

CIVIL-Q2-27/10/2024

JAN-JUN 2025



**Dr. M.G.R**  
EDUCATIONAL AND RESEARCH INSTITUTE  
(Deemed to be University with Special Autonomy Status )  
Accredited by NAAC with 'A' Grade ( CGPA 5.51 for 4 point scale )  
An ISO Certified Institution



**FACULTY OF ENGINEERING AND  
TECHNOLOGY**

**DEPARTMENT OF CIVIL  
ENGINEERING**



**CIVIL CHRONICLE**





## VISION

To foster competent Civil engineers for the development of sustainable built environment



## MISSION

M 1

Equip students in contemporary Civil Engineering domains

M 2

Impart practical training to meet the industrial requirements and to inculcate research competency

M 3

Provide adequate skills to become successful entrepreneurs



## PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO :1

Analyze Civil Engineering problems and design appropriate solutions as per standards

PEO :2

Practice as a Civil Engineer towards creating a sustainable society

PEO :3

Enhance quality of entrepreneurship through software, communication and managerial skills



## PROGRAM OUTCOME (POs)

P01

**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.



P02

**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.



P03

**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 the public health and safety, and the cultural, societal, and environmental considerations.





## PROGRAM SPECIFIC OUTCOMES (PSOs)

**PSO 1**

Capacity to manage civil engineering projects with technical knowledge and professional skills



**PSO 2**

Graduates will be able to work effectively as an individual or in a team with good leadership skills in multidisciplinary environments to meet sustainability goals



**P01**

**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.



**P02**

**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.



**P03**

**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 the public health and safety, and the cultural, societal, and environmental considerations.



**P04**

**Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.



**P05**

**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.



**P06**

**The Engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.



**P07**

**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.



**P08**

**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.



**P09**

**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.



**P010**

**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.



**P011**

**Project management and finance:** Demonstrate knowledge and understanding of the 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.



**P012**

**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.



# FROM THE HOD'S DESK



“

I am pleased to know that our Civil Engineering Department is once again successful in bringing Q2 issue of News letter “**CIVIL CHRONICLE**” for the year 2022.

A Technical Newsletter such as this is required for growth and progress of departmental activities, including publishing articles, papers, research activities etc. I am sure that this type of publishing technical newsletter will prove its mettle by providing an opportunity for bringing out the writing talent which bears immense potentiality of sharpening Students' communication skill as part of their overall personality development and also will direct their creativity to new dimensions of mature expression.

I congratulate all the contributors and the editorial board for bringing out such a News letter.

”

  
**DR. T. KAVITHA**  


# PUBLICATION DETAILS

Year	Publications	Book Chapter	Conference	Journal
2024-25	24	-	5	19

PUB ID	AUTHORS	HOME AUTHORS	HOME AUTHOR DEPARTMENT	PUBLICATION TITLE	SOURCE PUBLICATION	LEVEL	ARTICLE TYPE	YEAR	MONTH
147165	P Vasanthi, Vijaya Bhoopathy, S Senthil Selvan, A Bhaskar, B Amratha, M	Vijaya Bhoopathy	Civil Engineering	Data Analytics on the Nano Composite Behavior of Circular CFST Columns under Axial Load	2023 International Conference on Data Science, Agents & Artificial Intelligence (ICDSAAI)	International	Conference	2024	3
147166	R Gowri, P Vasanthi, R Swathi Rekha, Vijaya Bhoopathy, S Karthikeyan,	Vijaya Bhoopathy	Civil Engineering	Machine Learning - Based Prediction of Compressive Strength Analysis	2023 International Conference on Data Science, Agents & Artificial Intelligence (ICDSAAI)	International	Conference	2024	3
147167	P Vasanthi, S Senthil Selvan, M Priyanka, Vijaya Bhoopathy, R Swathi Rekha,	Vijaya Bhoopathy	Civil Engineering	Comparative Study on Corrosion Damage Analysis Using FEM with ACO	2023 International Conference on Data Science, Agents & Artificial Intelligence (ICDSAAI)	International	Conference	2024	3
147194	Depaa Rani Balachandran, Haruna Ibrahim, Anand Verma, Vinay Kumar Singh,	Depaa Rani Balachandran	Civil Engineering	The recent progress in the advancement and efficiency of recycled steel fibre for concrete - a review	AIP Conference Proceedings	International	Conference	2024	8
147232	G Nirmala, Yeddala Prasanthi, L P Sajitha, P Ramesh Babu, N	S Laxmipriya	Civil Engineering	Latency Reduction In Industrial Iot Using Yolov8 CNN Approach For Real-Time Data Processing	2024 15th International Conference on Computing Communication and Networking Technologies	International	Conference	2024	11
150950	Suresh, Narayanan R M	R M Narayanan,Suresh	Civil Engineering	Evaluation Of Shoreline Changes Around Northern AndSouthern Chennai Harbor Using Historical Satellite Data And Geospatial Approaches Along Coastal	Migration Letters	International	Journal	2024	2
150952	Suresh A, R M Narayanan	A Suresh,R M Narayanan	Civil Engineering	Micro-Level Experimentation And Application Of Geospatial Methods For Rejuvenation Of Cooum Microwatershed	Migration Letters	International	Journal	2024	2
150953	R M Narayanan, Laxmipriya S, Benedict Rosario C	Benedict Rosario C,R M Narayanan,S Laxmipriya	Civil Engineering	Assessment Of Vehicle Emissions Associated With The Covid-19 Pandemic In Parts Of Greater Chennai Regime	Migration Letters	International	Journal	2024	2
150990	A Paulmakesh, A Arivalagan	A Arivalagan,A Paulmakesh	Civil Engineering,Not Available	Artificial Intelligence Methods For Building Analysis And Design In Structural Engineering	International Journal Of Progressive Research In Engineering Management And Science	National	Journal	2024	3
151004	N Rushwanth Chowdary, Soundararajan Arivalagan, M Ruben Pradeep	N Rushwanth Chowdary,Soundararajan Arivalagan	Civil Engineering	Effect of Zinc Ion in Water on Properties of Ordinary Portland cement Concrete	International Research Journal on Advanced Engineering and Management	National	Journal	2024	3
151011	Magli Vetrivelou, M Aruljothi, Vijaya Bhoopathy, Gokulakrishnan Janarthanan	Vijaya Bhoopathy	Civil Engineering	An Experimental Investigation on the Bacterial Concrete as an Innovative Approach to Self Crack Healing System	Materials Science Forum	International	Journal	2024	4

151017	M Renga Ramanujam, V Manjula	M Renga Ramanujam, V Manjula	Civil Engineering	Design Aspects and Energy Efficiency of Green Buildings	International Journal of Scientific Research & Engineering Trends	National	Journal	2024	3
151024	A Paulmakesh, Soundarajan Arivalagan	A Paulmakesh, Soundarajan Arivalagan	Civil Engineering	Evaluation of Building Structural Stability by Using Rebound Hammer Test	International Journal of Scientific Research & Engineering Trends	National	Journal	2024	3
151025	P Pratih, Mahendran Narmatha	Mahendran Narmatha, P Pratih	Civil Engineering	Sustainable Materials of Innovative Construction Techniques in Green Building	International Journal of Scientific Research & Engineering Trends	National	Journal	2024	3
152273	S Laxmipriya, M Naresh Babu, M Dinesh Babu, Yuvarajan Devarajan, J	S Laxmipriya	Civil Engineering	Decentralized Emission Inventories and Traffic Dynamics: A Comprehensive Study on PM <sub>2.5</sub> and PM <sub>10</sub> in the Road Sector of Greater Chennai	Aerosol Science and Engineering	International	Journal	2024	8
152297	Hemalatha B, M C Sashidkumar, Vivek S, Ramesh S, M Dinesh Babu,	S Laxmipriya	Civil Engineering	Experimental study of biodegradability of organic waste with industrial waste combined with effluents: A comparison by vermicomposting technology	Global Nest Journal	International	Journal	2024	1
152345	K B Ramesh, Muniyandi Manikandan	K B Ramesh, Muniyandi Manikandan	Civil Engineering	DEVELOPING THE MODEL OF CONSTRUCTION SAFETY AT SITE	International Journal Of Progressive Research In Engineering Management And Science	National	Journal	2024	0
152831	C P Shirley, A Priya, R Sarala, Rajdeep Singh Solanki, Depaa Rani	Depaa Rani Balachandran	Civil Engineering	Hybrid Technique-based Optimal Energy Management in Smart Home Appliances	IEIE Transactions on Smart Processing and Computing		Journal	2024	11
152855	S Srikanth Reddy, Ujval J Solanki, Kolla Naga Sreenivasa Rao, Ashok	Arivumangai Anbazhagan	Civil Engineering	Experimental Investigations On High Performance Fiber Reinforced Concrete Under Various Loading	Login Library Progress International	National	Journal	2024	0

154428	S Kasilingam, Arivumangai Anbazhagan	Arivumangai Anbazhagan, S Kasilingam	Civil Engineering, Not Available	A Comparative Study Of Different Strength For Different Mixer By Using Fly Ash, Quarry Dust And 10Mm Coarse Aggregate	International Journal Of Progressive Research In Engineering Management And Science	National	Journal	2024	3
154430	K S Anantha Krishnan, Adhula Hema Malini	Adhula Hema Malini, K S Anantha Krishnan	Civil Engineering	Experimental Investigation Of Concrete Beam Using Bubble Deck Technology	International Journal of Research and Analytical Reviews	National	Journal	2024	0
154431	A Allwin Jeenu Bhaskaran, Depaa Rani Balachandran	A Allwin Jeenu Bhaskaran, Depaa Rani Balachandran	Civil Engineering, Not Available	A Review Of Structural Failures And Remedial Measures	International Journal Of Progressive Research In Engineering Management And Science	National	Journal	2024	3
154433	Allwin Jeenu Bhaskaran, Depaa Rani Balachandran	Allwin Jeenu Bhaskaran, Depaa Rani Balachandran	Civil Engineering	A Review of Strengthening the Structural Elements for Stability Using Jacketing Techniques	International Journal of Scientific Research and Engineering Trends	National	Journal	2024	0
154434	S Kasilingam, Arivumangai Anbazhagan	Arivumangai Anbazhagan, S Kasilingam	Civil Engineering	Analysis and Design of G+9 Educational Building Using Etabs	International Journal of Scientific Research and Engineering Trends	National	Journal	2024	4

# VARIOUS CONSULTENCY WORKS CARRIED OUT IN- MINJUR, THIRUVERKADU, POONAMALLEE





# DEPARTMENT EVENTS

## TITLE OF THE EVENT

Guest Lecture on Estimation and billing techniques Engineering

## DATE

29.07.24

## Venue SMART

## ROOM



## TITLE OF THE EVENT

Interdisciplinary Lecture Role of AI in modern in Civil Engineering

**DATE**

20.08.24

**Venue SMART**

**ROOM**



**TITLE OF THE EVENT**

Professional Society Event -Presentation on standards of Building materials-  
BIS

**DATE**

08.11.24

**Venue SMART  
ROOM**



**TITLE OF THE EVENT**

Subject lecture on Open Channel Flow- IV yrBIS

**DATE**

29.06.24

**Venue SMART**

**ROOM**



**TITLE OF THE EVENT**

Technology talk on emerging trends in civil Engineering

**DATE**

14.8.24

**Venue**

HPC Lab



**TITLE OF THE EVENT**

Technology talk on emerging trends in civil Engineering

**DATE**

08.11.24

**Venue SMART  
ROOM**



**TITLE OF THE EVENT**

Symposium Recent trends in Civil Engineering

**DATE**

11.11.24

**Venue SMART**

**ROOM**



**TITLE OF THE EVENT**

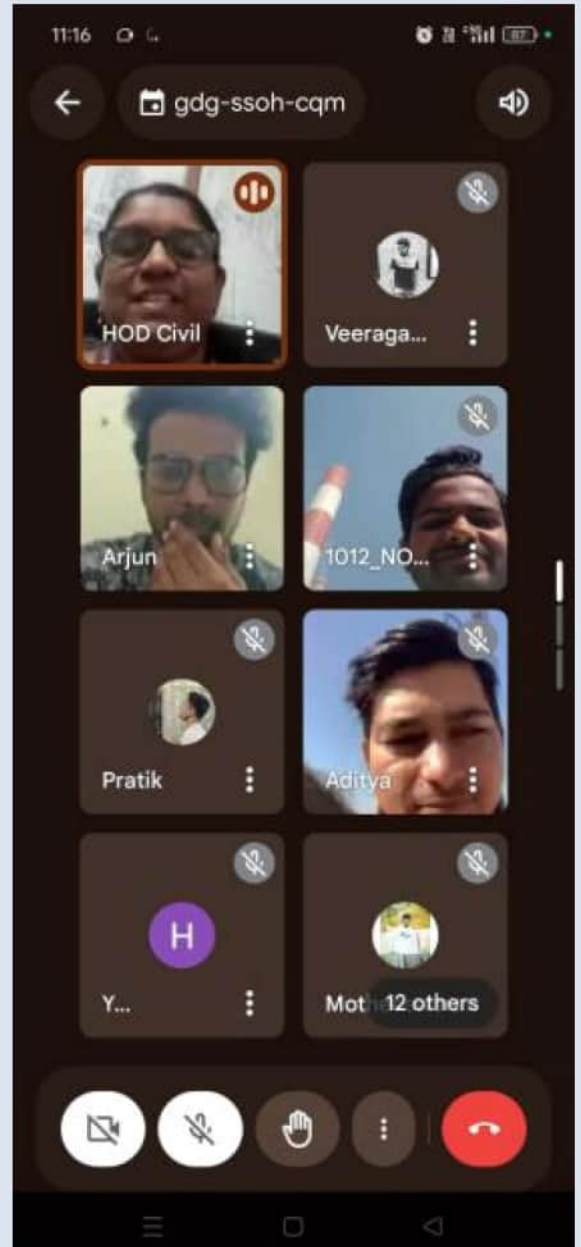
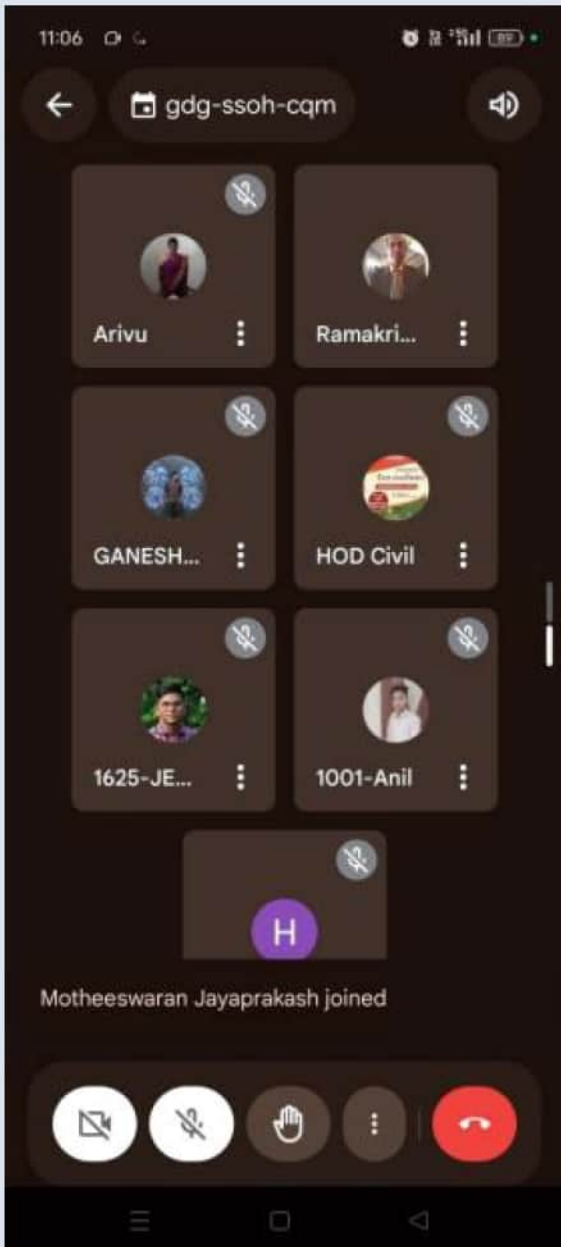
Alumni meet -Blooming Memories- 24

**DATE**

14.12.24

**Venue Online**

mode



**TITLE OF THE EVENT**

Subject lecture on Building Technology and Habitat Engineering- III y

**DATE**


29.10.24

**Venue SMART**



**ROOM**



# RESEARCH MEETING - 03




**Dr. M.G.R.**  
EDUCATIONAL AND RESEARCH INSTITUTE  
**DEEMED TO BE UNIVERSITY**  
UNIVERSITY ASSISTANCE CENTRE FOR RESEARCH & STUDIES  
(An ISO 21001 : 2018 Certified Institution)

**SIR C V RAMAN RESEARCH COUNCIL**  
**Department of Civil Engineering**  
**VISHWESWARIAH RESEARCH FORUM**

**RF Meeting: 013    QUARTER NO: Q3**



**Dr.N.Jayachitra**  
Professor&Head  
Dept.Of Chemical Engineering  
Dr.M.G.R.Educational and  
Research Institute

Topic-  
Patent Drafting  
10.12.2024@11.15AM  
Venue: Civil Smart  
Room

**Agenda:**

- 1) *Presentation & Discussion of Featured Article*
- 2) *MGRPUBLISH999CHALLENGE Progress Review*
- 3) *External Member Tips for Publication*
- 4) *My Best Experience in Publication*
- 5) *Open Forum Discussion to Clarify the Member Queries*
- 6) *AoB*

**Mr.D.Ramakrishna**  
Assistant Professor  
Research Forum Coordinator

**Dr.T.Kavitha**  
Department Head

# WORKSHOP ON ADVANCED IN CIVIL ENGINEERING

DATE: 28-08-2024 TO 02-09-2024



The poster features logos for NBA (National Board of Accreditation) and Dr. M.G.R. Educational and Research Institute. The main text reads: 'DEPARTMENT OF CIVIL ENGINEERING ORGANISES WORK SHOP ON ADVANCED SURVEY IN CIVIL ENGINEERING'. It mentions 'Industrial collaboration with AJ LAND SURVEY'. A list of topics includes: DGPS & Total Station Survey, Contour Survey, Topographic Survey, Drone Survey, Site & Column Marking, and Volume Calculation. The event is held at Dr.M.G.R.Educational & Research Institute from 28-08-2024 to 02-09-2024. Social media handles for DrMgr Civil Dept are provided at the bottom.

DEPARTMENT OF CIVIL ENGINEERING  
**ORGANISES**  
**WORK SHOP ON**  
**ADVANCED SURVEY**  
**IN**  
**CIVIL ENGINEERING**

Industrial collaboration  
with  
**AJ LAND SURVEY**

- ✓ DGPS & Total Station Survey
- ✓ Contour Survey
- ✓ Topographic Survey
- ✓ Drone Survey
- ✓ Site & Column Marking
- ✓ Volume Calculation

Dr.M.G.R.Educational & Research Institute  
28-08-2024 to 02-09-2024

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# INDUSTRIAL VISIT TO PHASE II CAMPUS



**DATE : 02.8.24**

**The Department of Civil Engineering organized an industrial visit for B.Tech Civil Engineering III Year students to the SLMCH Construction Site, Adayalampattu.**

**The visit provided practical exposure to ready-mix concrete quality testing, concreting processes, reinforcement detailing, pile foundations, soil exploration, and retaining wall construction, enabling students to gain valuable hands-on experience in real-world construction practices.**

**INTERNATIONAL SEMINAR ON HIGHER EDUCATION  
& SCHOLARSHIP OPPORTUNITIES IN TUM ASIA &  
GERMAN INSTITUTE OF TECHNOLOGY**

**DATE : 08.08.2024**



**The Department of Civil Engineering, in collaboration with the International Relations and Collaboration Cell, organized an International Seminar on Higher Education and Scholarship Opportunities at TUM Asia on 08.08.2024. The session, delivered by Ms. Lenny Christina, Admission Advisor for India and ASEAN Region, provided insights into international academic programmes, scholarships, admission requirements, research opportunities, internships, and specialized courses, helping students explore higher education opportunities abroad.**

# SEWAGE TREATMENT PLANT(STP) - NESAPAKKAM ON 02.08.2024



The Department of Civil Engineering organized an industrial visit for B.Tech Civil Engineering final-year students to the Sewage Treatment Plant (STP), Nesapakkam.

The visit provided practical insights into wastewater treatment processes, modern treatment technologies, and environmental sustainability, helping students bridge the gap between theoretical knowledge and real-world civil engineering applications.

# MGRERI & ECSA-NRSC FOR SAGAR MANJUSHA CRUISE



# STUDENTS CORNER

## THE FUTURE OF HOUSING: 3D PRINTING HOMES

### WHAT IS 3D PRINTING IN CONSTRUCTION?

3D printing, also known as additive manufacturing, is the process of creating three-dimensional objects from a digital file by layering materials in successive layers. In construction, large-scale 3D printers use specialized materials like concrete, plastics, or other composites to create entire buildings, including homes. The printer is controlled by software that dictates the shape, size, and structure of the house, allowing for the creation of complex designs with precision.

### How Does 3D Printing a House Work?

User Generated Content refers to any form of content—text, images, videos, reviews, etc.—created by individuals rather than brands or organizations. It is authentic, reliable, and often resonates deeply with audiences due to its personal nature. As a UGC creator, you have the freedom to explore your interests, share your experiences, and engage with communities across various digital platforms.



### BENEFITS OF 3D PRINTED HOMES:

**Affordability:** Reduced labor and material costs make homes more affordable, potentially cutting construction costs by up to 50%.

**Speed:** Homes can be built in a matter of days or weeks, significantly reducing construction time compared to traditional methods.

**Customization:** 3D printing allows for unique and complex designs, offering high flexibility in architecture and layout without the need for expensive molds.

**Sustainability:** Less material waste and the ability to use eco-friendly materials, like recycled plastics, reduce the environmental impact of construction.



### THE FUTURE OF 3D-PRINTED HOMES

The potential of 3D-printed homes goes beyond affordability and efficiency. As the technology advances, we may see entire neighborhoods or cities built with 3D printers, especially in regions that face housing crises or natural disasters. In some developing countries, 3D printing could provide an affordable solution for building homes quickly, while also allowing for customization to fit the local culture and environment.

In the long term, 3D printing could also play a significant role in the construction of sustainable and self-sufficient homes. For example, homes could be designed with integrated solar panels, water collection systems, and energy-efficient insulation, reducing the overall environmental impact.

### CONCLUSION

3D printing technology has the potential to revolutionize the way we build homes, offering a more affordable, sustainable, and efficient alternative to traditional construction methods. While there are still challenges to overcome, the progress made so far is promising, and as the technology continues to develop, we can expect to see more 3D-printed homes in the future. Whether it's combating housing shortages, reducing environmental impact, or creating customized living spaces,

MANISH KUMAR (2 YEAR)

# PLACEMENT



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**Department of Placement and Training  
Welcomes  
Campus Hiring FY 2025**



**J&F**  
INDIA PRIVATE  
LIMITED

J&F India Private Limited is an engineering consultancy that provides services for buildings and infrastructure. They are based in Chennai, India, and have been in business since 1999.

**Eligibility : B. tech (civil)**  
**Year of Passing : 2025**

**Position: Intern**

Name of Department	Number of students
B.tech (civil)	12
Total	12

All the Best !!

DR. C. Balakrishnan  
Dean- Placement & IIPC  
9841199624  
placement@drmgrdu.ac.in

Date : 23-04-2024

Venue :J&F India pvt ltd.

Radiance Towers, 3rd Floor Old No.

110, New No. 111,

33 Feet Road, Anna Salai, Guindy,

Chennai - 600 032



# CIVIL

## — NEWSLETTER —

BUILDING TODAY • SUSTAINING TOMORROW



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**2 A. Pious Niranjan**  
IVyr CIVIL

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IIyr CIVIL

**4 Vaibhav P**  
IIyr CIVIL

**5 Vishnu M**  
IIyr CIVIL



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