA102	CALCULUS AND ORDINARY DIFFERENTIAL EQUATIONS	3	2	0	4

Course Category: Foundation

a. Preamble:

The goal of this course is to develop the functions of basic concepts, identify the convergence or divergence of a series of positive terms, evaluate the single, double and triple integration, apply vector differential calculus to solve problems related to vector and scalar fields, solving the ordinary differential equations of higher order with constant and variable coefficients, solve the differential equations using the Laplace transformation.

b. Pre requisite Courses:

Higher Secondary Mathematics

c. Related Courses:

Engineering mechanics, Signal processing, Electromagnetic theory, Finite element analysis.

d. Course educational objectives:

- To describe the functions of positive term series to identify the convergence or divergence.
- To determine multiple integrals in aerodynamics and artificial intelligence.
- To provide the knowledge in the field of Vector Calculus.
- To solve ordinary differential equation in modern control theory, computational control systems.
- To solve the ordinary differential equations by using Laplace Transform in the field of machine learning and data mining.

e. Course Outcomes

After the course is successfully completed, the students will be able to:

CO Nos.	Course Outcomes	Knowledge level (Based on Bloom's taxonomy)
CO1	Identifying the functions to solve the positive term series.	K3
CO2	Computing the double and triple integral to measure the area enclosed by curves and volume of a solid	K3
CO3	Applying the vector differential calculus to solve problems related to vector and scalar fields.	K3
CO4	Calculating the higher order linear differential equations with different methods.	K3
CO5	Solving the ordinary differential equation by using Laplace transform.	K3

f.Correlation of Cos with POs

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	H	M	M									
CO2	H	M	M									
CO3	H	M	M	M								
CO4	H	M	M									
CO5	H	M	M	M								

H–High, M– Medium, L–low

g. Course Content

UNIT I–FUNCTIONS AND SERIES L–9 +T–6

. Functions and Models – Trigonometric functions – Exponential function, inverse functions, logarithms –Sequences and Series – Convergence and Divergence of a sequence – series –nth term test, Ratio test, Root test, Comparison test, and Integral test.

UNIT II–MULTIPLE INTEGRALS L–9 +T–6

Integration as a limiting case of summation – Integration by substitution method – Integration by parts– Bernoulli's formula – Double integral – Change of order of integration– Double integration in polar coordinates – Area enclosed by curves – Triple integrals –Volume of solids.

UNIT III– VECTOR CALCULUS L–9 +T–6

Vector fields and scalar fields – The gradient field – The directional derivative – Divergence and Curl of a vector field– Solenoidal and Irrotational vector fields – Line integrals as integrals of vectors– Green's theorem (without proof), Surface integrals – Divergence theorem (without proof) and Stokes' theorem (without proof) – Verification of all theorems on simple regions, cubes and rectangular parallelepipeds.

UNIT IV–ORDINARY DIFFERENTIALEQUATIONS L–9 +T–6

First Order Differential Equations: Variable and separable – Homogeneous and Non–Homogeneous–Linear and Bernoulli's equation–Higher Order Linear Differential Equations with constant coefficients – Method of variation of parameter – Differential Equations with variable coefficients–Cauchy and Legendre types.

UNIT V–LAPLACE TRANSFORMS L–9 +T–6

Laplace transform – Sufficient Condition for existence – Transform of elementary functions – Basic properties – Transform of derivatives and integrals – Transform of periodic functions –Unit step and Dirac delta functions - Inverse Laplace transform –Convolution theorem (excluding proof) – Initial and Final value theorems – Solution of linear ODE of second order with constant coefficients using Laplace transform.

h. Learning Resources

i. Text Books:

1. KreyszigE, Advanced Engineering Mathematics,10th edition,Wiley,2015.
2. GeorgeB. Thomas, Jr., RossL.Finney and Maurice D. Weir, Calculus and Analytical Geometry, 9thEdition, Addison– Wesley Publishing Company, 1998.

ii. Reference Books:

1. Grewal B.S., Higher Engineering Mathematics, Khanna Publishers, New Delhi, 47th Edition, 2015.
2. Jain R. K and Iyengar, S.R.K, Advanced Engineering Mathematics,3rdedition, Narosa Publishing House, 2009.
3. Peter O' Neil, Advanced Engineering Mathematics, Cengage Learning, Boston, USA, 2012.
4. Dennis G. Zill, WarrenS. Wright and Michael R. Cullen. Advanced Engineering Mathematics (4th Edn.)Jones & Bartlett Learning, Canada, 2011.
5. DeanG.Duffy.AdvancedEngineeringMathematicswithMATLAB,2ndEdn.,Chapman&Hall/CRCPress,NewYork,2003 (TaylorandFrancis,e–library,2009).

iii. Online resources:

https://www.math.tamu.edu/~dallen/m640_03c/lectures/chapter2.pdfhttps://www.math.ust.hk/~mac

has/vector-calculus-for-engineers.pdfhttps://www.math.wisc.edu/~angenent/Free-Lecture-

Notes/free221.pdf

https://web.iit.edu/sites/web/files/departments/academic-affairs/academic-resource-center/pdfs/LaplaceTransformIIT.pdf

http://www.math.utah.edu/~gustafso/laplaceTransform.pdf

COURSE CODE	COURSE TITLE	L	T	P	C
	STOCHASTIC PROCESSES	**3**	**2**	**0**	**4**

Course Category: Programme Core

a. Preamble

This course aims at providing the necessary basic concepts in stochastic processes. Knowledge of fundamentals and applications of random phenomena will greatly help in the understanding of topics such as signals and systems, pattern recognition, voice and image processing and filtering theory. Emphasis will be laid on the stochastic models form any real life probabilistic situations such as Markov process, renewal process and queuing system.

b. Pre-requisite Courses:

Mathematics as a Main Subject or UG Level -Basic Concepts of Probability

c. Related Courses:

Combinatorics Queueing Theory

d. Course Educational Objectives:

The course seeks to enable the students to work creatively on scientific and engineering-based real world problems involving stochastic modelling. The students would understand and characterize phenomena which evolve with respect to time in a probabilistic manner.

e. Course Outcomes:

After the successful completion of the course, students will be able to:

CO. No.	Course Outcome	Level of Learning Domain (Based on revised Bloom's)
CO1	Explain the fundamentals of a Probability distribution and stochastic process	**K3**
CO2	Understand Markov chains and determine the stability of a Markov system	**K3**

CO3	Identify and work on Markov process.	**K3**
CO4	Describe Poisson processes in continuous time.	**K3**
CO5	Analyze transient behaviors of Queuing models	**K3**

f. Correlation of Co's with PO's:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	H	H	M			M					M	M
CO2	H	H	M			M					M	M
CO3	H	H	M			M					M	M
CO4	H	H	M			M					M	M
CO5	H	H	M			M					M	M

H–High; M–Medium; L-Low

g. Course Content

UNIT-I RANDOM VARIABLES AND STOCHASTIC PROCESSES L–9 +T–6

Generating Functions - Introduction -Probability Generating Function: Mean and Variance - Sum of (a Fixed Number of) Random Variables -Sum of a Random Number of Discrete Random Variables (Stochastic Sum) - Generating Function of Bivariate Distribution –Discrete Distributions – Continuous Distributions, Three Important Theorems: Uniqueness Theorem, Continuity Theorem and Convolution Theorem- Geometric and Exponential Distributions. Stochastic processes: an introduction. Specification of Stochastic Processes

UNIT-II MARKOV CHAINS L–9 +T–6

Definition and Examples - Transition Matrix (or Matrix of Transition Probabilities) - Order of a Markov Chain - Markov Chains as Graphs -Higher Transition Probabilities - of Independent Bernoulli Trials: Sequence of Chain-Dependent Trials - Markov-Bernoulli Chain -Correlated Random Walk - Classification of States and Chains - Communication Relations - Class Property - Classification of Chains - Classification of States: Transient and Persistent (Recurrent) States

UNIT-III HIGHER TRANSITION PROBABILITIES AND MARKOV CHAINSL–9 +T–6

Determination of Higher Transition Probabilities - Aperiodic Chain: Limiting Behaviour - Stability of A Markov System - Computation of the Equilibrium Probabilities - Graph Theoretic Approach - Markov Chain with Denumerable Number of States (or countable state space) - Reducible Chains - Finite Reducible Chains with a Single Closed Class - Chain with One Single Class of Persistent Non-null Aperiodic States - Absorbing Markov chains.

UNIT-IV POISSON PROCESS AND ITS EXTENSIONS: L–9 +T–6

Introduction - Postulates for Poisson Process - Properties of Poisson Process and Related Distributions – Inter arrival Time - Generalizations of Poisson Process - Poisson Process in Higher Dimensions - Poisson Cluster Process (Compound or Cumulative Poisson Process) - Pure Birth Process: Yule-Furry Process - Birth-Immigration Process - Time-dependent Poisson Processes (Non-homogeneous Poisson process.

UNIT-V QUEUING SYSTEMS L–9 +T–6

Queueing Processes -Notation - Steady State Distribution - Little's Formula - Birth and Death Processes - Markovian Models : M/M/s - M/M/s/s : Erlang Loss Model - Non-Markovian Queueing Models - Queues with Poisson Input: Model M/G/1 -Pollaczek-Khinchine Formula.

h. Learning Resources

i. Text book

Treatment and Content as in:

J. Medhi, Stochastic Processes, Wiley Eastern, 1982.

ii. Reference Books

1. S. Karlin, H. M. Taylor, A First Course in Stochastic Processes, Academic Press, 2nd Edition, 1975.
2. Krishore S Trivedi , Probability and Statistics with Reliability, Queuing and Computer Science Applications, John Wiley & Sons Inc, 2nd Edition, 2001.
3. N. Bhat, Elements of Applied Stochastic Processes, John Wiley, 2nd Edition, 1984.
4. S. K. Srinivasan and K. Mehata, Stochastic Processes, Tata McGraw-Hill, 1976.
5. N. U. Prabhu, Stochastic Processes.Macmillan, 1965.
6. HowardM. Taylor, Samuel. Karlin, Introduction to Stochastic Modeling, Gulf Professional Publishing, 3rd Edition, 1998.

6. Online Resources

1. http://home.iitk.ac.in/~skb/qbook/Slide_Set_2.PDF
2. http://www.stat.yale.edu/~pollard/Courses/251.spring2013/Handouts/Chang-MarkovChains.pdf
3. http://www.few.vu.nl/~wvanwie/Courses/BiomedicalMathematics/WNvanWieringen_Lecture1_MarkovChain_1_20112012.pdf
4. https://link.springer.com/content/pdf/10.1007%2F978-1-4757-4070-7_7.pdf
5. https://bookdown.org/probability/beta/markov-chains.html
6. https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-262-
7. http://pages.iu.edu/~rdlyons/pdf/StochProc.pdf
8. https://www.kent.ac.uk/smsas/personal/lb209/files/sp07.pdf
9. https://arxiv.org/pdf/1307.2968
10. http://www.math.uchicago.edu/~may/VIGRE/VIGRE2011/REUPapers/Constantin.pdf
11. https://www.researchgate.net›publication›27289422_Stochastic_Processes
12. https://www.me.utexas.edu›powerpoint›or_models›11_stoch_processes

COURSE CODE	COURSE TITLE	L	T	P	C
	NUMERICAL ANALYSIS	3	2	0	4

Course Category: Programme Core

a. **Preamble:**

The aim of this course is to introduce the concept of numerical analysis. Emphasis will be laid on methods of large numbers.

b. **Pre-requisite Courses:**

Mathematics as subject of study in UG level

c. **Related Courses:**

Numerical Methods using C++

d. **Course Educational Objectives:**

The purpose of this course is to train the students in various numerical methods.

e. **Course Outcomes:**

After the successful completion of the course, students will be able to:

CO No.	Course Outcome	Level of Learning domain (Based on revised Bloom's)
CO1	Understand the methods to solve the equations in one variable	**K3**
CO2	Know the interpolation and polynomial approximation	**K3**
CO3	Familiarize to execute numerical differentiation and integration	**K3**
CO4	Develop to solve Initial-Value Problems for Ordinary Differential Equations	**K3**
CO5	Know the methods to solve Partial Differential Equations	**K3**

. **Correlation of CO's with PO's:**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	H	H	H	M								M
CO2	H	H	H	M								M
CO3	H	H	H	H								M
CO4	H	H	H	H								M
CO5	H	H	H	M								M

H – High; M – Medium; L - Low

g. Course Content

UNIT I SOLUTIONS OF EQUATIONS IN ONE VARIABLE L–9 +T–6

The Bisection Method - Fixed-Point Iteration - Newton's Method and Its Extensions - Error Analysis for Iterative Methods: The Jacobi and Gauss Seidel Iterative techniques - Accelerating Convergence - Zeros of Polynomials and Müller's Method – Relaxation techniques for solving linear systems.

UNIT II INTERPOLATION AND POLYNOMIAL APPROXIMATION L–9 +T–6

Interpolation (Equal and Unequal intervals) and the Lagrange Polynomial – Data Approximation and Neville's Method - Divided Differences - Hermite Interpolation - Cubic Spline Interpolation.

UNIT III NUMERICAL DIFFERENTIATION AND INTEGRATION L–9 +T–6

Numerical Differentiation - Richardson's Extrapolation - Elements of Numerical Integration-Composite Numerical Integration - Romberg Integration-Adaptive Quadrature Methods - Gaussian Quadrature – Multiple integrals – Improper integrals.

UNIT IV INITIAL-VALUE PROBLEMS FOR ORDINARY DIFFERENTIAL EQUATIONS L–9 +T–6

The Elementary Theory of Initial-Value Problems-Euler's Method-Higher-Order Taylor Methods-Runge-Kutta Methods-Error Control and the Runge-Kutta-Fehlberg Method-

Multistep Methods – Variable step size multistep methods – Extrapolation methods – Higher order equations and system of differential equations.

UNIT V NUMERICAL SOLUTIONS TO PARTIAL DIFFERENTIAL EQUATIONS **L -9 +T–6**

Introduction - Elliptic partial differential equations - Parabolic partial differential equations - Hyperbolic partial differential equations

h. Learning Resources

i. Text book:

1. R. L. Burden & J. D. Faires, Numerical Analysis, 9th Edition, Brooks/Cole-Cengage Learning, 2011.

Unit I : Sections 2.1 to 2.5 and sections 7.3 and 7.4
Unit II : Sections 3.1 to 3.5
Unit III : Sections 4.1 to 4.9
Unit IV : Sections 5.1 to 5.9
Unit V : Sections 12.1 to 12.3

ii. Reference Books:

1. K. E. Atkinson, An Introduction to Numerical Analysis, John Wiley and sons, 2008.
2. 2. D. Kinciad& W. Cheney, Numerical Analysis and mathematics of Scientific Computing, Brooks/Cole, 1999.
3. S. D. Conte & C. De Boor, Elementary Numerical Analysis, TATA McGraw-Hill, 2010.
4. J. H. Mathews, Numerical Methods for Mathematics, Science and Engineering, PHI, 1994.5.
5. Jain, Iyengar, Numerical Methods for Scientific and Engineering Problems, New Age International, 2009.

COURSE CODE	COURSE TITLE	L	T	P	C
	MATHEMATICAL STATISTICS	2	2	0	3

Course Category: Programme Elective

a. Preamble:

The aim of this course is to introduce the fundamentals of statistical distributions, tests of significance, estimation and analysis of variance.

b. Prerequisite Courses:

Set Theory

c. Related Courses:

Measure and Integration Combinatorics

d. Course Educational Objectives:

This course will be helpful for the students, who want to apply the various modern statistical tools in Science, Engineering, Industry, Operations Research, Biomedical and Public policy. They will be trained in the statistical tools of decision making.

e. Course Outcomes:

After the successful completion of the course, students will be able to:

CO. No.	Course Outcome	Level of Learning Domain (Based on revised Bloom's)
CO1	Identify Small Sample distributions and their properties	**K3**
CO2	Extract the concept of theory of Estimation	**K3**
CO3	Identify the suitable sample to test the significance level	**K3**
CO4	Interpret the concept to basic principle of analysis of Variance	**K3**
CO5	Identify and apply non-parametric test to classified the data	**K3**

f. Correlation of Cos with POs:

Co.s	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	H	H	H	M		M	M				M	M
CO2	H	H	H	M		M	M				M	M
CO3	H	H	M	M		M	M				M	M
CO4	H	H	H	M		M	M				M	M
CO5	H	H	H	M		M	M				M	M

H–High; M–Medium; L-Low

g. Course Content

UNIT I SAMPLING AND TEST OF SIGNIFICANCE L–6 +T–6

Types of Sampling – Purposive sampling – Satisfied Sampling – Random sampling – Parameters and statistic–Sampling distribution and Standard Error–Tests Significance for Large Samples: Testing for single mean –Testing for the difference between two means -Testing for single proportion –Testing for the difference between two proportions–Type I and Type II errors–Critical region and level of significance.

UNIT II EXACT SAMPLING DISTRIBUTION L–6 +T–6

χ^2 Distribution – Derivation – Some properties of χ^2distribution – Mean – Variance Additive property of independent χ^2 variates. Student's t distribution – properties – F-distributions – Properties.

UNIT III ANALYSIS OF VARIANCE L–6 +T–6

Analysis of variance – One way and two-way classification – Design of Experiments – Basic principles of design of Experiments – CRD, RBD and LSD.

UNIT IV NON PARAMETRIC METHODS L–6 +T–6

Advantages and disadvantages of non-parametric methods – WALD – Wolfowitz Run test-Test for randomness – Median test – Run test – Mann Whitney U test – Two sample sign test – Kolmogrov–Smirnov–Goodness of fittest.

UNIT V THEORY OF ESTIMATION **L–6 +T–6**

Characteristic of Estimator – Consistency – Unbiasedness – Sufficiency – Efficiency – Methods of point Estimation: Maximum Likelihood Estimator (MLE), Methods of Moments– Rao Cramer Inequality.

h. Learning Resources

i. Text Book:

1. Kapur, J.N. and Saxena H.C., Mathematical Statistics, Academic Press, New York, 1972.
2. V.K.Kapoor and S.C.Gupta. Mathematical Statistics, Sultan Chand & Sons, 12th Edition, New Delhi, 2020.

ii. Reference Books:

1. E.J. Dudewicz and S.N.Mishra, Modern Mathematical Statistics, John Wiley and Sons, New York, 1988.
2. V.K.Rohatgi, An Introduction to Probability Theory and Mathematical Statistics, 3rd Print, Wiley Eastern Ltd, New Delhi, 1988.
3. S. S. Wilks, Mathematical Statistics, Princeton University Press Princeton, New Jersey 1947.

iii. Online Resources:

1. http://ads.harvard.edu/books/1990fnmd.book/chapt8.pdf
2. https://www.investopedia.com/terms/a/anova.asp
3. http://onlinestatbook.com/2/analysis_of_variance/intro.html
4. https://www.analyticsvidhya.com/blog/2018/01/anova-analysis-of-variance/
5. https://www.statisticssolutions.com/anova-analysis-of-variance/
6. http://onlinestatbook.com/2/analysis_of_variance/anova.pdf
7. http://cba.ualr.edu/smartstat/topics/anova/example.pdf
8. http://www.cimt.org.uk/projects/mepres/alevel/fstats_ch7.pdf

COURSE CODE	COURSE TITLE	L	T	P	C
	DIFFERENTIAL GEOMETRY	**2**	**2**	**0**	**3**

Course Category: Programme Elective

a. Preamble:

The aim of this course is to introduce the fundamentals of Differential Geometry. Emphasis will be on the notion of surfaces and their properties, geodesics and differential geometry of surfaces.

b. Pre-requisite Courses:

Calculus/Geometry

c. Related Courses:

Topology

d. Course Educational Objectives:

The modern engineers have to include several measurements of surfaces in their practical problems. This course seeks to fulfill the requirement of engineers in their computations.

e. Course Outcomes:

After the successful completion of the course, students will be able to:

CO No.	Course Outcome	Level of Learning domain (Based on Revised Bloom's)
CO1	Broadly understand the space curves and their properties	**K3**
CO2	Know the intrinsic properties of a surface	**K3**
CO3	Appreciate the normal property of geodesics	**K3**
CO4	Understand the developable association with space curves and with curves on surface.	**K3**
CO5	Grasp the Fundamental Existence Theorem for surfaces	**K3**

f. Correlation of Co's with PO's:

Co's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	H	H	M	M		M	M					M
CO2	H	H	M	M		M	M					M
CO3	H	H	M	M		M	M					M
CO4	H	H	M	M		M	M					M
CO5	H	H	M	M		M	M					M

H – High; M – Medium; L - Low

g. Course Content

UNIT-I SPACE CURVES L–6 +T–6

Definition of a space curve – Arc length – tangent – normal and bi-normal – curvature and torsion – Contact between curves and surfaces

UNIT-II FUNDAMENTAL EXISTENCE THEOREM FOR SPACE CURVES L–6 +T–6

Tangent surface – Involutes and evolutes – Intrinsic equations – Fundamental Existence Theorem for space curves – Helices - Metric

UNIT-III INTRINSIC PROPERTIES OF A SURFACE L–6 +T–6

Definition of a surface – curves on a surface – Surface of revolution – Helicoids - Metric.

UNIT-IV GEODESICS L–6 +T–6

Geodesics – Canonical geodesic equations – Normal property of geodesics – Geodesics curvature - Gauss-Bonnet Theorem – Gaussian curvature surface of constant curvature.

UNIT-V NON-INTRINSIC PROPERTIES OF A SURFACE L–6 +T–6

The second fundamental form – Principal curvature – Lines of curvature – Developable – Developable associated with space curves and with curves on surface.

h. Learning Resources:

i. Textbook:

Treatment and Content as in:

1. T. J. Willmore, An Introduction to Differential Geometry, 17th Impression, Oxford University Press, New Delhi, 2002. (Indian Print)

ii. Reference books:

1. Mantredo P. do Carmo, Differential Geometry of Curves and Surfaces, Prentice Hall,1976.
2. W. Klingenberg, A Course in Differential Geometry, Graduate Texts in Mathematics, Springer - Verlag, 1978.
3. B. O'Neill, Elementary Differential Geometry, Academic Press, 1966.
4. A. Pressley, Elementary Differential Geometry, Springer International Edition, 2004.
5. J. J. Stoker, Differential Geometry, Wiley Inter - Science, 1969.
6. D. T. Struik, Lectures on Classical Differential Geometry, Addison – Wesley, Mass. 1950.
7. A. Thorpe, Elementary Topics in Differential Geometry, Springer (India), New Delhi, 2004.

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Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd u/s 3 of UGC Act, 1956)

School of Science & Humanities

Department of Physics

Minutes of the 4th Board of Studies Meeting held on 06th June 2023

The 4th Board of Studies - Physics was held in offline between 11 AM and 2 PM and the following members were present during the meeting:

Chairman:

Dr. D. Senthilkumar,
Associate Professor & Head, Department of Physics, School of Science & Humanities (S&H),
Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology (Vel Tech),
Avadi, Chennai 600 062.

External Academic Expert:

Dr. R. Mohan Kumar,
Associate Professor, Department of Physics, Presidency College, Chennai.

External Research Expert:

Dr. M. Arivanandhan,
Professor, Centre for Nanoscience and Technology, Anna University, Chennai.

Internal Members:

Dr. S. Mani Naidu, Professor, Department of Physics, S&H, Vel Tech.
Dr. R. Gowri Shankar Rao, Associate Professor, Department of Physics, S&H, Vel Tech.
Dr. J. Gajendiran, Associate Professor, Department of Physics, S&H, Vel Tech.
Dr. Parthasaradhi Reddy, Assistant Professor, Department of Physics, S&H, Vel Tech.
Dr. Pradeep Reddy Vanga, Assistant Professor, Department of Physics, S&H, Vel Tech.
Ms. Saraswathi Bhaskar, Alumni Representative, M.Sc. Physics (Batch of 2020-22), Vel Tech.

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

School of Science and Humanities

Department of Physics

M.Sc. Physics – 4th Board of Studies Meeting

(06th June 2023)

MEMBERS OF THE BOARD OF STUDIES

S.No.	Name of the Member with Designation and Organization	Signature
Chairman, Board of Studies		
1	**Dr. D. Senthilkumar,** Associate Professor & Head, Department of Physics, School of Scienceand Humanities, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai 600 062.	06/June/2023
External Academic Expert		
2	**Dr. R. Mohan Kumar,** Associate Professor, Department of Physics, Presidency College,Chennai 600 005.	6/6/
External Research Expert		
3	**Dr. M. Arivanandhan,** Professor, Centre for Nanoscience and Technology, Anna University, Chennai 600 025.	6/6/2023

Internal Experts		
4	**Dr. S. Mani Naidu,** Professor, Department of Physics, School of Science and Humanities, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai 600 062.	06/6/2023
5	**Dr. R. Gowri Shankar Rao,** Associate Professor, Department of Physics, School of Science and Humanities, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai 600 062.	6/6/2023
6	**Dr. J. Gajendiran,** Associate Professor, Department of Physics, School of Science and Humanities, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai 600 062.	6/6/23
7	**Dr. Parthasaradhi Reddy,** Assistant Professor, Department of Physics, School of Science and Humanities, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai 600 062.	6/6/23
8	**Dr. Pradeep Reddy Vanga,** Assistant Professor, Department of Physics, School of Science and Humanities, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai 600 062.	Pradeep 6/6/23
9	**Ms. Saraswathi Bhaskar,** VtP 2763, Alumni Representative, M.Sc. Physics (Batch of 2020-22), Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai 600 062.	06/06/2023

The agenda of the 3rd BoS meeting is as follows:

Agenda No.	Agenda
04 BoS - 01	Presentation by the Chairman, Board of Studies (BoS)
04 BoS - 02	Discussion on Curriculum revision, ratification and approval of new courses (Program Core, Program Elective, Open Elective, Life Skills, Value Added, and Independent Learning categories) of M.Sc. Physics program (for VTU PGAS 2023). **(i) Program Elective Course (M.Sc. Physics)** Principles of Non-Destructive Testing **(ii) Value Added Course (M.Sc. Physics)** Universal Human Values I **(iii) NPTEL Courses (M.Sc. Physics - Program Elective Open Elective, Life Skills)**
04 BoS - 03	Ratification and Approval of existing course and new courses for B.Tech. (Higher Semester), and Ph.D. programs. **(i) Institute Elective Course (B.Tech. Higher Semester)** 1154PH101 - Medical Physics **(ii) Open Elective Course (B.Tech. Higher Semester)** Applied Electronic Integrated Circuits **(iii) Specialization Course (Ph.D.)** Advanced Energy Materials
04 BoS - 04	Discussion on question pattern, evaluation methods, and course plan for the upcoming regulation of M.Sc. Physics, B.Tech. (Higher Semester), and Ph.D. programs.
04 BoS - 05	Approval of panel members for the Internship, Seminar and Project Reviews for the M.Sc. Physics Program.
04 BoS - 06	Any other items

Agenda 04 BoS - 01: Presentation by Chairman, Board of Studies (BoS)

The BoS Chairman presented the academic progress of the M.Sc. Physics program offered in the Department of Physics, School of Science & Humanities in the form of a PowerPoint presentation.

Discussion: The External members appreciated the progress.

Action: The members moved on to the next agenda.

Agenda 04 BoS - 02: Discussion on Curriculum revision for the upcoming regulation (VTU PGAS 2023) of M.Sc. Physics program.

CBCS - Structure of the M.Sc. Physics Program (VTU PGAS 2023)

S. No.	Course Category	Credits
1	Program Core	44
2	Program Elective	15
3	Open Elective	06
4	Independent learning i). Internship ii). Major Project Phase I iii). Major Project Phase II	 02 02 08
5	Life Skills	02
6	Extension Activities	01
7	Value Added Course	NIL
Total		**80**

In addition to the course structure, the experts have gone through the proposed course contents and descriptions for all the course categories (Program Core, Program Elective, Open Elective, Independent Learning, Life Skills, and Extension Activities) and the same are mentioned in the discussion table.

Discussion:
The members of the BoS ratified and approved the revised curriculum, proposed new courses for the M.Sc. Physics program with the remarks of the external experts for further modification of the same.

Remarks of the External experts on the proposed courses of the M.Sc. Physics program

I. Programme Core - 48 Credits (4 credits each)			
S. No.	**Course Code**	**Course Name**	**Changes**
1		Classical Mechanics	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
2		Mathematical Physics	Poisson equation and heat conduction equation should be added in unit-III. 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and

			unit title. The sentence should be modified accordingly.
3		Condensed Matter Physics	The course Solid State Physics shouldn't be offered in program elective. 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
4		Thermodynamics and Statistical Physics	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.

5		Quantum Mechanics	Introduction to quantum mechanics should be replaced with Basic concepts of quantum mechanics. 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
6		Electromagnetic Theory	References should be in full form. Edition and published year should be mentioned. 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified

			accordingly.
7		Electronics Devices and Circuits	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
8		Molecular Spectroscopy	The word 'The' should be removed in several places. Space should be removed in several places (e.g. the space should be removed between 'Poly' and 'atomic' 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified

			accordingly.
9		Nuclear Physics	Theory for all decay (alpha, beta and gamma) and Fermi theory should be included in unit-III e/m content should be removed in Unit-III. The author R. Murugesan textbook in the reference should be removed. 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
10		Advanced Physics Laboratory – I	No change
11		Advanced Physics Laboratory – II	No change
II. Program Elective - 15 Credits (3 credits each)			
S. No.	**Course Code**	**Course Name**	**Changes**
1		Plasma Physics	'Plasma in nanomaterials – Surface Plasmon resonance (SPR)-Surface morphology studies' should be included in the end of unit-V
2		Advanced Materials	Eutectic system, Triple point in phase diagram

		Science	should be included in unit-III. 'Other' should be removed in 'other applications'
3		Microprocessors and Advanced Microcontrollers	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
4		Laser Optics	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
5		Crystal Growth	Unit – II title should be changed as Solution

		Techniques	growth technique. 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
6		Magnetism & Spintronics	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
7		Energy Storage Systems	Fuel cells, Hydrogen storage, Physisorption and chemisorption should be included in the end of unit-II In Unit-II, Fuel cells should be in this order 1.

			PEMFC 2. DMFC 3. AFC 4. MCFC 5. SOFC Unit-III Title should be changed. Both photovoltaics and solar energy conversion are same. Space should be removed in several places (e.g. supercapacitor) Nanooxide should be changed as nanometal oxide. Hybrid supercapcitor and Inner Helmholtz layer (IHL), OHL and pseudo capacitor should be included in unit –V 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
8		Introduction to Laser	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the

			syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
9		Physics of Renewable Energy Systems	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
10		Solid State Physics	The course Solid State Physics shouldn't be offered in program elective.
11		Radio Astronomy	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content.

			3. Make sure the words ‘introduction’ and ‘definition’ are not used in the syllabus content and unit title. The sentence should be modified accordingly.
12		Relativity - A General Introduction	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke’s law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words ‘introduction’ and ‘definition’ are not used in the syllabus content and unit title. The sentence should be modified accordingly.
III. Open Elective - 06 Credits			
S. No.	**Course Code**	**Course Name**	**Changes**
1		Atmospheric Physics	Can be offered as Open Elective as a direct contact theory course as an alternative for online course. Unit- III title ‘Optical investigations of Atmosphere’ should be changed. 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included.

			2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
2		Fundamentals of Nanoscience	This course can be offered as Open Elective as a direct contact theory course as an alternative for online course.. Apostrophe should be removed. Accordingly, the sentences should be changed. Unit-III and IV titles should be changed as 'synthesis and fabrication of nanomaterials' and 'characterization of nanomaterials' respectively. Particle size analyzer (PSA) should be included after UV-VIS-NIR measurements in Unit-IV. AFM should be included after TEM in Unit-IV. 1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.

3		Physics of Imaging	1. Need to cross verify whether i. Hyphen, semicolon and full stop are placed in the appropriate place. ii. Edition and published year etc. are mentioned fully in the reference. iii. Recent edition reference is included. 2. Make sure all the sub- topics are mentioned in the syllabus content. For example, Hooke's law should be mentioned if stress-strain diagram topic is given in the syllabus content. 3. Make sure the words 'introduction' and 'definition' are not used in the syllabus content and unit title. The sentence should be modified accordingly.
4		Fundamentals of Artificial Intelligence (12 weeks NPTEL course from IIT Guwahati)	No change
5		Solar Energy Engineering And Technology (12 weeks NPTEL course from IIT Guwahati)	No change
6		Sustainable Power Generation Systems (12 weeks NPTEL course from IIT Guwahati)	No change
7		Natural Resources Management (12 weeks NPTEL course from IIT Guwahati)	No change
8		Environmental Science (12 weeks NPTEL	No Change

		course from IIT Kharagpur)	
IV. Independent Learning - 12 Credits			
S. No.	**Course Code**	**Course Name**	**Changes**
1		Internship	No change
2		Major Project Phase I	No change
3		Major Project Phase II	No change
V. Life Skills - 02 Credits			
1		Stress Management	No change
2		Body Language: Key To Professional Success	No change
3		Globalization and Culture	No change
4		Soft Skill Development	No change
VI. Extension Activities - 01 Credit			
1		Unnat Bharat Abhiyan / Minor Project	No change
VII. Value Added Course - NIL Credit			
1		Universal Human Values I	No change

List of NPTEL Courses

S.No.	Course Code	Title of the NPTEL Course	Changes
1		Introduction to Laser	No Change
2		Physics of Renewable Energy Systems	No change
3		Solid State Physics	No change
4		Radio Astronomy	No change
5		Relativity - A General Introduction	No change
6		Fundamentals of Artificial Intelligence	No change
7		Solar Energy Engineering And Technology	No change
8		Sustainable Power Generation Systems	No change
9		Natural Resources Management	No change
10		Environmental Science	No change
11		Stress Management	No change
12		Body Language: Key To Professional Success	No change
13		Globalization and Culture	No change
14		Soft Skill Development	No change
*An additional (+1) credit may be awarded if the University deems it fit, based on the actual student effort involved (3+1 = 4 credits)			

New course for the B.Tech. Higher Semester Program

I. Open Elective

S. No.	Course Code	Course Name	Changes
1		Applied Electronic Integrated Circuits	No change

New specialization course for the Ph.D. program

I. Specialization Course - Ph.D.

S. No.	Course Code	Course Name	Changes
1		Advanced Energy Materials	No change

Revised Curriculum for the M.Sc. Physics program (for VTU PGAS 2023)

I. Programme Core - 48 Credits							
S. No.	**Course Code**	**Course Name**	**Credit**	**L**	**T**	**P**	**C**
1		Classical Mechanics	4	4	0	0	4
2		Mathematical Physics	4	4	0	0	4
3		Condensed Matter Physics	4	4	0	0	4
4		Thermodynamics and Statistical Physics	4	4	0	0	4
5		Quantum Mechanics	4	4	0	0	4
6		Electromagnetic Theory	4	4	0	0	4
7		Electronics Devices and Circuits	4	4	0	0	4
8		Molecular Spectroscopy	4	4	0	0	4
9		Nuclear Physics	4	4	0	0	4
10		Advanced Physics Laboratory - I	4	0	0	8	4
11		Advanced Physics Laboratory - II	4	0	0	8	4
II. Program Elective - 15 Credits							
S. No.	**Course Code**	**Course Name**	**Credit**	**L**	**T**	**P**	**C**
1		Plasma Physics	3	3	0	0	3
2		Advanced Materials Science	3	3	0	0	3
3		Microprocessors and Advanced Microcontrollers	3	3	0	0	3
4		Laser Optics	3	3	0	0	3
5		Crystal Growth Techniques	3	3	0	0	3
6		Magnetism & Spintronics	3	3	0	0	3
7		Energy Storage Systems	3	3	0	0	3

8		Introduction To Laser	3	2	1	0	3
9		Physics of Renewable Energy Systems	3	2	1	0	3
10		Radio Astronomy	3	2	1	0	3
11		Relativity - A General Introduction	3	2	1	0	3

III. Open Elective - 06 Credits

S. No.	Course Code	Course Name	Credit	L	T	P	C
1		Atmospheric Physics	3	3	0	0	3
2		Fundamentals of Nanoscience	3	3	0	0	3
3		Physics of Imaging	3	3	0	0	3
4		Fundamentals of Artificial Intelligence (12 weeks NPTEL course from IIT Guwahati)	3	2	1	0	3
5		Solar Energy Engineering And Technology (12 weeks NPTEL course from IIT Guwahati)	3	2	1	0	3
6		Sustainable Power Generation Systems (12 weeks NPTEL course from IIT Guwahati)	3	2	1	0	3
7		Natural Resources Management (12 weeks NPTEL course from IIT Guwahati)	3	2	1	0	3
8		Environmental Science (12 weeks NPTEL course from IIT Kharagpur)	3	2	1	0	3

IV. Independent Learning - 12 Credits

S. No.	Course Code	Course Name	Credit	L	T	P	C
1		Internship	2	0	0	4	2
2		Major Project Phase I	2	0	0	4	2
3		Major Project Phase II	8	0	0	16	8

V. Life Skills - 02 Credits

1		Stress Management	2	2	0	0	2
2		Body Language: Key To Professional Success	2	2	0	0	2
3		Globalization and Culture	2	2	0	0	2
4		Soft Skill Development	2	2	0	0	2
VI. Extension Activities - 01 Credit							
1		Unnat Bharat Abhiyan / Minor Project	1	0	0	4	1
VII. Value Added Course - NIL Credit							
1		Universal Human Values I	0	1	0	0	0

List of NPTEL Courses and Credit details

S.No.	Course Code	Title of the NPTEL Course	Course offering Institute	Credits offered	No. of Weeks	FDP	Offering Semester
1		Introduction to Laser	IIT Delhi	3*	12	Yes	II/III
2		Physics of Renewable Energy Systems	IIT Kharagpur	3*	12	Yes	II/III
3		Solid State Physics	IIT Kharagpur	3*	12	No	II/III
4		Radio Astronomy	IIT Indore	3*	12	Yes	II/III
5		Relativity - A General Introduction	IIT Indore	3*	12	Yes	II/III
6		Fundamentals of Artificial Intelligence	IIT Guwahati	3*	12	Yes	I/II
7		Solar Energy Engineering And Technology	IIT Guwahati	3*	12	Yes	I/II

8		Sustainable Power Generation Systems	IIT Guwahati	3*	12	Yes	I/II
9		Natural Resources Management	IIT Guwahati	3*	12	Yes	I/II
10		Environmental Science	IIT Kharagpur	3*	12	Yes	I/II
11		Stress Management	IIT Kharagpur	1	4	Yes	II/III
12		Body Language: Key To Professional Success	IIT Roorkee	1	4	Yes	II
13		Globalization and Culture	IIT Kharagpur	2	8	Yes	II
14		Soft Skill Development	IIT Kharagpur	2	8	Yes	II
*An additional (+1) credit may be awarded if the University deems it fit, based on the actual student effort involved (3+1 = 4 credits)							

New course for the B.Tech. Higher Semester Program

I. Open Elective

S. No.	Course Code	Course Name	Credit	L	T	P	C
1		Applied Electronic Integrated Circuits	2	2	0	0	2

New specialization course for the Ph.D. program

I. Specialization Course - Ph.D.

S. No.	Course Code	Course Name	Credit	L	T	P	C
1		Advanced Energy Materials	5	4	1	0	5

Action:
The suggestions of the experts were incorporated. The members moved on to the next agenda.

Agenda 04 BoS - 03: Ratification and Approval of new courses for B.Tech. (Higher Semester), and Ph.D. programs.

(i) For B.Tech. Higher Semester program:

Course Title: Applied Electronic Integrated Circuits
Credits: 02
Category: Open Elective

(ii) For Ph.D. program:

Course Title: Advanced Energy Materials
Credits: 05
Category: Specialization Course

(iii) For B.Tech. Higher Semester program:

Course Title: 1154PH101 - Medical Physics *(an existing institute elective course can be offered as Open Elective by revising all the units with few changes suggested)*

Credits: 02

Category: Open Elective

Discussion:
The BoS members have ratified and approved the proposed courses.

Action:
The members moved on to the next agenda.

Agenda 04 BoS - 04: Discussion on question pattern, evaluation methods, and course plan for the upcoming regulation of M.Sc. Physics, B.Tech. (Higher Semester), and Ph.D. programs.

Question Pattern - End Semester Examination		
Part	**Marks Split up**	**Total**
Part A	10 x 2 marks	20
Part B	5 x 8 marks (internal choice)	40
Total		**60**

Question Pattern - Continuous Assessment Test (MT I & MT II)		
Part	**Marks Split up**	**Total**
Part A	5 x 2 marks	10
Part B	4 x 5 marks (any 4 can be answered from 5 questions)	20
Total		**30**

M.Sc. Physics - Evaluation/Assessment Method						
Assessment				**Maximum Marks**	**Valuation**	**Final Marks**
(a)	**Internal**	i.	Mid Term Test – I	30	Direct	[(i + ii)]/2 = 30
		ii.	Mid Term Test - II	30		
		iii.	Seminar/Assignment	10	Direct	10
		Total (a)				40
(b)	**External**	End Semester Exam		60	Direct	60
Total (a + b)						**100**

M.Sc. Physics - Allocation of Courses (for VTU PGAS 2023)

SEMESTER - I

S. No.	Course Name	Credit
1.	Classical Mechanics	4
2.	Mathematical Physics	4
3.	Thermodynamics and Statistical Physics	4
4.	Fiber Optics	3
5.	Universal Human Values I	0
6.	MOOC - Open Elective	3
7.	Advanced Physics Laboratory I	4
	Total	**22**

SEMESTER - II

S. No.	Course Name	Credit
1.	Quantum Mechanics	4
2.	Electronic Devices and Circuits	4
3.	Condensed Matter Physics	4
4.	Nuclear Physics	4
5.	MOOC - Program Elective	3
6.	MOOC - Open Elective	3
7.	MOOC - Life Skills	2
	Total	**24**

SEMESTER - III

S. No.	Course Name	Credit
1.	Electromagnetic Theory	4
2.	Molecular Spectroscopy	4
3.	Microprocessors & Advanced Microcontrollers	3
4.	Advanced Materials Science	3
5.	MOOC - Program Elective	3
6.	Advanced Physics Laboratory II	4
7.	Project Phase I	2
	Total	**23**

SEMESTER - IV

S. No.	Course Name	Credit
1.	Internship	2
2.	Extension Activities	1
3.	Project Phase II	8
	Total	**11**

Overall Credits: 80

Discussion: The BoS members have approved and ratified the proposed question pattern, evaluation methods, and course plan for the upcoming regulation of M.Sc. Physics program. Additionally, the BoS members have seconded, and recommended the existing evaluation methods, and question pattern of Vel Tech for the new courses that has been proposed for the B.Tech (Higher Semester), and Ph.D. programs.

Action: The members moved on to the next agenda.

Agenda 04 BoS - 05: Approval of committee/panel members for the recommendation of (a) Internship, (b) Seminar credits, and (c) Project Review credits for the M.Sc. Physics Program.

List of proposed committee/panel members for the experts approval					
S.No.	**TTS No.**	**Name of the faculty members**	**Designation**	**Years of Experience**	**Position of the members**
1	1902	Dr. D. Senthilkumar	Associate Professor & HoD	10	Chairman
2	3247	Dr. S. Mani Naidu	Professor	34	Convener
3	1814	Dr. R. Gowri Shankar Rao	Associate Professor	13	Member
4	2317	Dr. J. Gajendiran	Associate Professor	8	Member
5	3080	Dr. U. Rajesh Kumar	Associate Professor	12	Member
6	2560	Dr. A. Prabakaran	Associate Professor	25	Member
7	2373	Dr. Parthasaradhi Reddy	Assistant Professor	18	Member
8	2412	Dr. Pradeep Reddy Vanga	Assistant Professor	6	Member
9	2413	Dr. M. Rigana Begam	Assistant Professor	6	Member
10	2572	Dr. S. Sridhar	Assistant Professor	7	Member

Discussion:

The BoS members have approved the members for the proposed committee/panel. The experts have concluded that a minimum of six members from the proposed panel can give their recommend the credits for categories a, b, and c.

Action:

The members moved on to the next agenda.

Agenda 04 BoS - 06: Any other items

Chairman, BoS

Dr. D. Senthilkumar
Head of the Department
Physics
Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology