



**SUSTAINABLE
DEVELOPMENT
GOALS**

**Sri Krishna
College of Technology**

An Autonomous Institution
Affiliated to Anna University and Approved by AICTE
Accredited by NAAC with 'A' Grade
KOVAIPUDUR CAMPUS, COIMBATORE - 641 042.

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**VOL 24 - ISSUE 21
03 NOV - 09 NOV 2024**

SKCT

DIGEST

THE PRIDE OF OUR REFLECTION



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“Success is not final, failure is not fatal:
It is the courage to continue that counts.”
– **Winston Churchill**

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nirf
Band 151-200
Engineering 2024



INSTITUTION'S
INNOVATION
COUNCIL

★ ★ ★ ★ ★

SKCT DIGEST

VOL 24 - ISSUE 21

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ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Students Placement

Ms Acshaya Sri S, Student of Final B.Tech. ADS, has been offered with six-month internship as SDE at Amazon, Hyderabad. Post completion of Internship will be converted as a full-time offer with a package of 44 LPA.



amazon



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NAAC
NATIONAL ACADEMY OF AWARD CERTIFICATION
NATIONAL UNIVERSITY OF EDUCATION



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CSE | CIVIL | EEE | ECE
MECH | IT



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Engineering 2024



INSTITUTION'S INNOVATION COUNCIL
(University of Education Industry)



SKCT DIGEST

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ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Student Participation

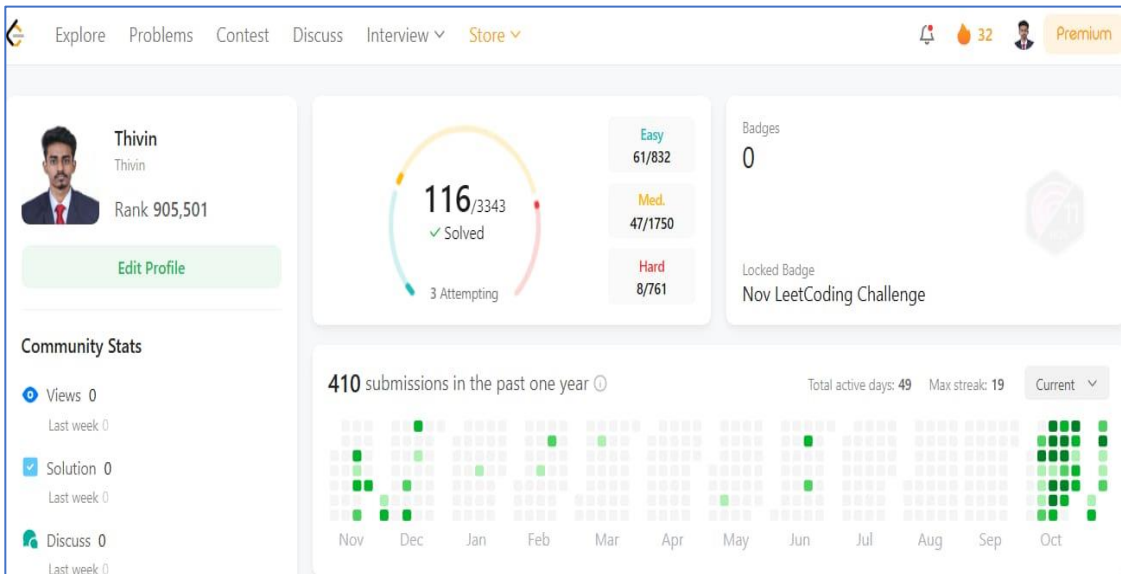
Mr Adish A, Student of Third B.Tech. ADS, participated in 24-hour Hackathon organised by Malaviya National Institute of Technology, Jaipur.



ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Student Participation

Mr Thivin Krishna M, Student of Third B.Tech. ADS, solved 116 problems within 32 days in leetcode streak.



ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Student Participation

Mr Lokesh T, Student of Second B.Tech. ADS, conducted AI awareness program for school students at St. Antony's Matriculation Higher Secondary School, Kanji.



CSE (IoT)

Student Achievement

Mr Mounish M, Student of First B.E. CSE (IoT), secured the **Third Place** in **Poland Open Hackathon** organised by NVIDIA and ACC organization.



CSE (AIML)

Students' Participation

Mr Jane Hannah S, Mr Kailash R, Mr Tarun R & Ms Swathi S, Students of First B.E. CSE (AIML), participated in **Unique's Manfest** organised by the Rotract Club of Coimbatore Unique on 26 October 2024.



CIVIL ENGINEERING

Faculty Achievements

Dr N Jothi Lakshmi and Mr G Jayakumar, Asst. Professors, has been awarded with an Event Grant of Rs. 40,000/- from The Institution of Engineers, India for organising an All India Seminar on “The Global and Local Dimensions of Climate Change: Mitigation and Adaptation in Practice.”



Dr.V.Sreevidya
Coordinator



Dr.N.Jothi Lakshmi
Co-Coordinator



Mr.G.Jayakumar
Co-Coordinator

COMPUTER SCIENCE AND ENGINEERING

Faculty Participation

Ms Viraja Ravi, Asst. Professor, attended a Short Term Programme (STP) on **“Advanced Pedagogy”** under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) at Coimbatore Institute of Technology, Coimbatore.



Ms P Kalpana, Asst. Professor, attended Wipro the Advanced Technology Programme [ATP] - training programme and got trained on Cloud Computing Learning.



COMPUTER SCIENCE AND ENGINEERING

Student Achievements

Ms. K. Thilagavathi, Student of third-year B.E. CSE, attended a one-day workshop on "Exploring Higher Studies Opportunities in Universities in the UK and France" and completed a certification course on "Introduction to Generative AI" through AWS. She also participated in India's largest skill contest, achieved a top 1% score (99.51), and received a merit certificate.





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SKCT DIGEST

VOL 24 - ISSUE 21

03 NOV- 09 NOV 2024

COMPUTER SCIENCE AND ENGINEERING

Student Achievement

Ms K Thilagavathi, Student of Third B.E. CSE, has been awarded as an active member of the **Global Society for Technical Education**.



ELECTRONICS AND COMMUNICATION ENGINEERING

Students' Participation

Mr A Ajay Adithiya and Mr C Divakar, Students of First B.E. ECE, attended a workshop on **“STM32 Nucleo Boards”** organised by Imbed Software on 27 October 2024.

Mr R M Harish Nanda Subramanian R M, Student of First B.E. ECE, attended a workshop on **“Generative AI : Trends and Job Opportunities”** organised by Amirta Vishwa Vidyapeetham, Coimbatore on 17 October 2024.



ELECTRONICS AND COMMUNICATION ENGINEERING

Faculty Publication

Dr N Manikanda Prabu, Asst. Professor, published a research article on “An IoT-Based Self-Reliable Wheelchair for Enhanced Mobility and Health Monitoring” in IEEE Xplore (Scopus Indexed).

Conferences > 2024 Second International Con...

An IoT-Based Self-Reliable Wheelchair for Enhanced Mobility and Health Monitoring

Publisher: IEEE [Cite This](#) [PDF](#)

Brindha Samarasam ; Manikanda Prabu Nallasivam ; Gayathri Devi Kulandasamy ; Murugesan Manivel ; Anand Karuppannan ; Charmila Duraisamy [All Authors](#)

4 Full Text Views

Abstract	Abstract:
Document Sections	This research introduces an innovative approach to enhance the mobility and independence of individuals with limited mobility by developing an IoT-based, self-reliable wheelchair capable of climbing stairs. The wheelchair utilizes Atmega328 microcontroller as its central processing unit, incorporating an accelerometer to detect hand movements for intuitive control of forward, backward, left, and right motions. The unique triangular wheel arrangement on either side of the wheelchair enables it to navigate staircases effectively. Powering the wheelchair is a rechargeable battery, with a regulator ensuring a stable power supply to the boards and sensors. The H-bridge motor driver controls the wheelchair's motors, facilitating smooth and precise movements. In addition to its advanced mobility features, the wheelchair is equipped with health monitoring capabilities. A heartbeat and temperature sensor are integrated to continuously monitor the user's health condition. In the event of deteriorating health, an alarm is triggered, and a corresponding message is displayed on the LCD display. This real-time health monitoring system adds an extra layer of safety, ensuring timely intervention in case of emergency. This IoT-based wheelchair represents a significant advancement in assistive technology, providing not only enhanced mobility for navigating challenging terrains but also incorporating health monitoring features to ensure the well-being of the user. The integration of Atmega328 microcontroller, sensors, and motor control technologies showcases an intelligent approach to empower individuals with limited mobility.
I. Introduction	
II. Proposed System	
III. Results & Discussion	
IV. Conclusion	
Authors	
Figures	
References	
Keywords	
Metrics	

Published in: 2024 Second International Conference on Intelligent Cyber Physical Systems and Internet of Things (ICoICI)

ELECTRONICS AND COMMUNICATION ENGINEERING

Faculty Participation

Mr G Santhakumar, Asst. Professor, attended a workshop on **“Photonic Sensors for Biosensing Applications”** organised by Indian Institute of Technology, Dhanbad during 17-19 October 2024.





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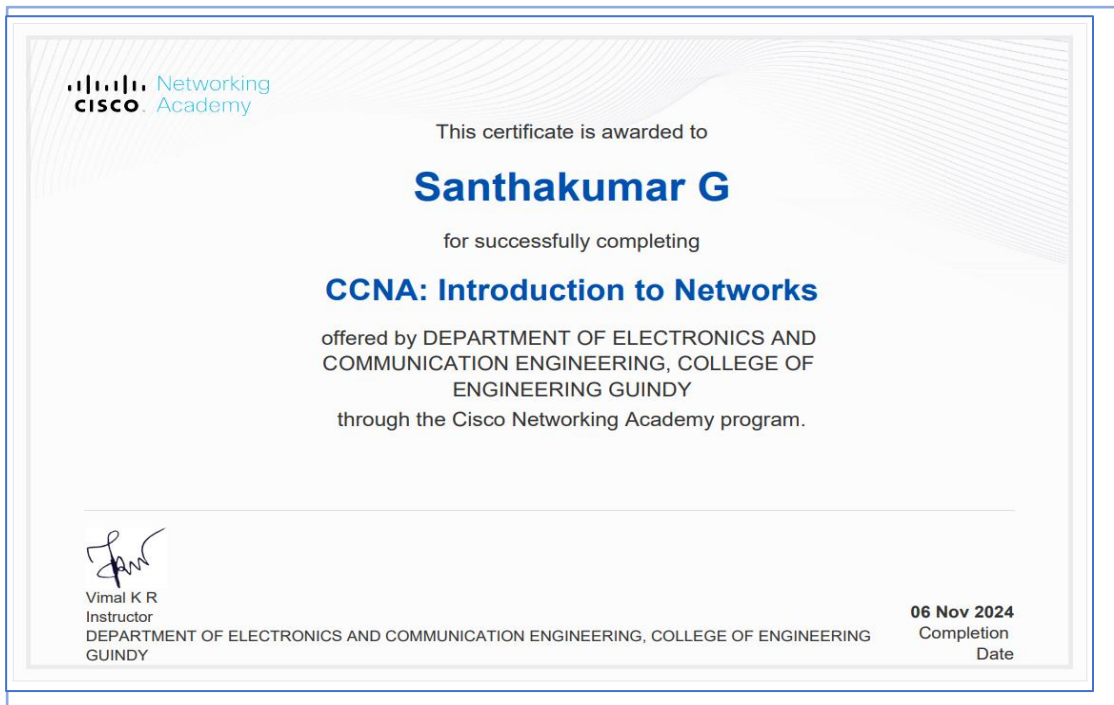


★★★★★

ELECTRONICS AND COMMUNICATION ENGINEERING

Faculty Online Certification

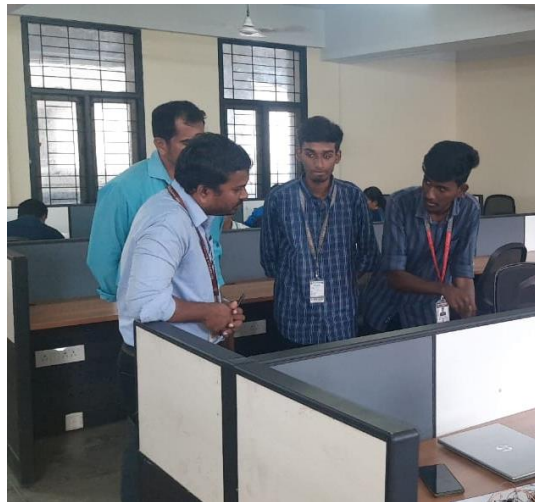
Mr G Santhakumar, Asst. Professor, completed a course on **“CCNA: Introduction to Networks”** offered by the Dept. of ECE, College of Engineering, Guindy through the **Cisco Networking Academy Program**.



ELECTRONICS AND COMMUNICATION ENGINEERING

Event Organised

The Department of ECE in association with Students' Association (KNOCKIA) organised a **“Project Expo”** for the Students of Second B.E. ECE on 04 November 2024.





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VOL 24 - ISSUE 21
03 NOV - 09 NOV 2024

ELECTRICAL AND ELECTRONICS ENGINEERING

Faculty Publication

Dr Jaisiva S, Asst. Professor, published a research article on “Examining Floating Point Precision in contemporary FPGAs” in the IEEE digital xplora on 06 November 2024.

Conferences > 2024 Third International Conf...

Examining Floating Point Precision in Contemporary FPGAs

Publisher: IEEE

Cite This



Mythile C ; Jaisiva S ; Arunadevi A ; Sudhapriya K All Authors

2 Full Text Views



Abstract

Document Sections

- I. Introduction
- II. Existing

Abstract:

Current computer systems use an approximation of real numbers to perform calculations, which are frequently based on a particular FP (Floating-Point) format. The bit width of the relevant Fraction (F), and Exponent (E) fields determines the enhanced dynamic range and precision of FP numbers in comparison to a fixed number of points. Usually, point of floating precisions have been made available by designs like central processing units (CPUs) and Unit for Processing Graphics. These

ELECTRICAL AND ELECTRONICS ENGINEERING

Faculty Publication

Dr Jaisiva S, Asst. Professor, published a research article on **“Reducing Computational Complexity of 3D-DCT & IDCT in Video Coding Architecture”** in the IEEE digital xplore on 06 November 2024.

Conferences > 2024 Third International Conf...

Reducing Computational Complexity Of 3D-DCT & IDCT in Video Coding Architecture

Publisher: IEEE

[Cite This](#)

[PDF](#)

Arunadevi A ; Jaisiva S ; Mythile C ; Sudhapriya K [All Authors](#)

5

Full

Text Views



Abstract

Abstract:

The majority of image and video compression standards depend on the DCT (Discrete Cosine Transform) due of it is superior features of energy compression. Its increasing requests for videotape messaging & 2-way videotape transmission in contrast to cell-phone transmission networks necessitate optimization of the encoding complexity. Since the 3D-DCT (Three-Dimensional Discrete Cosine Transform) expands the capability of spatial compression of the Two Dimensional-Discrete

Document Sections

I. Introduction

II. Existing

ELECTRICAL AND ELECTRONICS ENGINEERING

Faculty Publication

Dr Jaisiva S, Asst. Professor, published a book chapter on **“Computational Intelligence Theory – An Orientation Technique”** in the Computational Intelligence: Theory and Applications on 21 October 2024.

Chapter 1

Computational Intelligence Theory

An Orientation Technique

S. Jaisiva, C. Kumar, S. Sakthiya Ram, C. Sakthi Gokul Rajan, P. Praveen Kumar

Book Editor(s): T. Ananth Kumar, E. Golden Julie, Venkata Raghuv eer Burugadda, Abhishek Kumar, Puneet Kumar

First published: 21 October 2024 | <https://doi.org/10.1002/9781394214259.ch1>

PDF TOOLS SHARE

Summary

The ability of a system to change its behavior to reach its objective in a variety of settings is intelligence. In reality, a different definition of computational intelligence (CI) is that it entails real-world adaption in challenging and shifting situations. In other words, it serves as a precise illustration of a notion. Adaptation and computational intelligence are intimately linked concepts. The concept, design, implementation, and advancement of computing paradigms driven by natural and cognitive motivations is known as CI. Evolutionary computation, fuzzy systems, and neural networks have historically been the three major foundations of CI. However, over time, various computing models that were

Computational Intelligence:
Theory and Applications

References



Related



Information

Recommended

[Introduction to Computational Intelligence](#)[Computational Intelligence: Synergies of Fuzzy Logic, Neural Networks and Evolutionary Computing, \[1\]](#)[Introduction to Computational Intelligence](#)[Fundamentals of Computational Intelligence: Neural Networks, Fuzzy Systems, and Evolutionary Computation,](#)

ELECTRICAL AND ELECTRONICS ENGINEERING

Faculty Certification

Ms Jeevitha K, Ms Manimegalai V, Dr Abinaya N S, Dr Lijo Jacob Varghese, Dr Suresh K P and Ms Sukanya G, the Members of Faculty, completed online certification course on **“Deep Learning with PyTorch : Generative Adversarial Network”** through Coursera.



ELECTRICAL AND ELECTRONICS ENGINEERING

Faculty Certification

Dr Jency Joseph J, the Member of Faculty, completed an online certification course on **“Introduction to Java Enterprise Edition”** through Coursera.



INFORMATION TECHNOLOGY

Student Achievement

Ms Sharon Reshma A, Student of Third B.Tech. IT, has been recognised as the Star of Rotamind, at a GD event organised by Rotract District 3201 on 19 October 2024.





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SKCT DIGEST

VOL 24 - ISSUE 21

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INFORMATION TECHNOLOGY

Placement

Ms K Thamarai and **Ms K S Indhu**, Students of Final B.Tech. IT, placed in CTS.



Ms Thamarai K



Ms Indhu K S



cognizant

MECHANICAL ENGINEERING

Faculty Publication

Dr V S Sreenivasan, Associate Professor, published an article on “Effect of Nanoclay Addition on Mechanical and Microstructure Properties of E-Glass Fiber and AA2022 Metal Skin Reinforced Epoxy Laminates” in JOM (Q2 Journal) with an impact factor of 2.1 and SCIE & Scopus indexing.

JOM
<https://doi.org/10.1007/s11837-024-08062-z>
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PHASE TRANSFORMATION AND MICROSTRUCTURAL EVOLUTION DURING MINERALS PROCESSING

Effect of Nanoclay Addition on Mechanical and Microstructure Properties of E-Glass Fiber and AA2022 Metal Skin Reinforced Epoxy Laminates

S. PRASHANTH RAJA¹ and V.S. SREENIVASAN^{2,3}

1—Department of Mechanical Engineering, VI Institute of Technology, Chennai, Tamil Nadu 603198, India. 2—Department of Mechanical Engineering, Sri Krishna College of Technology, Coimbatore 641042, India. 3—e-mail: vsreenivasan@gmail.com

Fiber Metal Laminate (FML) is a novel composite material combined with a metal and fiber-reinforced polymer layer. FML combines the benefits of both metal and fiber, offering high strength, durability and fatigue resistance while being relatively lightweight. In the study, the mechanical and microstructure behavior of E-glass fiber and AA2022 metal skin-reinforced epoxy resin laminates with varied nanoclay additions of 0%, 1%, 3% and 5% are studied. Tensile test revealed that tensile strength was about 210 MPa and elongation at break was between 18% and 32%. The flexural strength was calculated to be around 502 MPa and 52.4 GPa, respectively. The impact test showed a strength of around 7.5 J. Scanning electron microscope (SEM) analysis was performed on the fractured tensile, flexural and impact sample to evaluate the fractographic mechanism. Various fractographic mechanisms, such as fiber pull-out, fiber breakage, delamination, matrix debonding, void and pores, were observed on the fractured surface. It was concluded that the tensile, flexural and impact strength of the FML increased up to 3% clay and then decreased the further increased nanoclay to 5%. The improved mechanical features perceived at a perfect 3% nanoclay addition indicate that these FMLs could be successfully applied in the aerospace and automotive industries.

INTRODUCTION

Fiber metal laminates (FMLs) are advanced materials that combine the high-strength properties of metals and fibers. They are designed to offer a combination of excellent mechanical properties such as high strength and stiffness along with other desirable attributes like light weight and corrosion resistance.¹ FML is commonly used in aerospace, automotive and other high-performance applications where strength-to-weight ratios and durability are required. The typical structure of an FML consists of changing layers of metal skin and fiber-reinforced laminate materials. These layers are bonded together, and the arrangement can be customized to suit specific engineering requirements.² However, it

was revealed that mechanical surface treatments were ineffective since they only increased macro-hardness. The macro- and microlevel surface qualities were achieved through chemical etching.³ FMLs are enhanced mechanical, thermal and insulating properties using nanoparticle fillers. These fillers are available in a variety of nanoscale forms, including nanoclay, graphene, carbon nanotubes (CNTs) and nanofibers, etc. Addition of CNTs and graphene in the FML provides remarkable improvements in tensile strength, impact resistance and electrical and thermal insulation.⁴ Additionally, hardness, durability and resistivity of the matrix to different environments such as humidity and heat are improved by using nanoparticle fillers.

However, incorporation of nanoclay greatly influences the mechanical and tribological performance of the laminates.⁵ The consistent load distribution and protective action produced by the exfoliation and dispersion of the nanoclay particles inside the

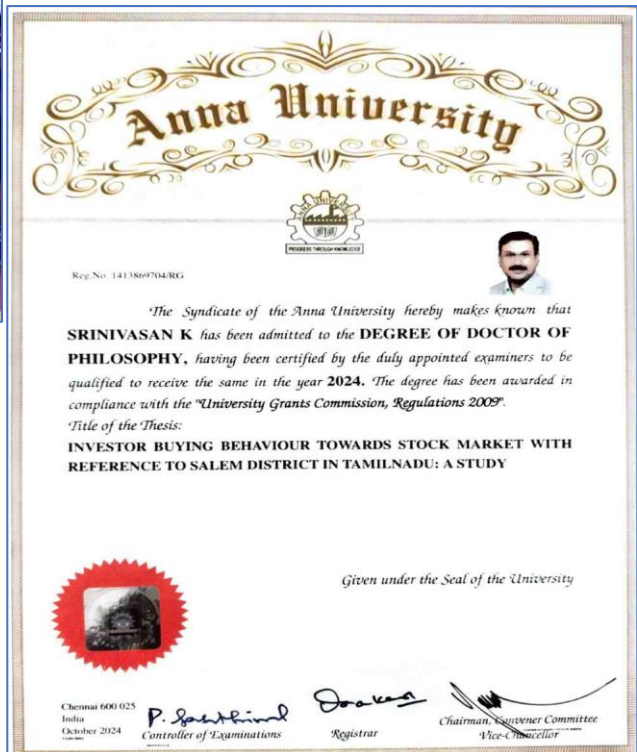
(Received July 20, 2024; accepted October 15, 2024)

Published online: 05 November 2024

MASTER OF BUSINESS ADMINISTRATION

Faculty Achievement

Dr Srinivasan Kuppusamy, Asst. Professor, received a Ph.D. degree from Anna University in October 2024.



MASTER OF BUSINESS ADMINISTRATION

Faculty Participation

Dr S Piradeep, Asst. Professor, attended a live workshop on “**Microsoft Copilot**” organised by Skill Nation on 18 October 2024.



MASTER OF BUSINESS ADMINISTRATION

Faculty Participation

Dr M Ganeshwari, Asst. Professor, attended an online training programme on “**Trainer’s Training Programme for Diploma for Banking & Finance**” organised by Indian Institute of Banking & Finance during 28-31 August 2024.



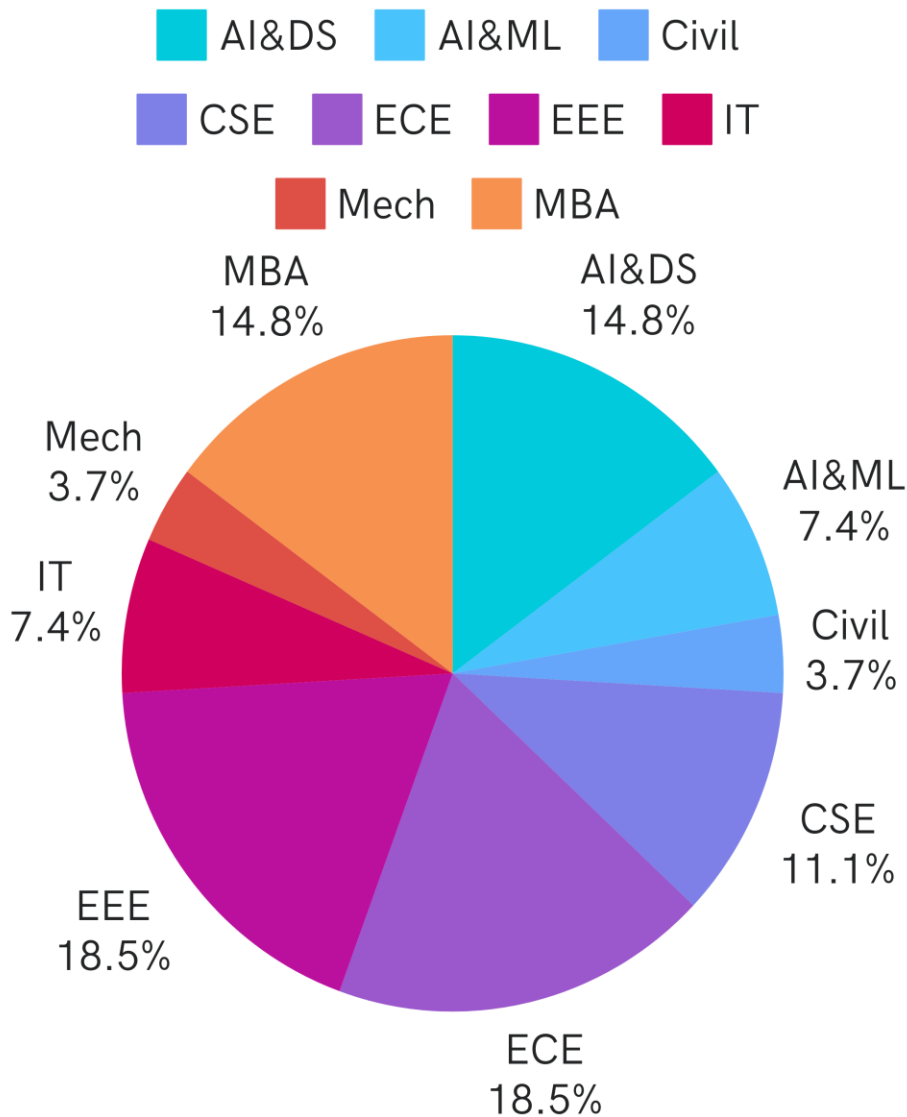
MASTER OF BUSINESS ADMINISTRATION

Event Organised

The School of Management organised a “**Steal the deal: Auction Game**” for the Students of First MBA on 06 November 2024.



CONTENT CONTRIBUTIONS BY THE DEPARTMENTS



CHIEF EDITOR

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Principal

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Assistant Professor
Mechanical Engineering

Ms B Pavithra
Assistant Professor
English

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- Mr K Senthil Kumar, AP/Mech
- Ms S Jaya Preethi, AP/MBA
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III B.E. Mechanical Engineering

Mr S Nithin
II B.E. CSE (AIML)



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