



Vel Tech

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

ANNUAL REPORT 2021-22

Department of Civil Engineering

School of Mechanical and Construction

FOUNDERS

Vel Tech Group of Institutions



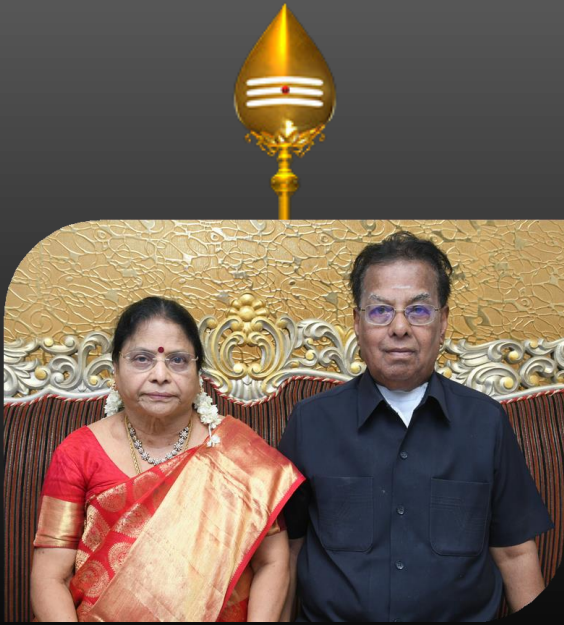
Col. Prof. Vel. Dr. R. Rangarajan
B.E.(Elec.), B.E.(Mech.), M.S.(Auto.), D.Sc.
Founder & Chairman



Dr. Mrs. Sagunthala Rangarajan
M.B.B.S.
Foundress & Vice Chairman



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



Col. Prof. Dr. Vel. R. Rangarajan

B.E. (Elec), B.E. (Mech), M.S. (Auto), D.Sc.,

Founder President

&

Dr. Sagunthala Rangarajan

M.B.B.S.,

Foundress President

**Vel Tech
Group of Institutions**

FOREWORD

We wish the Department of Civil Engineering for their noteworthy achievements in the year.

By continuous and tireless work with active engagement in academic and research consultancy activities, the Department preserves its stand firmly.

Vel Tech's achievements are always the result of an uncompromising commitment to excellence, professionalism, creativity, and innovation.

We believe that the Department of Civil Engineering sincerely dedicated its desire to make a beneficial impact on education and research. We are certain that this annual report will cover the footprint of the Department's events, accomplishments, and awards.

Indeed, it is fruitfulness that the Department has organized a considerable number of events including, International Conference, Webinars, Hands-on-trainings and FDPs.

Utilizing the active relationship with the reputed industries around the country and world, specialized courses on recent trends conducted by the Department will help the students to get enriched in knowledge.

We are happy to note that the Department works hard to improve student employability by conducting placement training sessions.

We congratulate the students who have graduated this year and we encourage them to make a commitment to serve the society and the country.

We greet the Civil Engineering Department who have worked tirelessly to ensure success both at the Department level and at the Institution level.

**Col. Prof. Dr. Vel. R. Rangarajan
&
Dr. Sagunthala Rangarajan**



Mrs. R. Mahalakshmi

Chairperson & Managing Trustee

Foreword

I am pleased to issue the Annual report of the Department of Civil Engineering 2021-22 which pinnacles the efforts of the Department in achieving the continuous improvement every year through their involvement towards, teaching and learning along with research activities.

This report conveys the works of the Department towards students' improvement as well as the institution's path towards success in achieving the high laurels.

The steps taken by the faculty members of the Department such as conducting academic events like conference, webinars have attracted the sights of other reputed institutions and the Hands-on-training programmes, Guest lectures conducted by the Department conveys its interest towards the students' community.

I strongly believe that the hardwork done by the Department will certainly help the students' community to shine in their forthcoming times.

With appreciation, I wish the Department to enhance further in all of its activities towards its sustainment and Institute's pace.

Mrs. R. Mahalakshmi



Prof. Dr. S. Salivahanan
Vice Chancellor

Foreword

The Department of Civil Engineering is one of the pillars of the institute which is not less than any other in the healthy competition in schooling their students to become the frontliners of the institution in all the categories.

The Department consists dynamic faculty members with versatile domains of the field of Civil Engineering which adds strength to it.

Active involvement of Faculty members helped in continuing the students' performance in the good zone through these years and maintained the same in the current year.

Faculty members' involvement in making the students up to date in the technological changes and trends is crystal clear by the various events arranged for the students which are related to the recent innovations in the field of Civil Engineering.

The Faculty members' interest in research and consultancy shows positive signs towards improvement.

I wholeheartedly appreciate all the staff and students of the Department for adding feathers to the laurels of the institution.

Prof. Dr. S. Salivahanan



Prof. Dr. S. Irudayaraj
Dean – SoMC

Foreword

The Department of Civil Engineering is a promising Department of School of Mechanical & Construction. Every year progress of the Department is open and clear.

The academic year 2021-22 shows a consistent growth of the Department in each category, including teaching and learning, research and consultancy.

The development and augmentation of laboratory facilities has certainly enhanced the capabilities of the Department in carrying out diverse consultancy works and research activities, and improved the research scholars' performance to a level ahead.

The Department has developed its curriculum incorporating the latest trends in Civil Engineering and its integration with other fields of Engineering which will certainly help the budding Engineers to shine in the career.

By observing the students' performance in various activities apart from regular academic activities shows the exposure level of students on prevailing trends.

Placement and Continuing the Higher studies options have been opted by considerable count of students through proper guidance and encouragement of Faculty members and effective Mentor-Mentee system.

Faculty members efforts are perceived from their project proposals and research publications throughout the year.

I appreciate wholeheartedly and wish the Department for the consistent growth and success.



Dr. A. GEETHA SELVARANI
Professor & Head – Civil Engineering

Foreword

It gives immense pleasure in presenting the Annual Report 2021-22 of the Department of Civil Engineering, School of Mechanical & Construction, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology.

I thank the Management at this instant for the ceaseless support and encouragement throughout the year in all the ways as usual, which is the prime tractive force of the Department. Also extending thanks to the Dean, School of Mechanical & Construction for the guidance and support.

The report covers the significant activities organised by the Department for the benefit of students, Faculty members and external audience including successive International Conference and Webinars.

It highlights the performance of the students in various activities including end semester examinations, placement activities, project works, higher studies and other competitive examinations.

Faculty members' contribution in effective teaching learning, Implementation of Active Learning Methods, research activities, publication and patents filling has been reported.

I thank and appreciate all the faculty members in shaping the Department and bringing all laurels and making the institute proud.

Dr. A. Geetha Selvarani



Department Profile

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.

VISION

MISSION

1. To produce Civil Engineers of high calibre with advanced technical skills and ethical values to serve the society and the nation.
2. To make the Department as a centre of excellence in the field of Civil Engineering and allied research activities.
3. To provide knowledge base and consultancy services to the community in all areas of Civil Engineering.
4. To promote innovative ideas with original thinking in the minds of budding Engineers to face the future challenges.

Programme Educational Objectives

Programme Outcomes &

Programme Specific Outcomes

Programme Educational Objectives

• Provide Engineering design solutions for the real world problems in Structural, Environmental, Geotechnical, Water Resources, Remote Sensing and Transportation Engineering.

• Succeed and excel in their chosen professional practice/research and pursue higher education in the field of Civil Engineering in reputed Institutions in India/Abroad.

• Make ethical decisions and demonstrate a commitment to the profession and society.

• Acquire a position that values adaptability and innovation in their profession.

• Demonstrate leadership, both in their chosen profession and in other social responsibilities.

At the time of graduation, the students will have the following capabilities:

PO 1 Engineering Knowledge Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PO 2 Problem Analysis Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PO 3 Design/ Development of Solutions Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

PO 4 Conduct Investigations of Complex Problems Using research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.

PO 5 Modern Tool Usage Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6 The Engineer and Society Apply reasoning informed by contextual knowledge to assess social, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.

PO 7 Environment and Sustainability Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development

PO 8 Ethics Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PO 9 Individual and Team Work Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

PO 10 Communication Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

PO 11 Project Management and Finance Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12 Life-long Learning Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

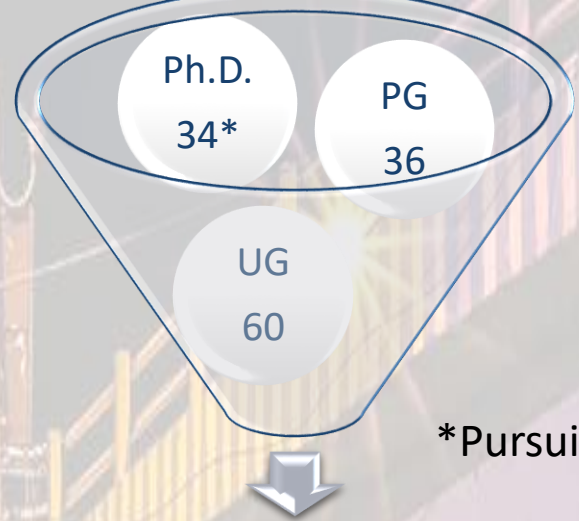
Programme Specific Outcomes

PSO 1 Fulfil the needs in planning, analysis and design of steel and concrete structures by incorporating latest techniques and modern tools.

PSO 2 Apply Engineering skills by making themselves competent technocrats to satisfy the requirements of the construction industry.

Programmes Offered

Approved Intakes



*Pursuing



B.Tech. (VTUR15)

- Civil Engineering*



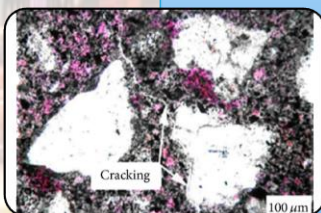
B.Tech. (VTUR21)

- Civil Engineering *
- Civil Engineering with Specialization in Computer Aided Infrastructure Engineering
- Civil Engineering with Minor in Remote Sensing and GIS
- Civil Engineering with Honours in Infrastructure Engineering



M. Tech.

- Structural Engineering
- Environmental Engineering



Ph.D.

- Civil Engineering
- Full Time
- Part Time

All programmes are approved by AICTE

* Accredited by NBA under Tier - I (Washington Accord) category.

Programme Highlights



Programme is based on Choice Based Credit System instead of Fixed Credit System

Students can design their own timetable (choosing course, faculty, timings)

Student Centric methods are used in teaching learning process

Opportunity to engage in a full-time internship

Start-up facility for students through Vel Tech TBI Supported by DST

Additional Learning – Honours, Minors, Specialization along with B. Tech Degree

Industry need-based curriculum updation with suitable electives

Programme offers feature for fast learning as well as slow learning students

Students can expose themselves to research by joining with internal and external faculty in research

Only 20-30 Contact hours per week, leaves plenty of time for students to engage themselves in self learning



Department Highlights

Faculty

- Well-experienced (Avg. Exp. 8 Years) faculty team
- From Premier Institutions-IISc & Anna Univ.
- Received Many Awards / Recognitions
- Obtained Memberships in Professional Bodies

Student Exchange Programme & Higher Studies

- Opportunities for Semester Abroad Programme
- Options for Internship / Project in the Foreign Universities
- Enabling students for Higher Studies in Premier Institutions in Abroad

Laboratories

- Laboratories with State-of-the art facilities
- Structural Testing Loading Frame – 200T capacity
- Total Cost of Lab – More than Rs. 3.50 Crore

Academic Research & Sponsored Research

- No. of Ph.D. Scholars - 42
- Students from various International Countries
- Received funding from DST INDIA & IC - IMPACT, CANADA – Rs. 41.2 L
- Received funding from DMSRDE, DRDO – Rs. 9.45 L

Planning & Designing

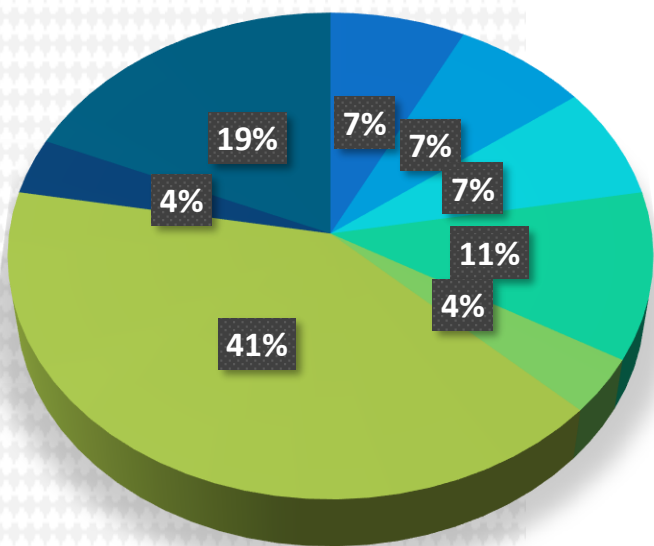
- Extending technical support for the campus Construction & Development
- Supporting the field survey works for the Institution
- Facilitating Water Sampling Test for the Institution
- Consultant works for external agencies and industries

Training & Placement

- Maintaining good Placement records
- Students Placed in Maestro Steel detailing, Sobha, Smard, Ramky Infra etc...
- Providing placement training with External & Internal Trainers

Faculty Information

Domain



- Construction Engineering and management 7.4%
- Geotechnical Engineering 7.4%
- Irrigation and Water Resource Engineering 7.4%
- Advanced Construction Technology 11.11%
- Remote Sensing & GIS 3.7037037037037%
- Structural Engineering 40.74%
- Infrastructure Engineering Management 3.7%
- Environmental Engineering 18.5%



27

Total Faculty

7%

Professors

18.5%

Associate Professors

74%

Assistant Professors

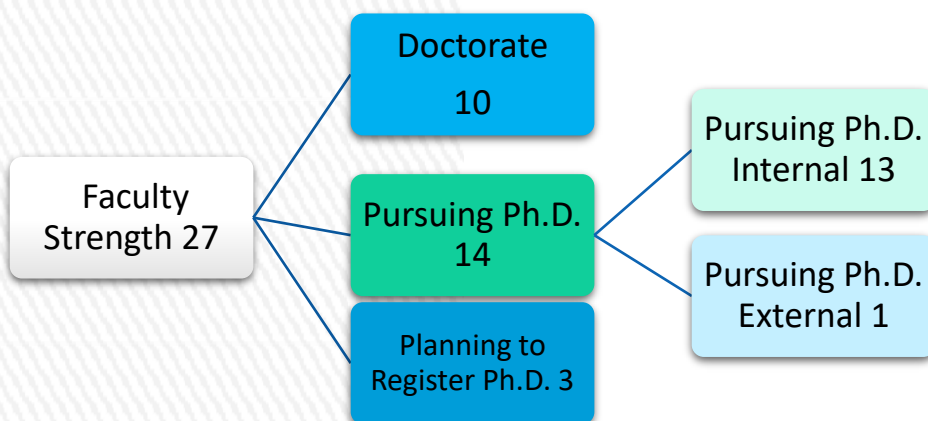
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Faculty with Ph.D.

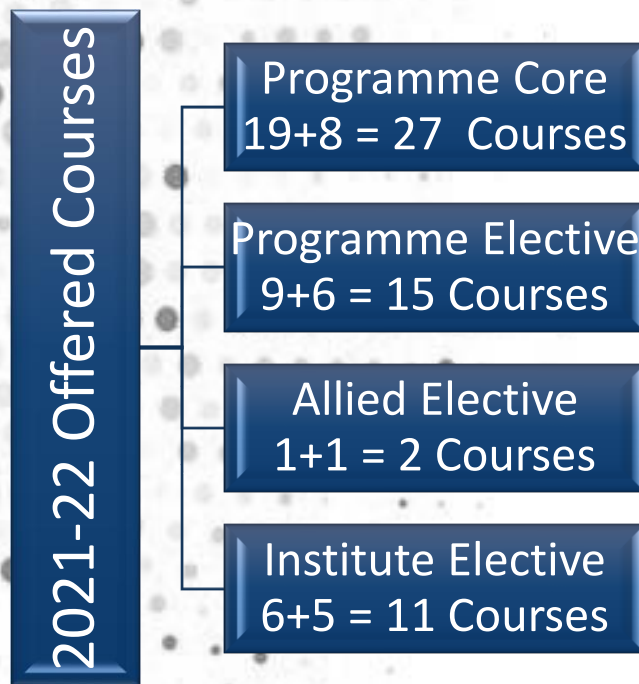
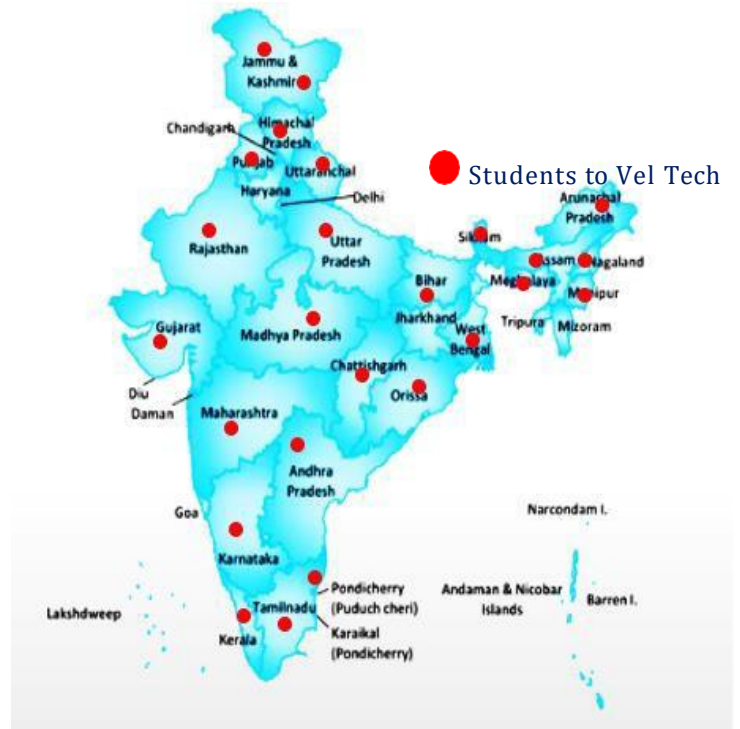
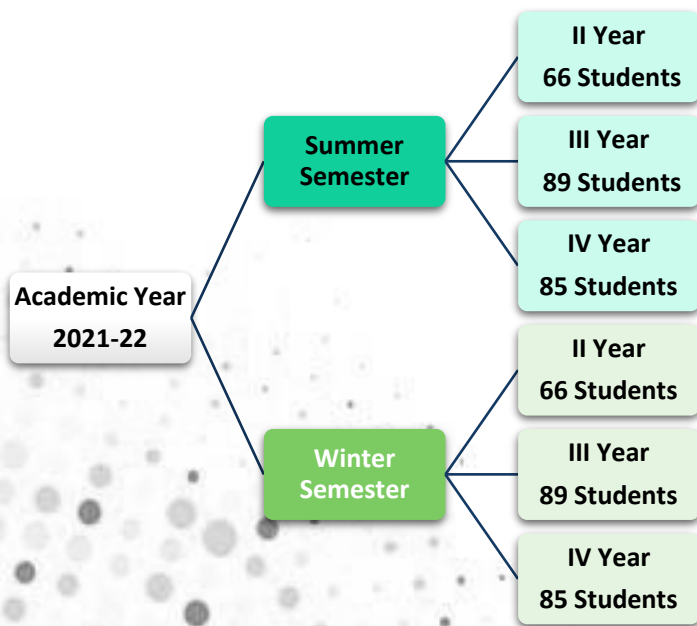


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Faculty - Student Ratio



Academic Information



Year Coordinators
II Year – Dr. G. Kumar
III Year – Dr. J. Logeshwari
IV Year – Dr. S. Selvakumar

Academic Coordinator
Dr. M. Vinod Kumar

Online Teaching & Learning Assessment through...

Board of Studies (BOS) Meeting



23rd Board of Studies meeting was held on 25.02.22, External members Dr. S. Senthil Selvan, Professor, Department of Civil Engineering, SRM Institute of Technology and Mr. L. Suresh Kumar, Assistant Engineer, Central Public Works Department, Chennai participated in the meeting along with the Internal members and Alumni of our Department. The Discussion was about framing the new Curriculum VTUR21.

ICT Tools in Teaching Learning Process



Student Centric Methods adopted

Course code and Course name	ALM adopted
1151CE106 - MECHANICS OF SOLIDS	LEARNING BY DOING
1151CE113 - Construction Materials and Techniques	Learner Centric Model (LCM)
1151CE104 - ENGINEERING MECHANICS	Learning by Doing
1151CE115 - Structural Analysis – II	Sketchnoting
1151CE206 - ENVIRONMENTAL ENGINEERING	MODEL BASED LEARNING
1154CE101 – RESOURCE AND ENERGY RECOVERY FROM WASTE	QUIZOPHILIC BASED LEARNING
1151CE109 - Design of RC Elements	Sketchnoting
1151CE107 - Structural Analysis – I	Sketchnoting

Student Feedback

Students' feedback on curriculum, programmes and courses, provide important input about the way we teach and learn at our Department. We have always encouraged our Department to reflect on the student feedback collected and channel it back into improving the delivery of the courses in subsequent semesters.



Total Student Responses

Student Feedback on Curriculum

1-5 scale, 5 = Excellent



Technological Advancements



Related to the needs of industry/society



Relevance of Courses providing Employability



Intellectually Motivates



Fulfilling your expectations



Job related Knowledge and Skills



Interest to pursue Post-graduation/Research



Materials and references easily found



Objectives stated for each of the courses



Competencies expected out of the courses

Student Feedback on Course Delivery

- 1. Heard words and phrases of Teacher**
1-5 scale, 5 = Strongly Agree
4.31 /5
- 2. Teacher explained important concepts /ideas**
1-5 scale, 5 = Strongly Agree
4.27 /5
- 3. Students were encouraged to ask questions**
1-5 scale, 5 = Strongly Agree
4.26 /5
- 4. Teacher took extra care for slow learners.**
1-5 scale, 5 = Strongly Agree
4.19 /5
- 5. Teacher used appropriate teaching techniques**
1-5 scale, 5 = Strongly Agree
4.24 /5
- 6. Could access required materials easily**
1-5 scale, 5 = Strongly Agree
4.26 /5
- 7. Learned and understood the subject materials**
1-5 scale, 5 = Strongly Agree
4.24 /5
- 8. Teacher discussed all the course outcomes**
1-5 scale, 5 = Strongly Agree
4.28 /5
- 9. Teacher completed syllabus portion in-time**
1-5 scale, 5 = Strongly Agree
4.29 /5
- 10. Teacher assessed and evaluated students fairly**
1-5 scale, 5 = Strongly Agree
4.28 /5
- 11. Teacher showed evaluated answer scripts**
1-5 scale, 5 = Strongly Agree
4.35 /5
- 12. Teacher was dynamic and energetic**
1-5 scale, 5 = Strongly Agree
4.32 /5

Department Research Activities

Research Goal: Investigating the engineering feasibilities to ensure the sustainable infrastructure development and safe environment

Funded Proposal Submission in 2021-22 AY

Name of the Faculty (PI)	Project Title	Funding Agency	Amount (Rs.)
Dr. S. Kandasamy	❖ Development of Very High Volume Ultra Fine Flyash Concrete Cast Using Controlled Permeable Formwork Liner	• Teachers Associateship For Research Excellence (TARE)	15,00,000
Dr. K. Tamilarasan	❖ Effluent Therapy of Electroplating Industry Using Hybrid Upflow Anaerobic Sludge Blanket Coupled With Dual Chambered Microbial Fuel Cell	• DST – Optimal Water Use in Industrial Sectors - 2021	29,53,300
Dr. M. Vinod Kumar	❖ Development of lightweight sustainable self healing and curing voided composite slabs using deep learning framework	• Department of Science and Technology (DST), Technology Development Programme (TDP)	34,82,281

Research Scholars Currently Pursuing Ph.D.

Full-time Scholars: 10

Part-time (Internal) Scholars: 13

Part-time (External) Scholars: 11



Events Organized by the Department



Virtual International Conference

2nd International E-Conference on Novel Innovations and Sustainable Development in Civil Engineering (NISDCE'22) 31st March - 1st April 2022

Keynote Speakers

International Speakers



Dr. Fauziah Ahmad
Professor
School of Civil Engineering
Universiti Sains Malaysia
Engineering Campus, Malaysia



Dr. Sudip Kumar Pal
Professor
School of Civil Engineering
Chittagong University of Engineering
& Technology (CUET), Bangladesh

National Speakers



Dr. V. Jothiprakash
Professor
School of Civil Engineering
Indian Institute of Technology Bombay



Dr. B. Krishna Prapoorna
Associate Professor
School of Civil Engineering
Indian Institute of Technology Tirupati



Dr. R. Siva Chidambaram
Scientist / Asst. Prof. (AcSIR)
Advanced Structural Composites &
Durability (ASCD) Division
CSIR - Central Building
Research Institute, Roorkhee



Dr. Resmi Sebastian
Assistant Professor
School of Civil Engineering
Indian Institute of Technology Ropar

Programme Schedule DAY 1 / 31.03.2022

Timings	Programme Sessions	Keynote Speakers
9.00AM – 9.30 AM	Inaugural Session	
9.30 AM – 11.00 AM	Technical Session – I : "BRMAT for sustainable slope stabilization technique and erosion control protection"	Dr. Fauziah Ahmad Professor School of Civil Engineering Universiti Sains Malaysia Engineering Campus, Malaysia
11.00 AM – 12.30 PM	Technical Session – II: "Soft computing techniques in hydrological time series modeling"	Dr. V. Jothiprakash Professor Department of Civil Engineering Indian Institute of Technology Bombay
12.30 PM – 1.30 PM	Lunch Break	
1.30 PM – 3.00 PM	Technical Session – III: "Seismic waves propagation in jointed rocks"	Dr. Resmi Sebastian Assistant Professor Department of Civil Engineering Indian Institute of Technology Ropar
3.00 PM – 4.30 PM	Technical presentation by participants - parallel session	

Programme Schedule DAY 2 / 01.04.2022

Timings	Programme Sessions	Keynote Speakers
9.30 AM – 11.00 AM	Technical Session – IV: "Evaluating the urban road environment in relation to human and aquatic health impacts induced by urban road dust"	Dr. Sudip Kumar Pal Professor Department of Civil Engineering Chittagong University of Engineering & Technology (CUET), Bangladesh
11.00 AM – 12.30 PM	Technical Session – V: "Influence of coupler on the structural behaviour of RC elements"	Dr. R. Siva Chidambaram Scientist / Asst. Prof. (AcSIR) Advanced Structural Composites & Durability (ASCD) Division CSIR - Central Building Research Institute, Roorkhee
12.30 PM – 1.30 PM	Lunch Break	
1.30 PM – 3.00 PM	Technical Session – VI: "Low - impact development advanced pavement systems"	Dr. B. Krishna Prapoorna Associate Professor Department of Civil Engineering Indian Institute of Technology Tirupati
3.00 PM – 4.30 PM	Technical presentation by participants - parallel session	
4.30 PM – 5.00 PM	Valedictory Session Vote of Thanks	

Organizing Committee

Chief Patrons

Col. Prof. Vel Dr. R. Rangarajan
Chancellor & Founder President

Dr. Sagunthala Rangarajan
Foundress President

Patron

Dr. S. Salivahanan
Vice Chancellor

Co - Patrons

Dr. E. Kannan
Registrar

Dr. A. T. Ravichandran
Dean Academics

Dr. S. Irudayaraj

Dean - SoMC

Convener & Chair

Dr. A. Geetha Selvarani
Professor & Head - Department of Civil Engineering

Co-Convener

Dr. S. Samson
Professor

Organizing Secretary

Dr. M. Vinod Kumar
Associate Professor
+91-99949 27675

Mr. T. Udhaya Kumar
Assistant Professor
+91-94888 04446

Co-Ordinators

Dr. K. Tamilarasan
Assistant Professor
+91-9486536474

Ms. D.G.S. Nivetha
Assistant Professor

Ms. V. Yamini
Assistant Professor

Joint Co-Ordinator

Mr. S. Baskar
Assistant Professor

The papers accepted for oral presentation are published (abstracts only) in the proceedings of the conference in electronic form with ISBN in ASDF International. Further, based on the authors' interest, all the accepted papers in the conference are peer-reviewed and published in the American Institute of Physics (AIP) Conference Proceedings, which are indexed in Scopus.

International Conference (Virtual)

2nd International E-Conference on Novel Innovations and Sustainable Development in Civil Engineering (NISDCE'22) 31st March - 1st April 2022

PROBLEM STATEMENT

Currently, scrap tyre disposal problem had increase. The amount of scrap tyre generated annually exceed the amount of scrap tyre recycle.

Scrap tyre had been dump at inappropriate places all around the world. This increase the chance of open burning and also mosquito related disease.

The use of round shaped tyre as slope reinforcement produce higher deformation. It had been reported that the bearing capacity and stiffness of tyre depend on its shape.

Participants: Fauzan Ahmad, Nil Bish, Dr. M. Vinod Kumar Civil En..., Dr. P. SWAMURUGAN Profes..., 47 others

Soft Computing Techniques in Hydrological Time Series Modeling

Dr. V. Jothiprakash
Professor
Department of Civil Engineering
Indian Institute of Technology Bombay
Powai, Mumbai 400076
vprakash@iitb.ac.in
www.civil.iitb.ac.in/~vprakash

Participants: Vinayakam Jothiprakash, Asst. Prof. Civil Vel Tech, C..., 47 others

DEEP COLUMN

As per IS13920:2016 it is denoted as column if $D/B \leq 2.5$

As per IS13920:2016 it is denoted as Deep column / RC wall if $D/B \geq 2.5$

- According to IS13920:2016, Clause 26.5.3.1(a) states that the cross-sectional area of longitudinal reinforcement in columns shall not be less than 0.8% nor more than 6% of the gross cross-sectional area.
- According to IS13920:2016, Clause 9.1.4 specifies the minimum percentage of both longitudinal steels p_{vmin} and p_{hmin} in the vertical and horizontal directions, respectively, as 0.25%.

Participants: Assoc. Prof. Civil Vel Tech, C..., Ashwin Kumar

Influence of Couplers in Structural Behaviour of RC Elements

R. Siva Chidambaram Ph.D
Scientist / Asst. Prof (ACSIR)
Division of Adv. Structural Comp. & Durability
CSIR-Central Building Research Institute
Academy of Scientific and Innovative Research
Roorkee - 247667

Participants: Venu Ratna, Chandrasekhar Kumar C..., 41 others

Evaluating the urban road environment in relation to human and aquatic health impacts induced by urban road dust

SUDIP KUMAR PAL, Ph.D., MASCE, FIEB
Professor, Department of Civil Engineering
CHITTAGONG UNIVERSITY OF ENGINEERING & TECHNOLOGY (CUET)

Participants: @sharath 20CE82, Srip Kumar Pal, Nil Bish, 64 others

Key Note Session III - Day 1 (31.03.2022)
Seismic waves propagation in jointed rocks

Dr. Resmi Sebastian
Assistant Professor
Department of Civil Engineering
Indian Institute of Technology Roorkee
Email: resmi@iitr.ac.in

Participants: Dr. R. Siva Chidambaram Ph.D., Dr. R. Siva Chidambaram Ph.D., Dr. R. Siva Chidambaram Ph.D., Dr. R. Siva Chidambaram Ph.D., Dr. R. Siva Chidambaram Ph.D., 31 others

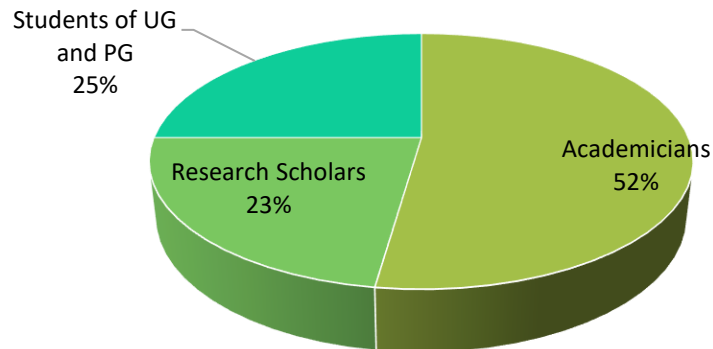
In continuing the successful first international e-conference, the 2nd International e-conference has been conducted for two days. On Day 01 (31-03-2022), 3 keynote sessions were there along with the inaugural chief guest address. Post the keynote sessions, participants from all over India and notable participants from abroad presented their research works. On Day 02 (01-04-2022), 3 keynote sessions were there followed by technical presentations of participants were done. In total, 92 papers were selected for presentation after a screening process to justify the theme of the conference.

In Association with

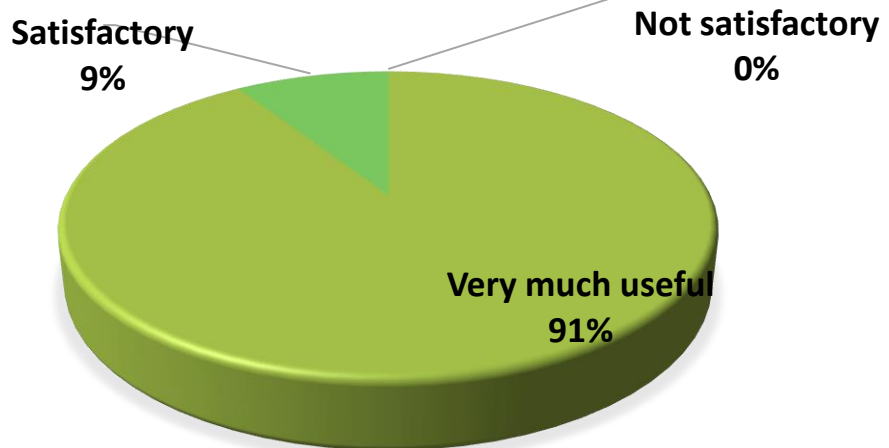


Responses from participants – At International Conference

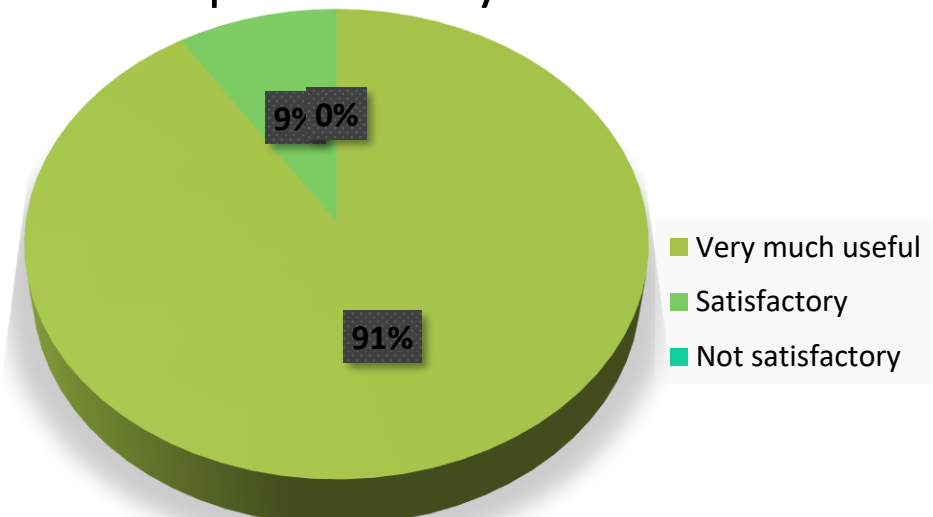
International Conference Participants



WHETHER THE CONFERENCE WAS INFORMATIVE AND USEFUL?



Resource person's keynote lecture




Guest Lectures, Hands-on-Training and Webinars Organised

School of Mechanical and Construction
Department of Civil Engineering

Guest Lecture on
"Modelling of Steel Structures - Hands on Training"

In Association with Civil Engineering Student Association



Resource Person
Mr. N. PRADEEP
BIM Manager
DE NOVO SOFTWARE SOLUTIONS, A Unit of PGN Groups, Chennai

Guest Lecture on Modelling of Steel Structures using Software followed by Hands-on-training for the undergraduate students of the Department.

Hands-on training on Total station for the 2nd year students of the Department, a bridge programme to meet the field requirements.



Vel Tech
Rangarajan Dr. Sugunthala
Raj Institute of Science and Technology
(Chartered by University, Est. on 5th of Oct. 1996)

Department of Civil Engineering
School of Mechanical and Construction
Organizes
One Day Hands on Training
on
"TOTAL STATION"

Resource Person: **Mr. C. Selvaraj**
Athira Geo Spatial Services Private Limited, Chennai.

Date: 11-05-22 Time: 10.45 am to 12.45 pm
Venue: Vel Tech Campus



SCHOOL OF MECHANICAL AND CONSTRUCTION
DEPARTMENT OF CIVIL ENGINEERING

Cordially invites you for the Webinar on
"Climate - Past, Present and Future"

August 18, 2021 (Wednesday), 10.30 AM to 12.30 PM
in the Google Meet platform



Resource Person
Dr. M. Prakasam
Scientist-'B', Wadia Institute
of Himalayan Geology,
Dehradun

IN THE PRESENCE OF
Col. Prof. Vel. Dr. R. Rangarajan
Chancellor and Founder President
Dr. Sugunthala Rangarajan
Foundress President
Prof. Dr. S. Salivahanan
Vice Chancellor
Dr. A. T. Ravichandran
Dean Academics

Webinar on Climate – Past, Present and Future in highlighting the causes and effects, remedies, with the participants from both internal and external.

Guest Lectures, Hands-on-Training and Webinars Organised Cont.

Competition on high early strength concrete cube, was conducted for the students of the Department to give exposure on recent trends in concrete making materials.



VEL TECH RANGARAJAN DR. SAGUNTHALA R & D INSTITUTE OF SCIENCE AND TECHNOLOGY

"HIGHEST EARLY STRENGTH CONCRETE CUBE COMPETITION - 2021"



Date : 30th October, 10.00 AM
Venue : Concrete Technology Lab - 1902

Organized by
THE DEPARTMENT OF CIVIL ENGINEERING
in association with
ICI- Vel Tech Student chapter



Competition on high early strength concrete cube, has been conducted for the students of the Department to give exposure on recent trends in concrete making materials.



SCHOOL OF MECHANICAL AND CONSTRUCTION
DEPARTMENT OF CIVIL ENGINEERING
Organizing Guest Lecture on

"Applications of Bacteria in Civil Engineering"

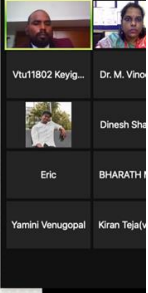
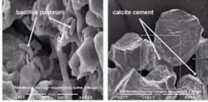


Resource Person
Dr. K. V. Arivizhiventhan
Post-Doctoral Fellow, School of Life Science,
Hubei University, Hubei, China

Date : 19th November, 10.30 AM
Venue : Mahatma Gandhi Auditorium

WHAT BACTERIA IS USED

- Most of the bacteria belongs to genus bacillus are fulfilling the required criteria discussed above, some of the list of bacteria are ..
B. Pseudofirmus , B. Cohnii , B. Fila...etc
- The suitable chemical precursor found to be most suitable is "calcium lactate"



Guest Lectures, Hands-on-Training and Webinars Organised Cont.

In Association with Civil Engineering Students Association Organized Guest Lecture in the topic of “Sustainable Buildings - Hands on Training” on 30/03/2022.

Mrs. Bhavana Chander Das, Manager, EPC Project management and business development, Chennai, delivered the hands-on training program for the students.



Guest lecture on “Varied flow in Applied Hydraulic Engineering” for the students of II year and III year on 02.11.2021.

Date : 02nd November, 10.00 AM

Venue : Mahatma Gandhi Auditorium

Resource Person

Dr. M.S. KARTHIKEYAN

Assistant Professor (Sr. Grade),
Centre for Water Resources
Anna University, Chennai



Guest Lectures, Hands-on-Training and Webinars Organised Cont.



Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Est. u.s.3 of U.G.C. Act, 1956)

School of Mechanical and Construction
Department of Civil Engineering
in association with
Civil Engineering Students Association

Cordially invites you for the Webinar on
"NATIONAL BUILDING CODE"
(08-10-2021)

08-10-2021 10.30 AM

<https://meet.google.com/ewt-sphg-bzf>

Resource Person:



Mrs.G.Bhavani, Scientist and Head,
Bureau of Indian Standards, Chennai.

Webinar in association with Engineering Students Association, organized a Webinar on "National Building Code" for the students of II Year and III Year on 8.10.2021.



Webinar in association with Engineering Students Association organized a Hands-on training on the topic "Project Management" for the students of II Year and III Year on 09.10.21.



SMART ROOFS & FABRS

Vel Tech
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R&D Institute of Science and Technology
(Deemed to be University Est. u.s.3 of U.G.C. Act, 1956)

School of Mechanical and Construction
Department of Civil Engineering
in association with
Civil Engineering Students Association

Cordially invites you for the Webinar on
"Project Management - Hands on Training"
(09-10-2021)

09-10-2021 11.00 AM

[meet google.com/tpj-suie-tob](https://meet.google.com/tpj-suie-tob)

Resource Person



Mrs.Bhavana Chander Das, Manager,
Smart Roof and fabs, Structural steel and PEB Speciality, Chennai.



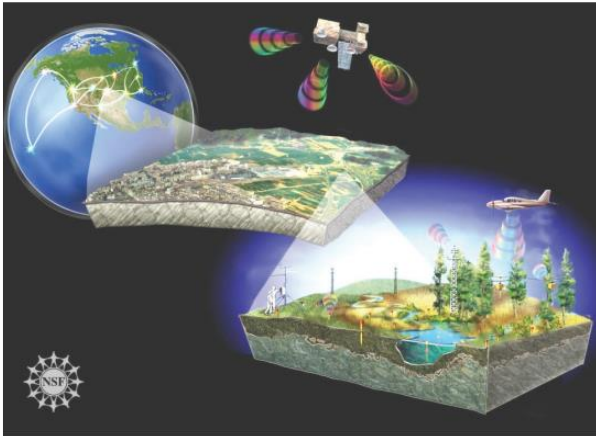
Faculty Development Programmes

SIX DAYS ONLINE FACULTY DEVELOPMENT PROGRAMME

On

APPLICATIONS OF REMOTE SENSING AND GIS FOR GROUND WATER MANAGEMENT STUDIES

23rd - 28th MAY, 2022



Organized by

**DEPARTMENT OF CIVIL ENGINEERING
SCHOOL OF MECHANICAL AND CONSTRUCTION**

Remote sensing & GIS technology have opened new paths and its proved to be an efficient tool for integrating urban planning & water resource studies. In view of that, it plays a vital role in the conservation and utilization of a country's water resources to achieve a proper water management system.

In connection with the above, an effort has been taken through the FDP, in such a way that to provide exposure to the basics of remote sensing and GIS and their applicability in Environmental Geochemistry, mapping of groundwater potential zone, Removal of heavy metals from wastewater treatment, Life cycle assessment, Groundwater modelling and management, water quality modelling of reservoirs with satellite data, GIS applications in water resources etc.

Feedback from the participants revealed that the FDP has helped the participants to gain knowledge in the measurement and management of water resources by using the latest techniques in Remote Sensing and GIS to achieve a sustainable water management structure.

This Five Days Faculty Development Programme (FDP) is organized to foster an exchange of information on challenges faced in Green Concrete Technology. Efforts for sustainable development and environmental preservation are necessary to balance the economic, social, and environmental impacts of the ever-growing human population as it continually strains the finite resources available on this planet.

Reduce greenhouse gas emissions and attempt to develop various substitute techniques and goods that aid in "Clean Energy" generation. Keeping in mind the current climate condition and global warming phenomena, there is a pressing need for construction and other industries to go through a green revolution.

The objective of this FDP is to provide global exposure in the field of green concrete technology. FDP has been designed to give exposure to real-time projects, recent advances in Construction Engineering, Green Concrete Technology, and the challenges faced by Civil Engineers. This FDP is conducted to benefit faculty members, research scholars, and practicing engineers.



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

Five Days Faculty Development Programme on

Green Concrete Technology (GCT 2022)

DETAILS OF THE RESOURCE PERSONS AND SCHEDULE

	RESOURCE PERSONS		DATE	TIME
Academicians				
1.	Dr. P. Revathi	Assistant Professor, PTU, Puducherry	21-02-2022	10:00-11:30 am
2.	Dr. K. Jaya Chandran	Assistant Professor, NIT Calicut	22-02-2022	
3.	Dr. T. Palanisamy	Assistant Professor, NITK Surathkal	23-02-2022	
4.	Dr. M. Nidhi	Assistant Professor, NIT Puducherry	24-02-2022	
5.	Dr. Vibha Venkataramu	Assistant Professor, BMSIT&M, Bangalore	25-02-2022	
Industry Persons				
1.	Er. L. Suresh Kumar	Assistant Engineer, CPWD, Chennai	21-02-2022	2:00-3:30 pm
2.	Er. L. Suresh Kumar	Assistant Engineer, CPWD, Chennai	22-02-2022	
3.	Er. Ratnakar Kakarla	Manager, M/s VA Tech WABAG Ltd., Chennai	23-02-2022	
4.	Dr. Colonel. P. Nallathambi	Sakshi Consultancy Pvt Ltd, Chennai	24-02-2022	
5.	Dr. J. Leon Raj	Scientist, CSIR NEIST, Assam	25-02-2022	

Organized by

**DEPARTMENT OF CIVIL ENGINEERING
SCHOOL OF MECHANICAL AND CONSTRUCTION**



In association with

**ICI -VEL TECH
STUDENT CHAPTER**

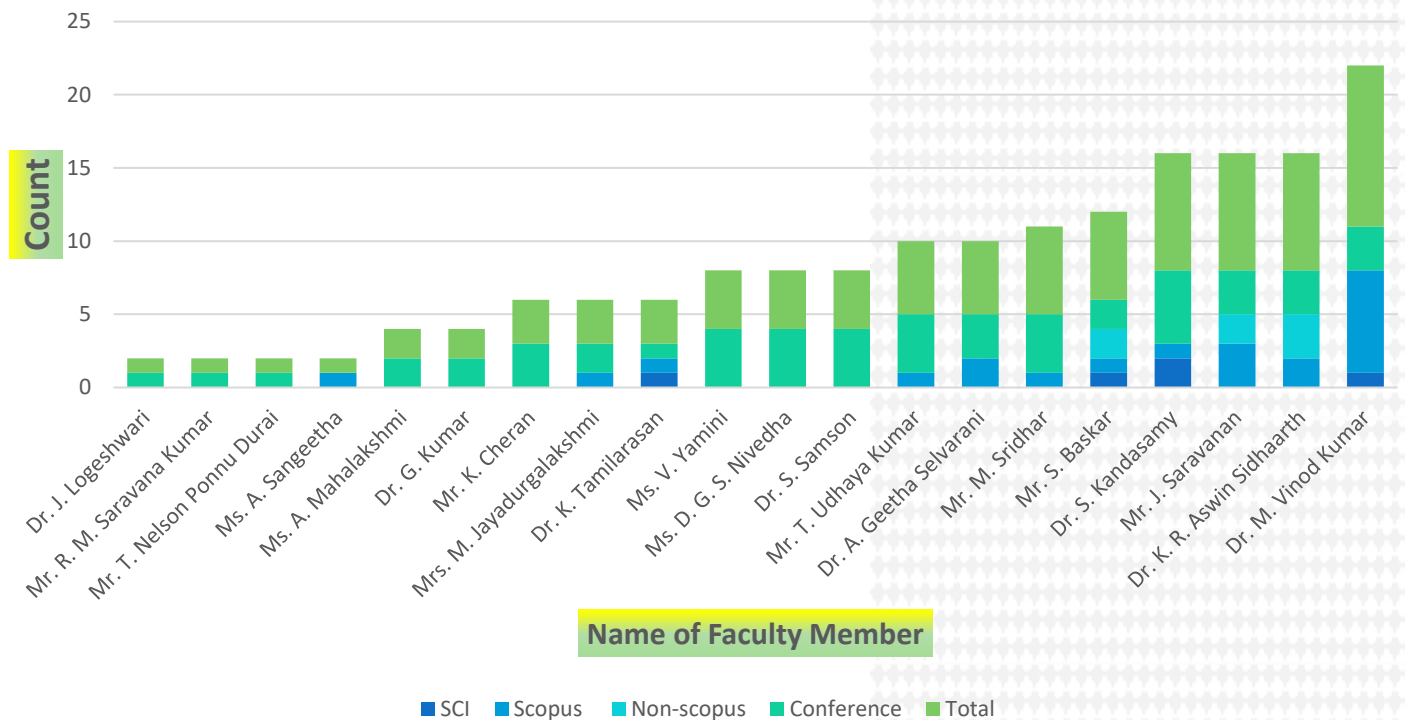


Faculty Activities



Publication by Faculty members

Publication details for AY 2021-22



List of Journals in which research articles are published / accepted

- Materials Today: Proceedings
- International Journal of Hydrogen Energy
- Geotechnical Engineering Journal of the SEAGS & AGSSEA
- KSCE Journal of Civil Engineering
- Journal of Materials in Civil Engineering, ASCE
- Ain Shams Engineering Journal, Elsevier
- Environmental Technology and Innovation
- Turkish Journal of Computer and Mathematics Education
- International Journal of Advanced Research in Engineering and Technology
- International Journal of Water and Energy
- Pollution Research
- Ecology, Environment and Conservation

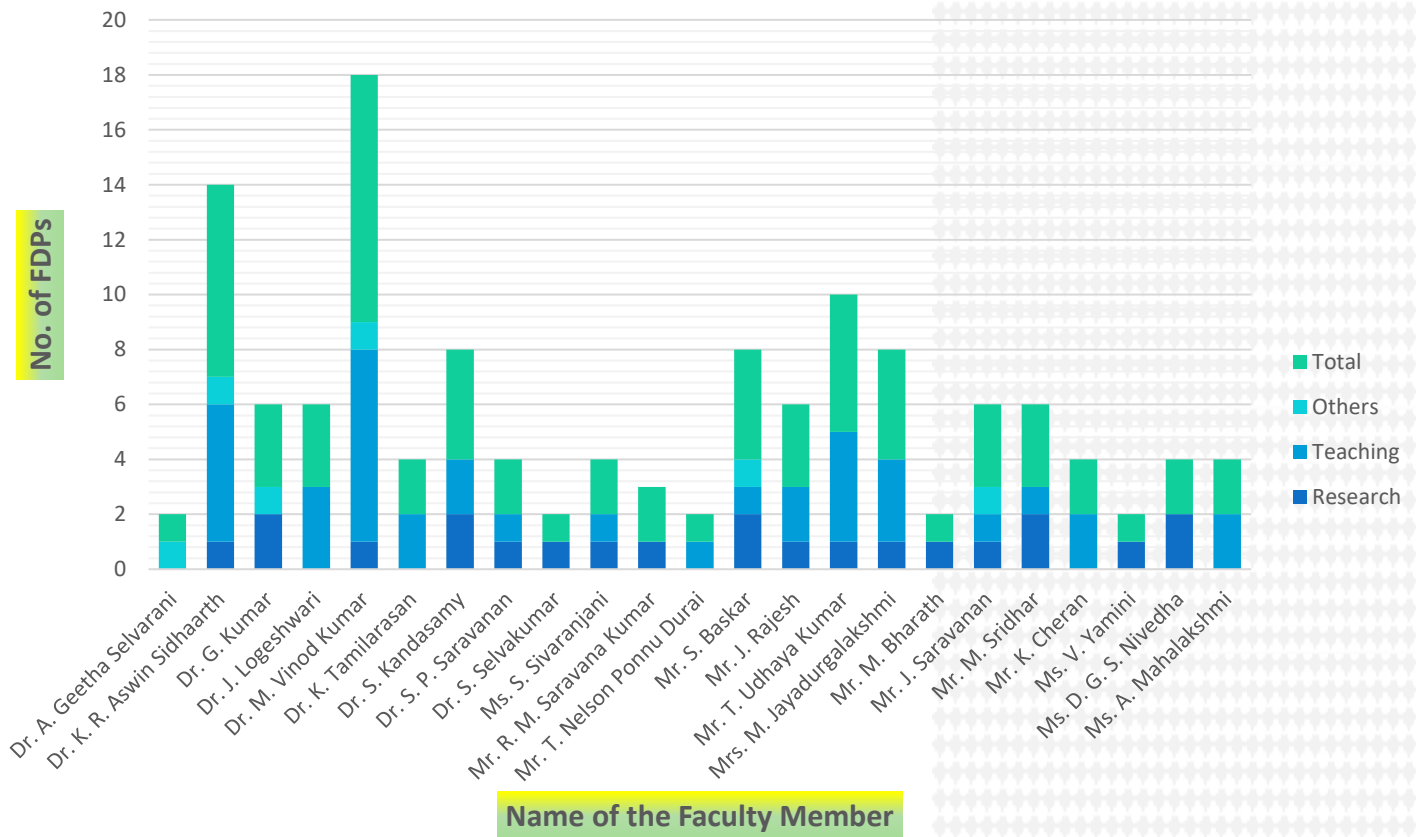


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Faculty Development Programmes (FDP) – attended by Faculty Members



Out of 27 Faculty members, 23 have attended Faculty Development Programmes in various categories, namely: Teaching, Research and others

Name	Research	Teaching	Others	Total
Dr. A. Geetha Selvarani	0	0	1	1
Dr. K. R. Aswin Sidhaarth	1	5	1	7
Dr. G. Kumar	2	0	1	3
Dr. J. Logeshwari	0	3	0	3
Dr. M. Vinod Kumar	1	7	1	9
Dr. K. Tamilarasan	0	2	0	2
Dr. S. Kandasamy	2	2	0	4
Dr. S. P. Saravanan	1	1	0	2
Dr. S. Selvakumar	1	0	0	1
Ms. S. Sivaranjani	1	1	0	2
Mr. R. M. Saravana Kumar	1	0	0	2
Mr. T. Nelson Ponnu Durai	0	1	0	1

Name	Research	Teaching	Others	Total
Mr. S. Baskar	2	1	1	4
Mr. J. Rajesh	1	2	0	3
Mr. T. Udhaya Kumar	1	4	0	5
Mrs. M. Jayadurgalakshmi	1	3	0	4
Mr. M. Bharath	1	0	0	1
Mr. J. Saravanan	1	1	1	3
Mr. M. Sridhar	2	1	0	3
Mr. K. Cheran	0	2	0	2
Ms. V. Yamini	1	0	0	1
Ms. D. G. S. Nivedha	2	0	0	2
Ms. A. Mahalakshmi	0	2	0	2
Cumulative	10	22	4	37

MOOC Completed by Faculty

Sl.No.	Name of the Faculty	Faculty ID	Title of the Course	Institution Offered the Course	Course Duration	Category	Equivalence
1	Ms. Nivetha D G S	TTS 3045	Hydration, Porosity and Strength of Cementitious Materials	IIT Kharagpur	8 Weeks (Jul to Sep 2021)	Successfully Completed the course	1 FDP
2	Dr. K. Tamilarasan	TTS 2801	Sustainable Engineering Concepts and Life Cycle Analysis	IIT Kharagpur	8 Weeks (Jul to Sep 2021)	Elite	1 FDP
3	Ms. V. Yamini	TTS 3046	Sustainable Engineering Concepts and Life Cycle Analysis	IIT Kharagpur	8 Weeks (Jul to Sep 2021)	Elite	1 FDP
4	Mr. M. Sridhar	TTS 2547	Development and Applications of Special Concrete	IIT Kanpur	8 Weeks (Jan to Mar 2022)	Elite	1 FDP
5	Ms. Nivetha D G S	TTS 3045	Development and Applications of Special Concrete	IIT Kanpur	8 Weeks (Jan to Mar 2022)	Elite	1 FDP
6	Dr. K. Tamilarasan	TTS 2801	Air Pollution and Control	IIT Roorkee	12 Weeks (Jan to Apr 2022)	Elite + Silver	1.5 FDP
7	Mr. Saravanan J	TTS 2475	Understanding Incubation and Entrepreneurship	IIT Bombay	12 Weeks (Jan to Apr 2022)	Elite + Silver	1.5 FDP
8	Mr. Saravanan J	TTS 2475	Design, Technology and Innovation	IIT Bombay	12 Weeks (Jan to Apr 2022)	Elite + Silver	1 FDP

NPTEL Star Awardees

Name of the Faculty	Faculty ID	Category under NPTEL STAR Recognition	Criteria to be met	Academic Year in which Recognized
Mr. Saravanan j	TTS 2475	NPTEL Domain Certification in Faculty Domain Advanced	The candidate should complete the prescribed 4 core courses and 2 elective courses: (i) Scoring a minimum of ≥ 55 marks in each course and should pass the courses too. (ii) Average of all courses in the domain should be ≥ 60 (iii) Sum of the duration of the courses should be ≥ 40 weeks	2021-22
		NPTEL Enthusiast	Candidate has to appear in at least 8 exams in Jan 2020 to Jul 2021, pass in 75% of the courses appeared.	2021-22

Consultancy done by Faculty

- Mr. T. Udhayakumar, Done Concrete Mix design of M25, M35 and M45 grade. Compressive strength test results for 7days and 28 days testing of concrete cube sample to The Divisional Engineer / Central / MAS, Southern Railway, Chennai Division, Chennai - 600 003. Submitted on 3.11.2021

Faculty Awards and Recognition

S. No	Name of the Faculty	Description of Award/Recognition
1	Mr. S. BASKAR	• Best Young Researcher Award
2	Dr. M. VINOD KUMAR	• Awarded Cash Incentive for Good Academic Research Publications for the academic years 2018-19, 2019-20 and 2020-21. • Awarded for Best Presenter in the World Conference on Architecture and Civil Engineering held on 11-13 March 2022, in Berlin, Germany.
3	Dr. S. KANDASAMY	• Awarded Cash Incentive for Good Academic Research Publications for the academic years 2018-19, 2019-20 and 2020-21.
4	Mr. J. SARAVANAN	• Awarded Cash Incentive for Good Academic Research Publications for the academic years 2018-19, 2019-20 and 2020-21.
5	Mr. M. SRIDHAR	• Awarded Cash Incentive for Good Academic Research Publications for the academic years 2018-19, 2019-20 and 2020-21. • Won third price in Institute Level IPR Quiz competition (under research scholar category)
6	Mr. T. Udhayakumar	• Awarded Cash Incentive for Consultancy work for the academic year 2020-21.

Faculty as Journal Reviewers

S. No.	Name of the Faculty	Name of the Journal
1	Dr. M. Vinod Kumar	<ol style="list-style-type: none"> Reviewer for the Springer: "Environmental Science and Pollution Research". (Scopus and SCIE) Reviewer for the Springer: "Arabian Journal of Geosciences". (Scopus) Reviewer for the "JESTEC - Journal of Engineering Science and Technology", Member ID: 113722. (Scopus and ESCI) Reviewer for the Materials Science Forum. (Scopus) Reviewer for the "IJCRT - International Journal of Creative Research Thoughts", Member ID: 113722. Reviewer for the "ASTESJ - Advances in Science, Technology and Engineering Systems Journal", Member ID: AJR05937.
2	Mr. Saravanan J	1. KSCE Journal of Civil Engineering
3	Dr. S. KANDASAMY	<ol style="list-style-type: none"> Reviewer for the Journal of Engineering Reports. Reviewer for the Elsevier Materials Today Proceedings.
4	Dr. K. Tamilarasan	1. Journal of Nanotechnology - Hindawi

Faculty as Journal Editors

S. No	Name of the Faculty	Name of the Journal
1	Dr. K. Tamilarasan	Journal of Nanotechnology - Hindawi

Indian Patent Filed done by Faculty

- Indian Application no.: 202241020483
- Date of Filing in India: 05.04.2022
- Title: RECYCLABLE SCRAP TYRE RUBBER PAD BEARINGS WITH RCC COLUMN CAPPING AND METHOD THEREOF
- Applicants: *Dr. M. VINOD KUMAR*, Mrs. J. CICI JENNIFER RAJ, Mr. S. SHABARISH

- Indian Application no.: 202241020407
- Date of Filing in India: 05.04.2022
- Applicants: Dr. J. Logeswari, Mr. R. Rajeshwaran, Mr. A. Jagathan Prakaash
- Title: SANDWICH WALL INFILLED FRAMED STRUCTURE WITH OPENINGS

- Indian Application no.: 202241020628
- Date of Filing in India: 05.04.2022
- Applicants: Jayadurgalakshmi. M; Mr. Udhaya kumar. T, Dr.S. Kandasamy
- Title: COMPOSITE MATERIAL FOR CONCRETE STUCTURES.

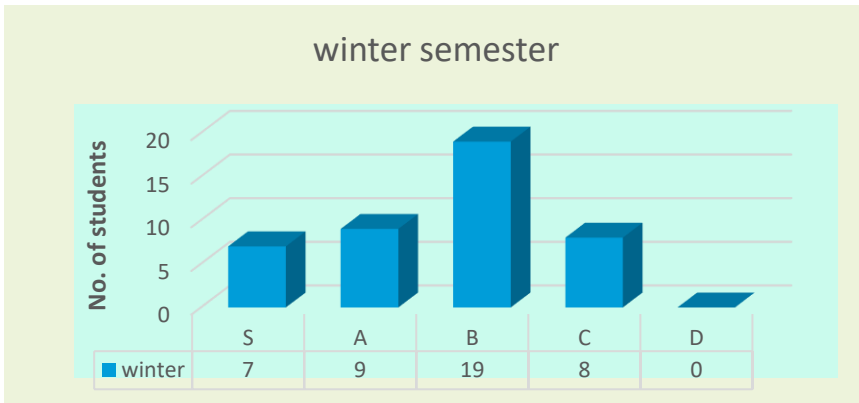
- Indian Application no.: 202241020482
- Date of Filing in India: 05.04.2022
- Applicants: Mr. Udhaya kumar. T; Dr.S. Kandasamy
- Title: PREFABRICATED WALL PANELS USING GEOPOLYMER AGGREGATE CONCRETE



Student Activities

MOOC Completed by Students

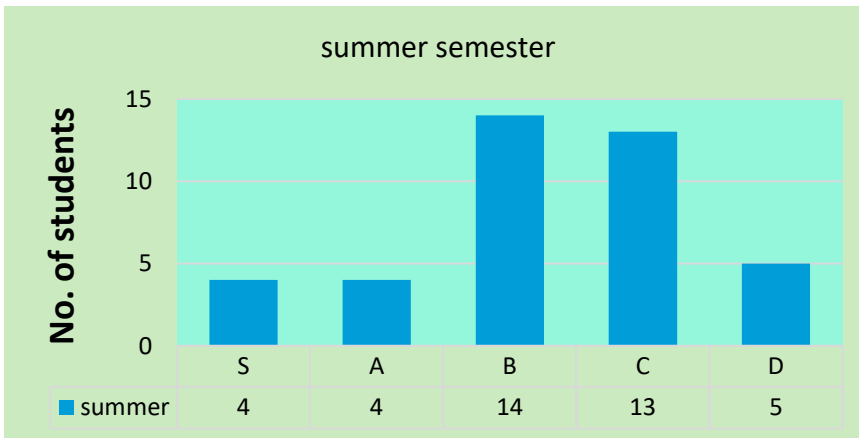
Approved Platforms for MOOC



43 students

8 courses

- Air Pollution and Control
- Building Materials and Composites
- Concrete Technology
- Digital Land Surveying And Mapping
- Introduction to Civil Engineering Profession
- Landscape Architecture and Site Planning - Basic Fundamentals
- Natural Hazards
- Safety in Construction

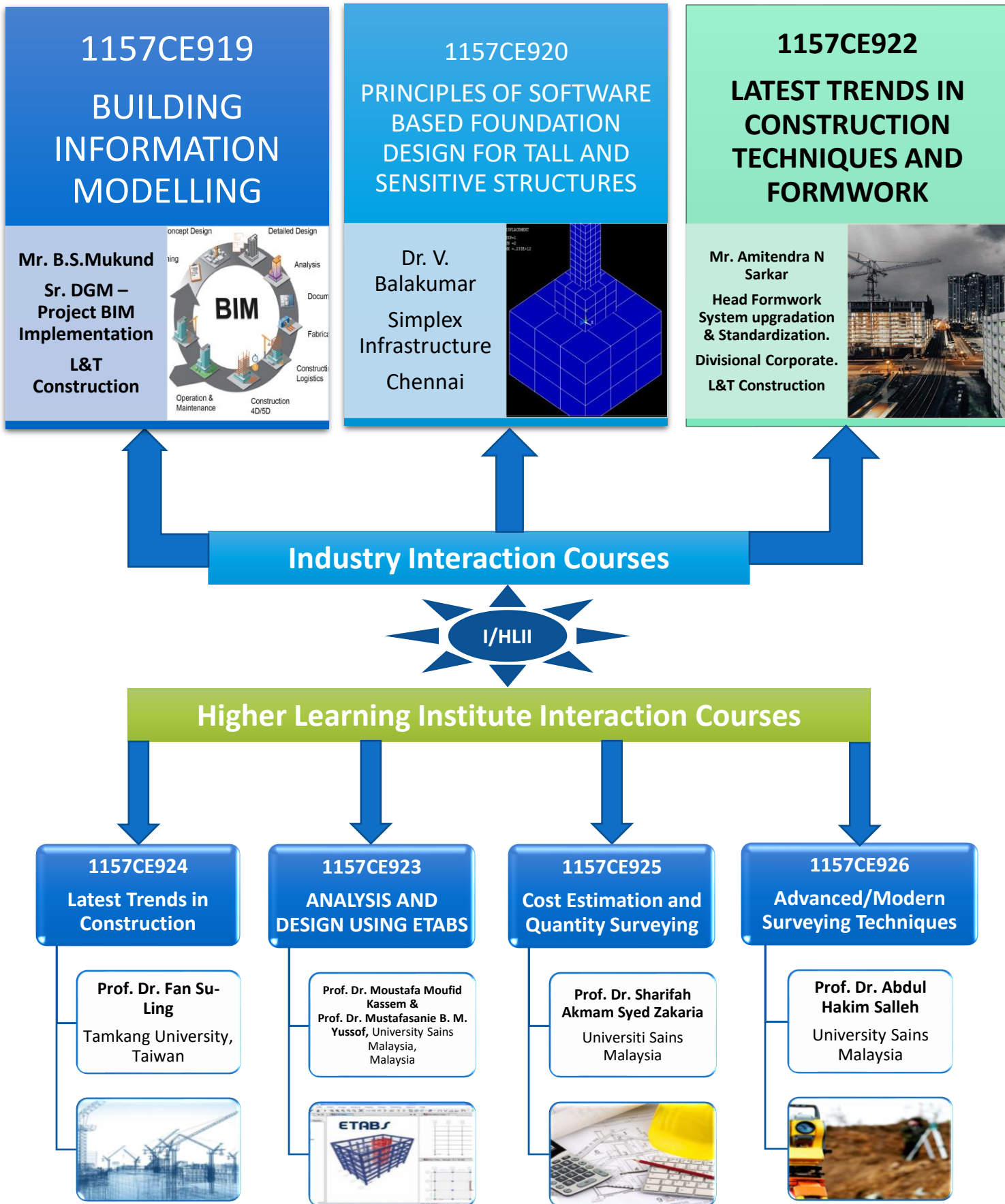


44 students

7 courses

- Building Materials and Composites
- Earth Sciences for Civil Engineering Part - I & II
- Introduction to Urban Planning
- Landscape Architecture and Site Planning - Basic Fundamentals
- Matrix Method of Structural Analysis
- Project Planning and Control
- Remote Sensing and GIS

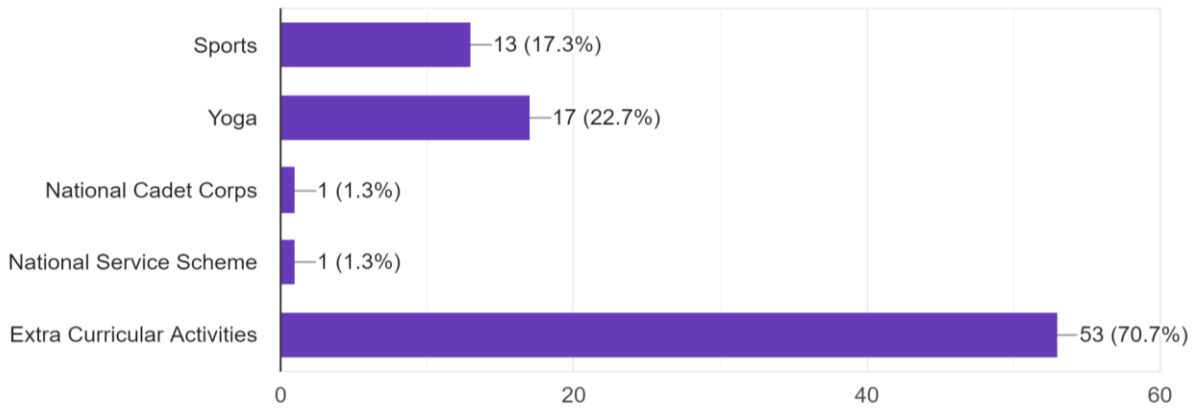
Industry/Higher Learning Institute Interaction courses



In total, 7 courses were conducted, out of which for 3 courses, resource persons from reputed industries and for 4 courses, resource persons from abroad institutions of reputation.

Extra-curricular activities undergone by Students

Totally 75 students, have done complementary skills courses through Sports/Yoga, NCC, NSS and other Extra Curricular activities.



Significant achievements by Students



N.D. Manikanta Manohar
VTU12207
Joining Master's in Construction Engineering Technology at University of Houston Texas, USA



GOWRAV JAISWAL VTU 13031
With a Gate Score of 385
M.Tech (Earth Sciences) in IIT Kanpur



SURENDRA KUMAR SAH
VTU 16143
Gate 2022 Cleared



RAJU GHIMIRE VTU 16242
Research internship on, Effect of Soil-Structure Interaction on the Seismic Design of GeoStructures at Université Laval – Québec



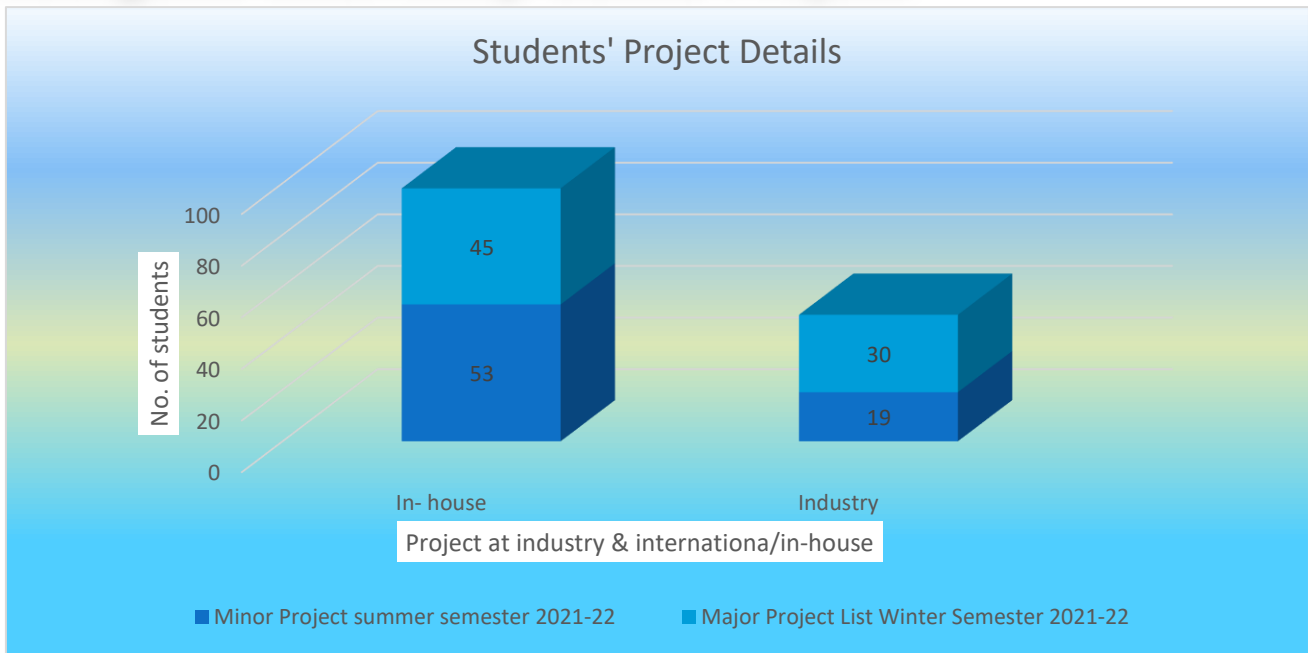
University Level Quiz competition on IPR, our department 2nd year student (**G Dinesh Sharma**) and PhD Part time student (**Sridhar M**) have won 2nd and 3rd prize.





Students Projects

Companies /Organizations where Students Undergone Internship based Project



Tamil Nadu Housing Board
தமிழ்நாடு வீட்டு வசதி வாரியம்



Public Works Department
Government of Meghalaya



Government of Meghalaya
DEPARTMENT OF WATER RESOURCES

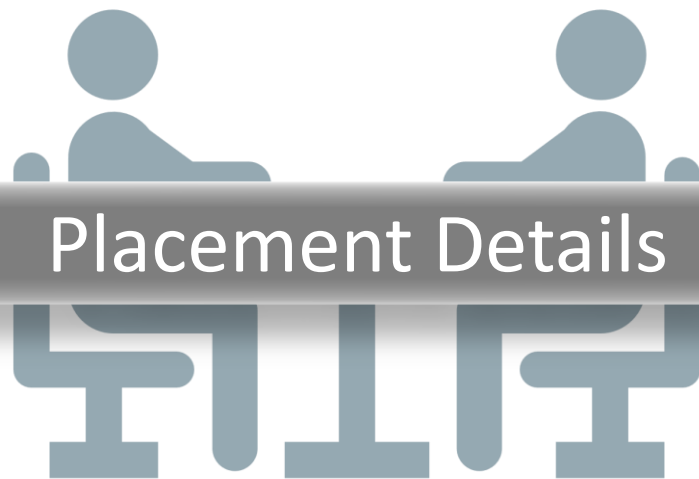


Public Works Department
Government of Uttar Pradesh



Rajkamal Builders
Infrastructure Pvt. Ltd.

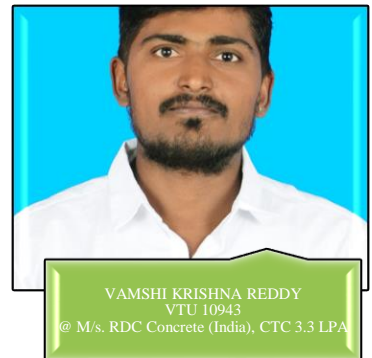
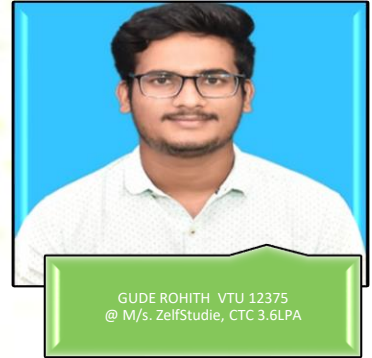




Placement Details

Student Placement Details

VTU NO.	NAME OF THE STUDENT	COMPANY NAME	PACKAGE
14536	MALLELA VINAY KUMAR REDDY	WIPRO / COGNIZANT GENC	3.5LPA/4LPA
12340	KASSA SURYA CHANDRA	COGNIZANT GENC	4LPA
12878	SAMUEL JOHNSON E	COGNIZANT GENC	4LPA
14263	SAI PADMA VVV (MIG)	DXC TECHNOLOGY	4LPA
12134	PAMARTHI VISHNU TEJA	COGNIZANT GENC	4LPA
14348	KASU VENKATESH	MUSIGMA	30L/4 YEARS
14604	KUNDELLA VENKATA SUBBAIAH	MUSIGMA	30L/4 YEARS
11711	IMNAYANGLA JAMIR	INTELLIPAAT	9LPA
11697	VIGNESH U	AVASOFT/VIDVEDAA ORNATERIOR	3.5LPA/1.2LPA
12171	SYED JILANI	CENTELON	3.7LPA
14311	JATOTHU PREMSAGAR	SUTHERLAND/ZELFSTUDIE	2.5LPA/3.6LPA
10943	S VAMSHI KRISHHNA REDDY (LE)	RDC CONCRETE	3.3LPA
12451	THOTLI INDRASENA REDDY	RDC CONCRETE	3.3LPA
12375	GUDE ROHITH	ZELFSTUDIE/WIPRO	3.6LPA/3.5LPA
14271	SAI CHARAN S	ZELFSTUDIE/WIPRO /INFOSYS	3.6LPA/3.5LPA/3.6LPA
11144	DURGA PAVAN KUMAR MYLAVARAPU	PINNACLE INFOTECH	2.5LPA
12972	SAI SANTOSHI LAKSHMI KARUMURI	SUTHERLAND	2.5LPA
12435	BOBBY SUHARSH S	INFOSYS	3.6LPA
11773	KASANCHI CH SANGMA	BESTEN	1.2LPA

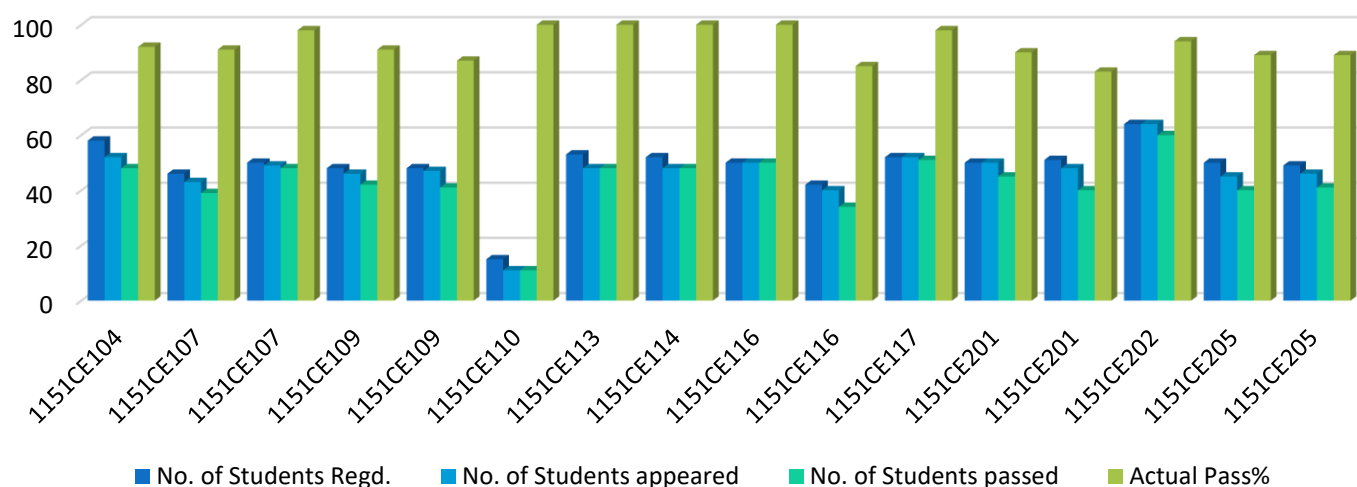




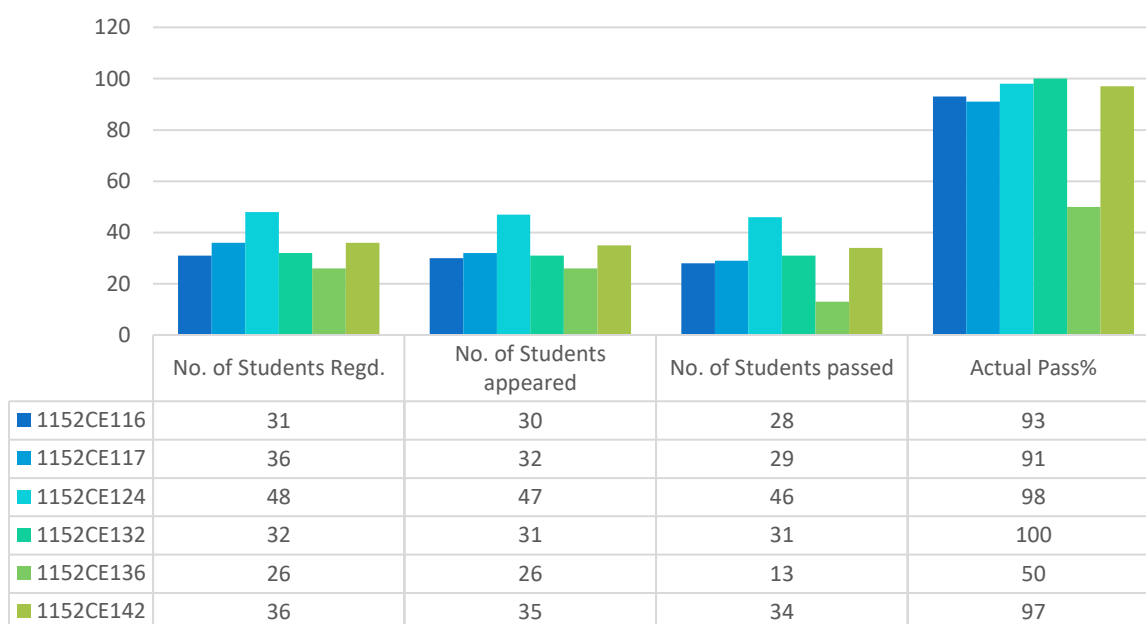
Result Analysis

2021-22 Summer End Semester Result Analysis

2021-22 SUMMER SEMESTER CORE COURSES

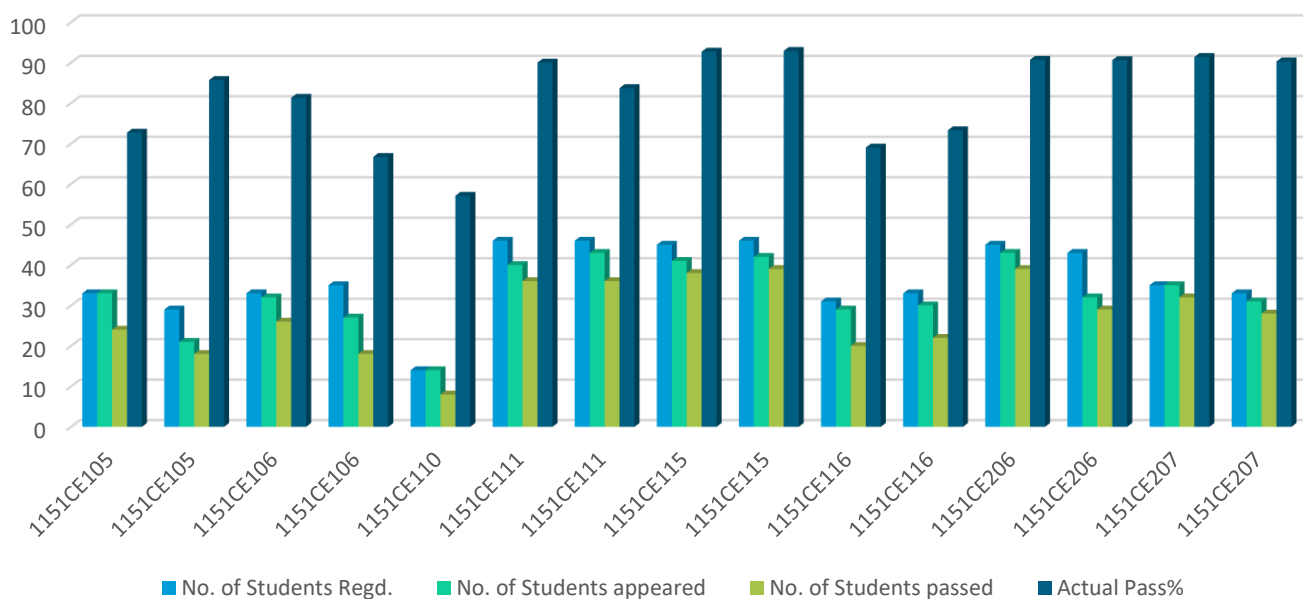


2021-22 SUMMER SEMESTER PROGRAMME ELECTIVE COURSES

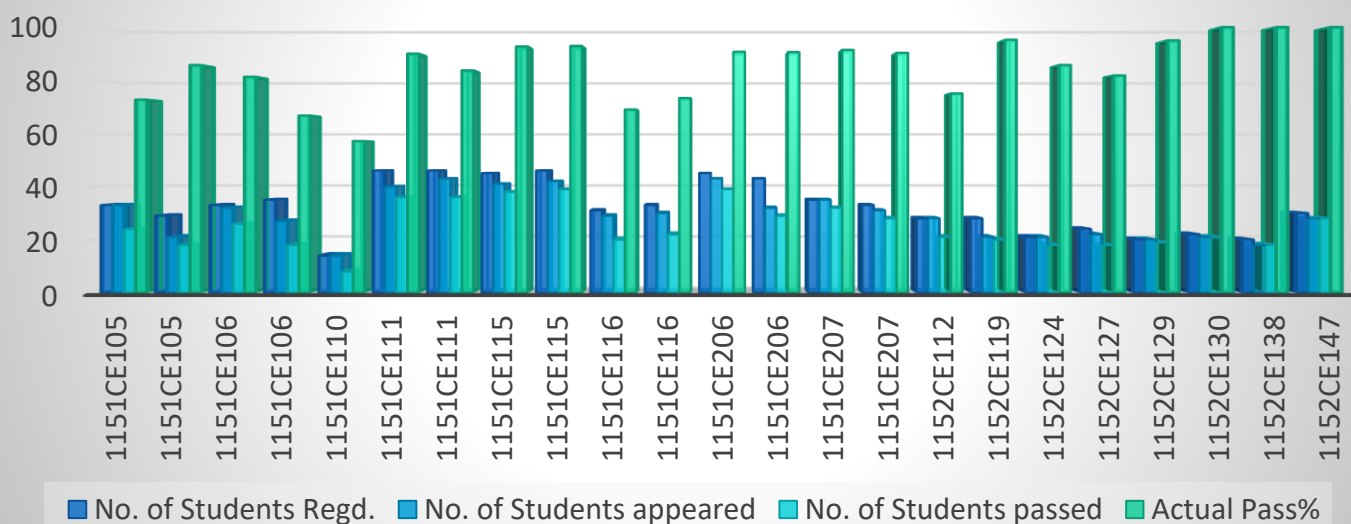


2021-22 Summer End Semester Result Analysis

2021-22 WINTER SEMESTER CORE COURSES



2021-22 SUMMER SEMESTER PROGRAMME ELECTIVE





Infrastructure





SURVEYING LABORATORY



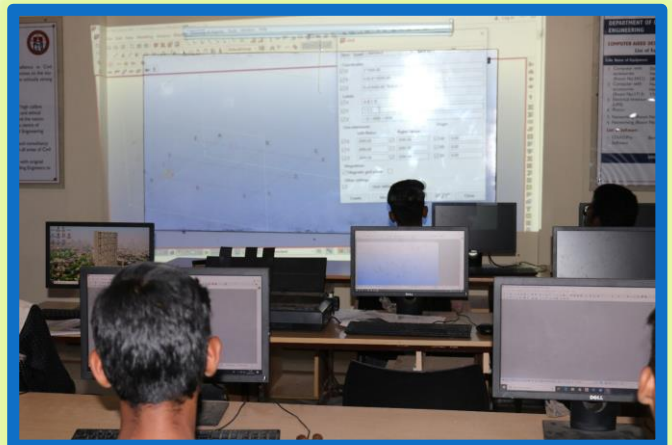
CONCRETE TECHNOLOGY LABORATORY



SOIL MECHANICS LABORATORY



ENVIRONMENTAL ENGINEERING LABORATORY



COMPUTER AIDED DESIGN LABORATORY



STRUCTURAL ENGINEERING LAB



ENVIRONMENTAL MICROBIOLOGY LAB

CIVIL

Engineers for the People

**Department of Civil Engineering
School of Mechanical and Construction**



Vel Tech

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