INNOVATIONS BY THE FACULTY IN TEACHING AND LEARNING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

(Autonomous Institution-UGC, Govt. of India)

Accredited by NAAC with 'A+' Grade | Programmes Accredited by NBA

National Ranking by NIRF Innovation – Rank band(151-300), MHRD, Govt. of India

Approved by AICTE, Affiliated to JNTUH, ISO 9001:2015 Certified Institution

Maisammaguda, Dhulapally, Secunderabad 500100

5.6 Innovations by the Faculty in Teaching and Learning (10)

Innovations by the Faculty in Teaching and Learning

Teaching Learning Process (TLP) is the core of any educational institute. Faculty innovations in teaching and learning often encompass various strategies and technologies aimed at enhancing student engagement and understanding. Additionally, Innovative teaching methodologies help faculty to deliver their lectures in a faster and efficient manner thereby allowing the students to keep abreast of technological advancements. In addition, innovative teaching aids also impart rationale thinking and self-sufficient thought process in the mindsets of students by making them more proactive. MRECW has adopted Holistic education and has taken all necessary steps to curate the scheme and syllabus in the autonomy to strengthen the performance of students. This practice helps in maintaining a consistent development of the students, department and the institute.

GOALS:

In order to make the teaching-learning process more effective to students, our faculty members are utilizing various innovative tools and techniques to share the knowledge, so that students can actively involve and grasp the ideas quickly. Faculty are attending various Faculty Development Programs to update their skills in field of cutting-edge technologies which make their teaching more innovative and effective.

The department will continuously strive to achieve the following goals:

- Upskilling the students learning by innovative practices.
- Enrich the students understanding of emerging technologies, academic advancements, current trends, and social issues through creative and innovative approaches expertise of creative methods and strategies.
- Encourage the students to think creatively, to develop ideas, and to take part in various students' chapter and club activities.

To enhance the teaching-learning process, faculty members employ a variety of pedagogical methods. The key pedagogical initiatives include:

1. ICT Enabled Tools - Smart Classrooms

2.Learning Management System – BEES

3. Online Resources

4. Research Based Learning

5.Participative Learning

a. Process Oriented Guided Inquiry Learning (POGIL)

b. WIT and WIL

c. SHOW and TELL

d. Hackathons

e. Ideathons

f. Online Certifications

g. Value Added Certifications

h. Student's Chapter Activities

6. Experimental Learning

a. Industrial Visits

b. Learning by Doing

c. Concept Canvas

d. Innovative Product Development

7. Project Based Learning

a. Internships/Industry Oriented Mini Projects

b. Research Projects

8. Problem Solving Methodologies

a. Assignments

b. Tutorials

c. Case Study

d. Coding Practice through CodeTantra tool and Hacker Ranking

9. Theory to Practice

10. Digital Library

11. Students Seminars

12. Group Discussions

1. ICT ENABLED TOOLS – SMART CLASSROOMS

Smart Classrooms are advanced learning environments designed to make teaching and learning more effective and engaging through technology. Each classroom is equipped with a smart board, enabling faculty to deliver lessons interactively and visually, which supports an application-oriented teaching approach. The use of digital boards, multimedia presentations, videos, animations, and PowerPoint slides allow teachers to present material dynamically, catering to diverse learning styles and enhancing student engagement

The integration of multimedia content captures students attention, fosters a deeper understanding, and promotes long-term retention of knowledge. Digital boards provide an interactive platform where teachers can write, manipulate, and annotate content, making lessons more interactive and collaborative. This approach moves away from traditional teaching methods, allowing for more material to be covered efficiently and reducing the reliance on chalk-and-talk techniques.

Smart Boards:

Smart boards also offer educational benefits that transform the classroom experience. They allow instructors to include visual aids seamlessly, enhancing explanations and providing real-time feedback through interactive quizzes. Lessons can be recorded for future review, enabling students to revisit important concepts. This modern classroom setting not only makes learning more enjoyable but also prepares students for a technology-driven world by enhancing their technical familiarity and collaborative skills.

Here are the key aspects of its significance:

a. Interactive Learning

- Facilitates a more interactive classroom environment, encouraging student participation.
- Allows for real-time annotation, drawing, and problem-solving, which can make lessons more dynamic.

b. Engagement Enhancement

- Multimedia integration (audio, video, images) caters to different learning styles (visual and audio).
- Gamified learning tools and interactive activities can make learning enjoyable and impactful.

c. Resource Accessibility

- Enables access to online resources and digital content directly on the board.
- Supports a variety of file formats (PDFs, PowerPoint, video clips) for diverse teaching materials.

d. Collaboration and Teamwork

- Promotes group activities like brainstorming and project planning using collaborative tools.
- Multiple students can interact simultaneously on some smartboards, fostering teamwork.

e. Ease of Use and Flexibility

- Simple integration with computers and the internet ensures seamless operation.
- Versatile for different subjects and teaching styles.

f. Saves Time and Resources

- Reduces the need for paper-based teaching aids and repetitive preparation of materials.
- Lessons can be saved, shared, or revisited for revision purposes.

g. Improved Learning Outcomes

- Interactive visuals and demonstrations can make complex concepts easier to understand.
- Encourages active learning, leading to better retention and comprehension.

h. Facilitates Remote and Hybrid Learning

- With smartboard integration, virtual classrooms become more interactive and engaging for remote students.
- Recordable lessons and live annotations enhance e-learning experiences.

MAXHUB INTERACTIVE PANNEL - SPECIFICATIONS

- 4K Ultra High Definition Display
- Multi Touch, IR Touch (Great Touch Accuracy with +/- 1.5 mm)
- 350 nits Brightness
- 2x12 W inbuilt speaker
- Multi Touch (20 Touch, 10 Writing)
- Inbuilt 4K PC with Configuration
- (Core i5-11 Gen. Processor, 8GB RAM, 128GB SSD, Windows 10 OS)

2.LEARNING MANAGEMENT SYSTEM – BEES - COURSE MATERIALS PREPARED BY OUR FACULTY OF ALL COURSES ARE AVAILABLE

BEES Learning Management System (LMS) is a digital platform designed to streamline the administration, documentation, tracking, and delivery of educational content. BEES LMS platforms are used by institutions to create, distribute, and manage course materials in an organized and accessible manner, enabling a more flexible and efficient learning experience for both students and instructors.

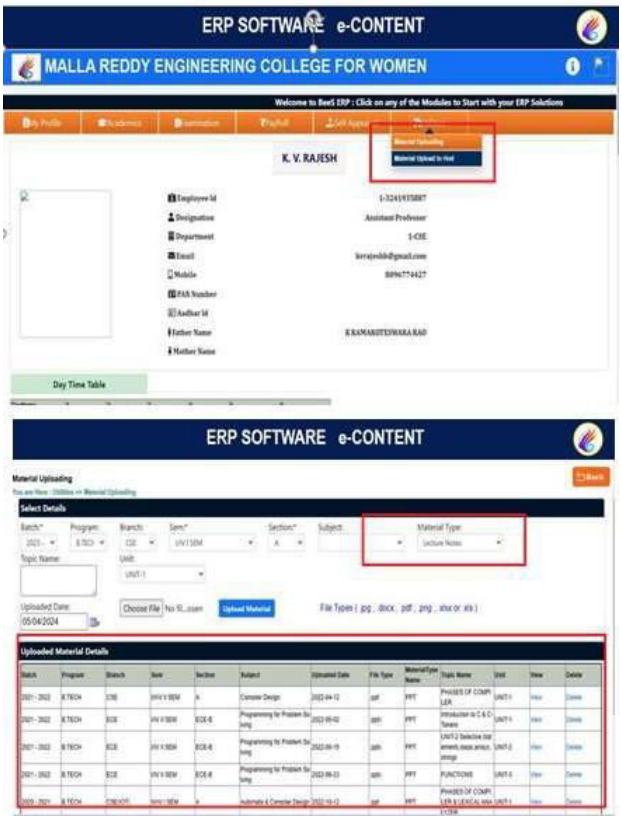
Through BEES LMS, faculty can upload and share various resources like lecture notes, assignments, quizzes, videos, and interactive content, making it easy for students to access study materials anytime and from anywhere.

The Attendance module in BEES Software, is designed to streamline attendance tracking and enhance student engagement by providing an efficient, accurate, and accessible system for managing attendance records. This tool allows faculty to record attendance digitally, reducing administrative effort and ensuring real-time accuracy. The system provides students and instructors with a clear view of attendance status, supporting greater transparency and accountability.

By centralizing resources and communication, BEES LMS enhance the learning process, making it more engaging, accessible, and manageable in todays digital landscape.

ERP WEBISTE/SOFTWARE – ADMIN MANAGEMENT

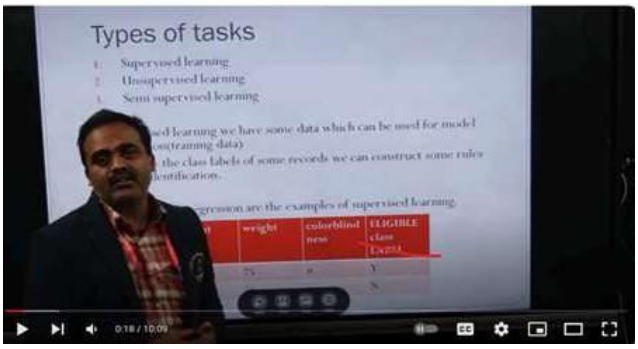
Link to the ERP Website: https://mrecwexamcell.com/BeesERP/Login.aspx (https://mrecwexamcell.com/BeesERP/Login.aspx)



3.ONLINE RESOURCES – VIDEO LECTURES OF OUR FACULTY

Online resources have become an essential part of education and learning, providing students and professionals with easy access to a vast array of information and tools. These resources include educational websites, e-books, academic journals, videos, and interactive tutorials, which cater to various learning styles and subjects. The flexibility of accessing these materials anytime and anywhere allows learners to study at their own pace, deepening their understanding of topics and enhancing their skills. Additionally, online resources often feature up-to-date information, enabling users to stay current with the latest advancements in their fields.

Online resources support collaborative learning and communication through platforms like discussion forums, online courses, and social media groups, where individuals can share ideas, solve problems, and receive feedback from peers and experts. The availability of online certifications, virtual labs, and practice tests also helps learners gain practical experience and validate their skills. As a result, online resources play a significant role in democratizing education, making learning opportunities accessible to a wider audience across the globe.



4.RESEARCH BASED LEARNING Research-Based Learning (RBL):

Encourages students to engage in hands-on, practical approaches, either through research or the creation of tangible products. Collaborative learning, on the other hand, is an instructional strategy where groups of students work together to solve problems, complete tasks, or create products. This approach enhances student engagement, fosters teamwork, improves problem-solving abilities, and promotes the development of positive interpersonal relationships.

S.No	Title	Author(s)	Guide Name	Publication Details
1	A Deep Learning-Based Approach for Detecting and Classifying Inappropriate Content in YouTube Videos	Y. Sai Spurthi, Y. Soumya Varshitha, V. Vinshitha	Mr. V. Rajashekhar	*International Journal for Innovate Engineering and Management Research*, ISSN: 2456–5083, Vol: 13, Issue 09, September 2024
2	A Deep Learning-Based Efficient Firearms Monitoring Technique for Building Secure Smart Cities	M. Trisha, N. Alekhya, N. Sri Latha	Mrs. Sri Lavanya Sajja	*International Journal for Innovate Engineering and Management Research*, ISSN: 2456–5083, Vol: 13, Issue 09, September 2024
3	A Machine Learning Approach Using Statistical Models for Early Detection of Cardiac Arrest in Newborn Babies in the Cardiac Intensive Care Unit	Y. Mouna, S. Akshitha, V. Samhitha	Mrs. Bethapudi Aruna Sri	*International Journal for Innovate Engineering and Management Research*, ISSN: 2456–5083, Vol: 13, Issue 09, September 2024
4	Crop Prediction Based on Characteristics of the Agricultural Environment Using Various Feature Selection Techniques and Classifiers	Sai Namitha, R. Lohitha, T. Rani	Mr. Karamsetty Shouryadhar	*International Journal for Innovate Engineering and Management Research*, ISSN: 2456–5083, Vol: 13, Issue 09, September 2024
5	Sentiment Analysis System to Improve Teaching and Learning	P. Sushmitha, Nalla Amrutha Reddy, M. Vinisha	Mrs. Ramya Sri Kotha	*International Journal for Innovate Engineering and Management Research*, ISSN: 2456–5083, Vol: 13, Issue 09, September 2024
6	A Stock Price Prediction Model Based on Investor Sentiment and Optimized Deep Learning	P. Usha Sri, P. Laxmi Sanjana, L. Harshini	Mr. Vijay Kumar L.	*International Journal for Innovate Engineering and Management Research*, ISSN: 2456–5083, Vol: 13, Issue 09, September 2024
7	Cyber-Physical Customer Management for Internet of Robotic Things-Enabled Banking	L. Shruthi, M. Niharika, P. Swaroopa	Dr. Y. Geetha Reddy	*International Journal for Innovate Engineering and Management Research*, ISSN: 2456–5083, Vol: 13, Issue 09, September 2024

8	Deepside: A Deep Learning Framework for Drug Side Effect Prediction	P. Kavya Sree, N. Amrutha, M. Prathyusha	Dr. T. Ram Kumar	*International Journal for Innovate Engineering and Management Research*, ISSN: 2456–5083, Vol: 13, Issue 09, September 2024
9	Prediction of the Price of Used Cars Using Machine Learning	V. Srija, S. Aakanksha, U. Sruthi	Dr. N. Baskar	*International Journal of Basic and Applied Research*, ISSN: 2249-3352, Vol: 14, Issue 3, September 2024
10	Propounding First Artificial Intelligence Approach for Predicting Robbery Behavior Potential in an Indoor Security Camera	Puppala Chaturya, Patil Shruthi, Ponnam Sudha	Mr. V. Ranadheer Reddy	*International Journal for Innovate Engineering Research and Science & Technology*, ISSN: 2319-5991, Vol: 20, Issue 3, 2024
11	Pupilheart: Heart Rate Variability Monitoring Via Pupillary Fluctuations on Mobile Devices	S. Srinaya Reddy, V. Archana, V. Vennela	Dr. T. Ram Kumar	*International Journal of Information Technology and Computer Engineering*, ISSN: 2347-3657, Vol: 15, Issue 03, 2024
12	Rain Protected Washing Clothes	M. Lahari, P. Navya, S. Priya Datta	Mr. G. Prabhakar	*International Journal of Basic and Applied Research*, ISSN: 2249-3352, Vol: 14, Issue 03, 2024
13	Stress Detection in IT Professionals by Image Processing and Machine Learning	T. Sai Shravya, S.S.S. Bhuvaneswari, V. Sharanya	Mr. M. Sravan Kumar Babu	*Journal of Critical Reviews*, ISSN: 2395-5125, Vol: 14, Issue 03, September 2024
14	Wish List Products Price Comparison Website Project	R. Navya Sri, S. Lavanya, V. Harisha	Ms. Radha Rani Akula	*International Journal of Information Technology & Computer Engineering*, ISSN: 2347–3657, Vol: 15, Issue 03, 2024
15	Epilots: A System to Predict Hard Landing During the Approach Phase of Commercial Flights	M. Sarika, Parveen Begum, M. Akanksha	Mrs. P. Harsha	*International Journal of Basic and Applied Research*, ISSN: 2249-3352, Vol: 14, Issue 03, 2024
16	Fingerprint Based ATM System	T. Nalini Devi, Shaik Asiya, R. Swathi	Dr. K. Venkata Naganjaneyulu	*International Journal of Engineering Research Science and Technology*, ISSN: 2319-5991, Vol: 20, Issue 03, 2024

17	Hand Gesture Using Convolutional Neural Networks	P. Shraddha Sree, U. Anusha, V. Rishitha	Mr. K. Obulesh	*Turkish Journal of Computer and Mathematics Education*, ISSN: 2249-3352, Vol: 14, No 03, 2024

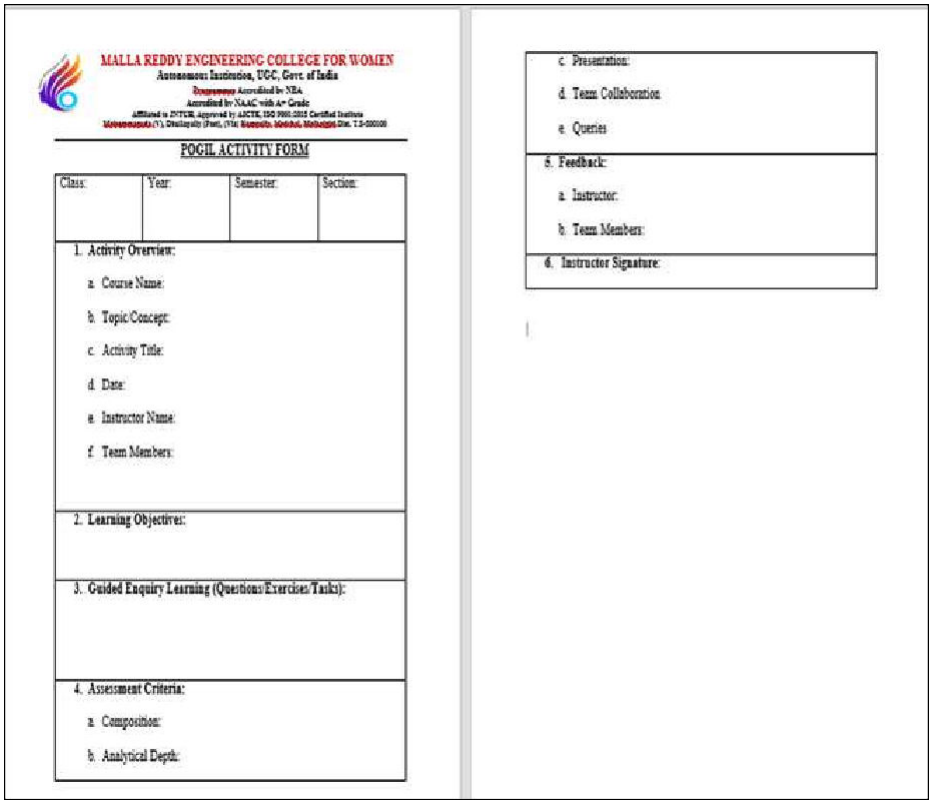
5. PARTICIPATIVE LEARNING

a. Process Oriented Guided Inquiry Learning (POGIL)

An innovative teaching approach has transformed the classroom experience beyond traditional textbooks. In a POGIL (Process Oriented Guided Inquiry Learning) classroom, students collaborate in teams to engage in guided inquiry exercises. This method explicitly enhances students analytical and critical thinking abilities.

The Guided Inquiry component of POGIL follows a structured learning cycle of exploration, concept invention, and application. Through carefully designed materials, students actively construct new knowledge rather than passively receiving information.

To ensure effective implementation, the institution conducts pedagogical training sessions on this universal teaching method, equipping educators to facilitate dynamic and engaging learning environments.



MALLA REDDY ENGINEERING COLLEGE FOR WOMEN
Autonomous Institution, UGC, Govt. of India
Accredited by NBA
Accredited by NAAC with A+ Grade

POGIL ACTIVITY FORM

Class:	Year:	Semester:	Section:

1. Activity Overview:
   a. Course Name:
   b. Topic/Concept:
   c. Activity Title:
   d. Date:
   e. Instructor Name:
   f. Team Members:
2. Learning Objectives:
3. Guided Enquiry Learning (Questions/Exercises/Tasks):
4. Assessment Criteria:
   a. Composition:
   b. Analytical Depth:
   c. Presentation:
   d. Team Collaboration:
   e. Queries:
5. Feedback:
   a. Instructor:
   b. Team Members:
6. Instructor Signature:

b. WIT and WIL

The definition of “WIT & WIL” method explained as an active methodology of teaching and learning activity with “Why am I Teaching & What I am Teaching” from Teacher’s perspective. And from student’s perspective “Why am I Learning & What I am Learning”.

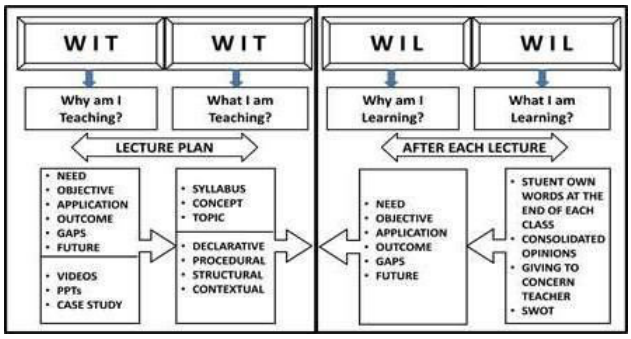
The terms WIT (“What am I Teaching” and “Why am I Teaching”) and WIL (“What am I Learning” and “Why am I Learning”) represent a transformative approach to teaching and learning. The primary objective of this initiative is to provide a clear and structured understanding of the curriculum and its applications beyond the classroom.

WIT encourages teachers to introspect before delivering a lesson, focusing on the importance, objectives, and real-life applications of the topic. It ensures that educators are well-prepared to emphasize the significance of the subject matter, fostering an engaging and meaningful learning experience.

On the other hand, WIL prompts students to reflect before engaging with new concepts, asking themselves where and how the knowledge can be applied. This process helps students grasp new ideas more effectively, enabling them to connect theoretical concepts to practical scenarios.

By integrating WIT and WIL into the educational framework, our college has revolutionized the traditional teaching-learning process. Students are now more enthusiastic about applying classroom concepts to real-world situations, while teachers take pride in guiding them toward achieving their goals and aspirations.

In essence, WIT and WIL have opened new dimensions for exploration and learning, transforming conventional classroom teaching into an interactive and purpose-driven experience. The figure below illustrates a sample WIT and WIL scenario.



All the teachers have to give their presentations on „WIT & WIL teaching plan“ of their own subjects in knowledge sharing sessions before the semester. The expert committee is formed with the Deans, Heads and senior faculty to check the presentations through Micro-teaching sessions. The following is the sample teaching plan for which each topic in the syllabus should be prepared in the prescribed format

WIT & WIL

Subject :	Subject Code :	Academic Year :	Number of working days :
Name of the Faculty Member:	Student Branches deals with:	No. of periods planned:	Number of Hours / week :
Why am I Teaching – What I am Teaching (WIT)		Why am I Learning – What I am Learning (WIL)	
Course Learning Objectives:		Course outcomes:	

S.No.	Description of Topic	Why am I teaching	What I am teaching	Objective of WIL	No. of Hrs.	Method of Teaching	Video links

Assignment Questions: *For revision of the topic*

1

Tutorial Questions: *Involves questions expected in exams and questions from previous exam paper for practice*

1

Text Books:	Evaluation Scheme:	Websites to browse for additional information:

Feedback:	Why am I Learning:	What I am Learning:

c. SHOW and TELL:

Show & Tell is a platform designed for students to exhibit, demonstrate, and explain their projects while presenting innovative ideas in an open forum. It enables students to showcase their cross-disciplinary knowledge and the projects they have developed, fostering a deeper understanding of various domains.

This initiative creates a collaborative space where innovations are shared and shaped, paving the way for meaningful research opportunities among peers. To ensure a comprehensive learning experience, all final-year B.Tech.., students are required to present their projects on the Show & Tell platform prior to their viva voce examinations.

d. Hackathons:

Hackathons provide a platform for Students to think outside the box and explore unconventional ideas, they often result in practical solution to real-world problems. MRECW offers hackathons for the benefit of students. Hackathons are a great way to showcase their skills and creativity. Hackathons bring together individuals from diverse backgrounds, providing excellent opportunities. Participants can enhance a wide array of skills, including coding, project management, and teamwork.


MALLA REDDY ENGINEERING COLLEGE FOR WOMEN
(Autonomous Institution)
Entrepreneurship and Development Cell &
Institution Innovation Council
MSME
IDEA
HACKATHON 4.0
(Internal)
23rd September, 2024
THEMES
Register here:
Team Size: 3
CHIEF PATRON
PATRONS
CONVENER
COORDINATORS


MALLA REDDY ENGINEERING COLLEGE FOR WOMEN
HACKATHON


PROBLEM STATEMENT


कवच 2023
कवच 202

e. Ideathons

An Ideathon is a competitive event where participants brainstorm and develop innovative solutions to real-world problems. It is a platform designed to encourage creative thinking and problem-solving by individuals or teams within a short time frame. Ideathons are often focused on specific themes such as sustainability, technology, social issues, or entrepreneurship, and can be organized by companies, educational institutions, or innovation hubs.

The objectives of the Ideathon are to encourage innovation by inspiring participants to generate creative ideas, foster collaboration through teamwork and networking among diverse participants, promote practical problem-solving to address real-world challenges, and provide a comprehensive learning experience through workshops, mentorship, and peer feedback

f.Online Certifications:

Online certifications, including programs like NPTEL, Coursera, Cisco, and cloud-based platforms, offer flexible learning opportunities that support skill development and career advancement. NPTEL, an initiative by the IITs and IISc, provides courses in engineering, technology, and management, along with optional low-cost certification exams. We also have a subscription to Coursera, providing access to a wide range of courses across various fields. These resources enable learners to expand their knowledge, gain valuable credentials, and improve employability in today's competitive job market.

Online courses that offer certifications in technology, programming, and other skills help students and faculty alike build expertise and gain confidence by passing structured assessments. This learning experience exposes them to new ideas and approaches beyond their usual scope, fostering critical thinking and leadership qualities.

Students have access to online resources like NPTEL, Cisco, and Coursera for enrolling in various certification courses. Faculty encourage students to earn NPTEL certifications, providing continuous guidance and mentorship, particularly with NPTEL assignments. Through video lectures and chapter quizzes, students stay engaged with the course material, testing their knowledge regularly. Upon successful completion, students earn certificates, which provide valuable credentials to enhance employability in diverse fields.


ORACLE
University

Oracle Certified Professional
Certificate of Recognition

K H Shreya

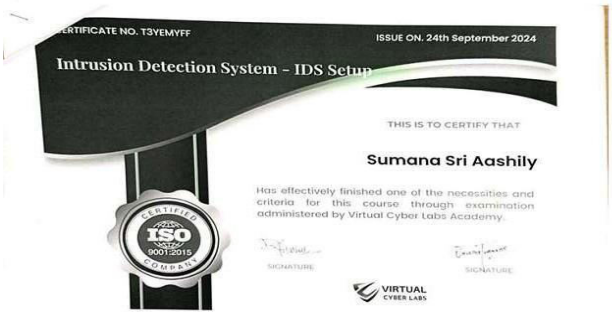
Oracle Cloud Infrastructure 2024 Generative AI Certified Professional

This certifies that the above named is recognized by Oracle Corporation as Oracle Certified.

July 31, 2024
Date

Damien Carey
Senior Vice President, Oracle University

This eCertificate is valid until July 31, 2026


CERTIFICATE NO. T3YEMYFF

ISSUE ON. 24th September 2024

Intrusion Detection System - IDS Setup

THIS IS TO CERTIFY THAT

Sumana Sri Aashily

Has effectively finished one of the necessities and criteria for this course through examination administered by Virtual Cyber Labs Academy.

SIGNATURE

SIGNATURE

VIRTUAL CYBER LABS


coursera project network

PROJECT CERTIFICATE

Vijayagiri Mahalaxmi

has successfully completed

SQL Date Time Functions

an online non-credit project authorized by Coursera Project Network and offered through Coursera

coursera

g.Value Added Certifications:

Malla Reddy Engineering College for Women (MRECW) offers a variety of Value-Added Certification Programs to enhance students technical expertise, industry readiness, and employability. These certifications supplement the regular curriculum and provide hands-on training in cutting-edge technologies and tools demanded by the industry.

Benefits of Value-Added Certifications at MRECW:

- Bridges the gap between academic knowledge and industrial needs.
- Enhances technical skills, making students job-ready.
- Adds weight to resumes and boosts placement opportunities.

VALUE ADDED COURSES - COURSERA

S.No	Name of the Course	S.No	Name of the Course
1	Machine Learning: Predict	28	Python Data Structures
2	SQL for beginners	29	Exploratory Data Analysis for M L
3	Getting started with Rstudio	30	A I Powered Chest Disease Detection
4	Name Entity Recognition LSTEM with Keras	31	Foundations of Cyber Security
5	Securing Cisco switches with port security	32	AWS S3 Basics
6	AI context creation with DALL-E virtual SEO	33	AI for Everyone
7	Terraform for Absolute Beginners	34	Build a Professional Resume using Canva
8	Learn about JSON with Java Script	35	Create your e-commerce store with Shopify
9	Fake Instagram Profile Detector	36	Create Informative Presentations with MS PPT
10	Scikit - Learn	37	Copywriting with Chat-GPT
11	C Programming Variable I/O	38	Chat-GPT Playground for beginners
12	Mastering Data Analysis with Pandas	39	Basic Sentiment Analysis with Tensor Flow
13	Network and Cisco Devices	40	Build Random Foests in R with AZURE ML studio
14	use Canva to create Desktop adn Mobile user-friendly web pages	41	AI for beginners
15	Create your first web app with Python and Flask	42	Introduction to Retrieval Database and SQL
16	Exploring C	43	DOCKS for Absolute beginners
17	Unit Teting in java	44	Prompt Engineering with GPT
18	building recommendation system using MEXNET on AWS sagemaker	45	Python for Data Visualizations
19	Visial M L with yellow brick	46	Explore Stock Prices With Spark SQL
20	Building test automation frame work	47	Working with Sub-Queries in SQL
21	Build a M L web app	48	Simple Past Tense
22	M L for telecom customers	49	Open AI for Beginners
23	Deep Learning for real estates	50	QA in java
24	Programming for Everybody using Python	51	Processing Data with Python
25	Breast Cancer prediction using M L	52	Create Your First Multithread APplictaion in java
26	Evaluate M L using Yellow brick	53	Intermediate Relational Database and SQL
27	Data Analysis using Microsoft Excel	54	SQL functions
		55	Data Structures

VALUE ADDED COURSES - CISCO

S.No	Name of the Course	Mode of the Course- offered by the HEI or Online
1	Cisco CCNA RS Introduction to networks through Cicsco Networking Academy	Cisco Networking Academy Platform
2	Cisco Programming essentials in C++ through Cisco Networking Academy	Cisco Networking Academy Platform
3	Cisco Cyber Security	Cisco Networking Academy Platform
4	Cisco IoT through Cisco Networking Academy	Cisco Networking Academy Platform
5	Introduction to Cyber Security	Cisco Networking Academy Platform
6	R3SL00 Python Certification through Cisco Networking Academy	Cisco Networking Academy Platform
7	Cisco CCNA RS Introduction to Networks through Cisco Networking Academy	Cisco Networking Academy Platform
8	Cisco Packet Tracer	Cisco Networking Academy Platform
9	Cisco Cyber Security Essentials	Cisco Networking Academy Platform
10	Cisco Networking Essentials	Cisco Networking Academy Platform
11	Cisco Programming essentials in C through Cisco Networking Academy	Cisco Networking Academy Platform
12	Cisco CCNA Exploration: Routing Protocols and Concepts	Cisco Networking Academy Platform
13	Cisco Linux Certification through Cisco Networking Academy	Cisco Networking Academy Platform
14	Cisco Python Essentials Certification through Cisco Networking Academy	Cisco Networking Academy Platform
15	Cisco Networking Essentials 2.0 Certification through Cisco Networking Academy	Cisco Networking Academy Platform
16	Cisco Advanced Programming in C++ Certification through Cisco Networking Academy	Cisco Networking Academy Platform
17	Cisco NDG Linux Essentials Certification through Cisco Networking Academy	Cisco Networking Academy Platform
18	Cisco IoT: Connection of Things Certification through Cisco Networking Academy	Cisco Networking Academy Platform
19	Cisco IT Essentials: PC Hardware and Software Certification through Cisco Networking Academy	Cisco Networking Academy Platform
20	Cisco Advanced Programming in C Certification through Cisco Networking Academy	Cisco Networking Academy Platform
21	Cisco Networks Certification through Cisco Networking Academy	Cisco Networking Academy Platform
22	Cisco Community: Empowerment Technologies Certification through Cisco Networking Academy	Cisco Networking Academy Platform
23	Cisco Enterprise Networking, Security and Automation Certification through Cisco Networking Academy	Cisco Networking Academy Platform
24	Cisco Programming Essentials in C Certification through Cisco Networking Academy	Cisco Networking Academy Platform

VALUE ADDED COURSES - COURSERA

S.No	Name of the Course	S.No	Name of the Course
56	OOPS in java	83	Cyber Attack
57	GEN AI for Data Privacy eprotection	84	Multithreaded Apllications in java
58	Discover all features of ZOOM	85	Exploratory Data Analysis with Python in Pandas
59	Innovative Teaching with Chat GPT	86	Create a Python Appication using PYMONGO and MONGO DB database
60	Accessible Web Development	87	Java Script
61	HTML	88	Crash course with Python
62	Understanding Basic SQL syntax	89	Create a simple desktop app with VBnet
63	NLP Twitter Sentiment Analysis	90	AZURE ML
64	M L on Pigon	91	HR Analytics
65	ML on spark	92	LINUX INTRO to SHELL
66	CNNs with Tensor Flow	93	JASDEV AI
67	AWS Sage Maker	94	Image Processing Object Auto-Tracking using Tracker
68	Build a Data Science web app	95	Create user stories in jira
69	Create a Value Proposition Canvas	96	C++ programming Build a calculator
70	Data Balancing with GEN AI	97	Excel for Beginners Introduction to spreadsheets
71	Effective Problem Solving	98	Data Analysis in R: Predictive analysis with Regression
72	Fashion Image Classification	99	Create customer support data with Microsoft Excel
73	Logistic Regression with Pythoel	100	Validating your strategy with market opportunity navigator
74	Machine Learning with PY spark	101	Small Business Marketing using youtube
75	Mastering Digital Twins	102	Predictive Modelling with Azure Machine Learning Studio
76	Regular Expression in Python	103	Editing table of content and layouts in Microsoft Word
77	Tensor Flow for AI	104	Preparation for Job Interviews
78	Generative AI	105	SQL Window functions for Analytics
79	Beginning SQL server	106	GitHub and Visual Studio Code
80	Azure synapse using SQL	107	Machine Learning with H2O flow
81	Game Development	108	HR Analytics : Build a HR Dashboard using Power BI
82	Data Science and AI	109	Using basic formulae and functions in Microsoft Excel
		110	Create a Memory Puzzle game in Python using Pygame

VALUE ADDED COURSES

S.No	Name of the Course	Mode of the Course- offered by the HEI or Online
1	Advances in Remote Sensing Techniques for Geological Applications	ISRO-Govt of India
2	ORACLE JAVA Certification	ORACLE Platform
3	Helio Bot: Introduction to RPA	Automation Anywhere Platform

VALUE ADDED COURSES – LSWR SKILLS

S.No	Name of the Course	Mode of the Course- offered by the HEI or Online
1	CAMBRIDGE CERTIFICATION ON ENGLISH EMPOWER	UNIVERSITY OF CAMBRIDGE
2	PEARSON CERTIFICATION(LSWR SKILLS)	PEARSON-ME PRO
3	OXFORD CERTIFICATION	UNIVERSITY OF OXFORD
4	TCS ION CERTIFICATION ON "COMMUNICATION SKILLS"	TCS-ION PLATFORM
5	TCS ION CERTIFICATION ON "EMAIL ETIQUETTE"	TCS-ION PLATFORM
6	TCS ION CERTIFICATION ON "INTRODUCTION TO SOFT SKILLS"	TCS-ION PLATFORM

VALUE ADDED COURSES – EC COUNCIL

S.NO.	Name of the Course
1.	ETHICAL HACKING ESSENTIALS
2	NETWORK DEFENCE ESSENTIALS
3	SQL INJECTION ATTACKS

h.Student's Chapter Activities:

Our institution hosts several student chapters, such as the Computer Society of India (CSI), which focuses on building technical and professional skills among students. Through workshops and seminars on trending technologies like AI and blockchain, CSI offers hands-on learning and insight into modern advancements. It organizes coding competitions, hackathons, and technical paper presentations to cultivate problem-solving skills, research capabilities, and innovation. Additionally, CSI arranges guest lectures and webinars where industry experts provide career advice and discuss current tech trends. Students also get to showcase their projects in expos, promoting creativity and practical knowledge.

Similarly, the Indian Society for Technical Education (ISTE) chapter aims to enhance technical education by conducting faculty and student development programs that align academic learning with industry needs. ISTE hosts technical competitions, conferences, and symposia on educational innovation. Skill-building workshops in leadership, communication, and entrepreneurship further prepare students for professional success. Their community outreach initiatives engage students in socially impactful projects, encouraging responsibility and service.

Our IEEE chapter organizes workshops on emerging fields like IoT and robotics, and hosts conferences where students can present their work, gain exposure, and network with peers and experts. IEEE also provides mentorship opportunities, linking students with professionals from academia and industry to support career growth. Each year, major events such as MEDHA and FUTURE SASTRA showcase these chapter activities, fostering a dynamic learning environment that enhances students academic and professional journeys.

6. EXPERIMENTAL LEARNING

a) Industrial Visits

The purpose of industry visits is to provide students with firsthand insight into the practices, technologies, and culture of the IT sector. Each year, third-year students have the opportunity to visit industries, gaining exposure to real-world operations and professional environments. This experience equips them with practical knowledge that complements their academic learning.

Moreover, these industry-institute interactions not only benefit students but also help faculty stay informed about the latest technological advancements and trends across various fields. This ensures that both the curriculum and teaching methods remain relevant to the evolving demands of the industry.

b) Learning by Doing:

The Learning by Doing methodology enables faculty to train students through hands-on experiences using state-of-the-art equipment in laboratories. Each student is required to spend a minimum of 96 hours in the laboratory during an academic year, gaining practical exposure to complement their theoretical knowledge. The research facilities and training details for each lab are outlined in the table below

Laboraties List for Learning by Doing

S.No	Name of the Laboratory	Equipment Details	Utilization Details (Week-wise)	PO Attainment
1	**DATA STRUCTURES & ALGORITHMS LAB**	Dell, 12th Gen Intel i5 Processor, 16GB RAM, 256GB SSD, 20" Full HD Monitor	**Week 1:** Linear & Binary Search (Recursive & Non-recursive) **Week 2:** Sorting (Bubble, Selection, Quick, Insertion) **Week 3:** Stack & Queue ADT (Array) **Week 4:** List ADT Operations (Insert, Delete, Search, Count Nodes) **Week 5:** Stack & Queue ADT (Singly Linked List) **Week 6:** Deque (Doubly Linked List & Array) **Week 7:** Binary Search Tree (Insert, Delete, Search) **Week 8:** Sorting (Merge & Heap) **Week 9:** Binary Tree Traversal (Pre-order, In-order, Post-order) **Week 10:** B-Tree (Insertion, Deletion) **Week 11:** AVL Tree	PO1, PO2, PO3, PO4, PSO1, PSO3

			(Insertion) **Week 12:** Dictionary ADT using Hashing	
2	**OPERATING SYSTEMS LAB**	Dell, 12th Gen Intel i5 Processor, 16GB RAM, 256GB SSD, 20" Full HD Monitor	**Week 1:** CPU Scheduling (Round Robin, SJF, FCFS, Priority) **Week 2:** File Allocation Strategies (Sequential, Indexed, Linked) **Week 3:** MVT & MFT **Week 4:** Contiguous Memory Allocation (Worst Fit, Best Fit, First Fit) **Week 5:** File Organization Techniques (Single Level, Two Level, Hierarchical, DAG) **Week 6:** Banker's Algorithm (Deadlock Avoidance) **Week 7:** Banker's Algorithm (Deadlock Prevention) **Week 8:** Disk Scheduling (FCFS, SCAN, C-SCAN) **Week 9:** Page Replacement (FIFO, LRU, LFU) **Week 10:** Paging Technique **Week 11:** Producer-Consumer Problem (Semaphores) **Week 12:** Dining Philosophers Problem	PO1, PO2, PO3, PO4, PO5, PO12, PSO1, PSO2
3	**OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB**	Dell, 12th Gen Intel i5 Processor, 16GB RAM, 256GB SSD, 20" Full HD Monitor	**Week 1:** Fibonacci Series (Recursive & Non-recursive), Matrix Multiplication **Week 2:** Method & Constructor Overloading, Employee Details (Scanner Class), Palindrome Check **Week 3:** Abstract Class, Interface Implementation **Week 4:** User Defined Package **Week 5:** Inner Classes, Multiple Catch Blocks, User Defined Exception **Week 6:** Producer-Consumer Problem (Threads), Multi-threading **Week 7:** File Operations, List Files in Directory & Subdirectories **Week 8:** ArrayList Class, HashTable (Phone Number & Name) **Week 9:** Applet (Display Message, Compute Factorial, Passing Parameters) **Week 10:** Mouse & Key Event Handling **Week 11:** Simple Calculator (Grid Layout, Buttons for Digits & Operations, Text Field for Result)	PO1, PO2, PO3, PO4, PO5, PSO1
4	**DATABASE MANAGEMENT SYSTEMS LAB**	Dell 12th Gen Intel i5, 16 GB RAM, 256 GB	**Week 1:** E-R Model: Identify entities, attributes, and primary keys. **Week 2:** MySQL installation and	PO1, PO2, PO3, PO4, PO10, PO12, PSO1

		SSD, 20" Full HD Monitor	practicing DDL commands. **Week 3:** Practicing DML commands. **Week 4:** Querying with ANY, ALL, IN, EXISTS, NOT EXISTS, UNION, INTERSECT, Constraints. **Week 5:** Aggregate and Number Functions. Practice with COUNT, SUM, AVG, MAX, MIN, GROUP BY, HAVING. **Week 6:** Views and Joins (Inner Join, Left Join, Right Join, Full Join). **Week 7:** Triggers **Week 8:** Stored Procedures. **Week 9:** Cursors. **Week 10:** Normalization. **Week 11:** PL/SQL Programs. **Week 12:** Revoke/Grant/Commit/Rollback operations.	
5	**DESIGN AND ANALYSIS OF ALGORITHMS LAB**	Dell 12th Gen Intel i5, 16 GB RAM, 256 GB SSD, 20" Full HD Monitor	**Week 1:** Implement Quick Sort Algorithm. **Week 2:** Implement Merge Sort Algorithm. **Week 3:** DFS Algorithm for a graph. **Week 4:** BFS Algorithm for a graph. **Week 5:** Backtracking for N-Queens problem. **Week 6:** Backtracking for sum of subsets problem. **Week 7:** Backtracking for Hamiltonian Circuits problem. **Week 8:** Greedy Algorithm for job sequencing. **Week 9:** Dijkstra's algorithm for shortest path. **Week 10:** Prim's algorithm for minimum spanning tree. **Week 11:** Kruskal's algorithm for minimum spanning tree. **Week 12:** Floyd's algorithm for all pairs shortest path. **Week 13:** Dynamic Programming for 0/1 Knapsack problem.	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO2
6	**COMPUTER NETWORKS LAB**	Dell 12th Gen Intel i5, 16 GB RAM, 256 GB SSD, 20" Full HD Monitor	**Week 1:** Data link layer framing methods (character, stuffing, bit stuffing). **Week 2:** CRC Polynomials (CRC 12, CRC 16, CRC). **Week 3:** Stop and wait protocol. **Week 4:** Dijkstra's algorithm for	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2, PSO3

			shortest path. **Week 5:** Distance vector routing algorithm. **Week 6:** Open Shortest Path First (OSPF) Routing Protocol. **Week 7:** DES Encryption of 64-bit plain text. **Week 8:** RSA encryption and decryption of text.	
7	**DATA WAREHOUSING AND DATA MINING LAB**	Dell 12th Gen Intel i5, 16 GB RAM, 256 GB SSD, 20" Full HD Monitor	**Week 1:** Build Data Warehouse, Design multi-dimensional models (Star, Snowflake). **Week 2:** Preprocess data, apply association rule mining using Weka. **Week 3:** Perform classification on datasets using ID3, J48, Naïve-Bayes. **Week 4:** Perform clustering using k-means, visualize clusters. **Week 5:** Perform regression on datasets using linear regression.	PO1, PO2, PO3, PO4, PO5, PSO1, PSO2
8	**WEB TECHNOLOGIES LAB**	Dell 12th Gen Intel i5, 16 GB RAM, 256 GB SSD, 20" Full HD Monitor	**Week 1:** Install Apache, Tomcat, MariaDB, PHP. **Week 2:** Design simple online shopping website with HTML elements. **Week 3:** Apply CSS to redesign the website. **Week 4:** Design login and registration pages, validate with JavaScript. **Week 5:** Create and parse XML using DOM and SAX. **Week 6:** Implement login validation web application with PHP, Servlet, and JSP. **Week 7:** Implement AJAX for dynamic web content. **Week 8:** Simple calculator web app using PHP. **Week 9:** Implement a session-based welcome and logout system. **Week 10:** Implement age verification on web pages. **Week 11:** User authentication with database and session handling. **Week 12:** Implement a cookie-based web app.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1, PSO2, PSO3

9	**MACHINE LEARNING LAB**	Dell 12th Gen Intel i5, 16 GB RAM, 256 GB SSD, 20" Full HD Monitor	**Week 1:** Apply Bayes' rule using Python for probability problems. **Week 2:** Extract data from database using Python. **Week 3:** Implement k-Nearest Neighbors algorithm. **Week 4:** Implement K-means clustering algorithm. **Week 5:** Predict classifications for credit worthiness using Naïve Bayes. **Week 6:** Implement Linear Regression using Python. **Week 7:** Implement Naïve Bayes for text classification. **Week 8:** Demonstrate genetic algorithm significance. **Week 9:** Implement Backpropagation algorithm.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1, PSO2, PSO3
10	**INFORMATION SECURITY LAB**	Dell 12th Gen Intel i5, 16 GB RAM, 256 GB SSD, 20" Full HD Monitor	**Week 1:** Perform encryption and decryption using substitution techniques (Caesar, Playfair, Hill, Vigenère). **Week 2:** Perform encryption using transposition techniques (Rail Fence, Row & Column Transformation). **Week 3:** Apply DES encryption algorithm. **Week 4:** Apply AES algorithm for encryption. **Week 5:** Implement RSA algorithm using HTML and JavaScript. **Week 6:** Implement Diffie-Hellman Key Exchange algorithm. **Week 7:** Calculate message digest using SHA-1. **Week 8:** Implement Digital Signature Standard (DSS). **Week 9:** Demonstrate Intrusion Detection System (IDS) using Snort. **Week 10:** Automated Attack and Penetration testing tools. **Week 11:** Building Trojans and Rootkit Hunter.	PO1, PO2, PO3, PO4, PO5, PO6, PO12, PSO1, PSO2, PSO3

c) Story Board/Concept

Canvas Storyboard/Concept Canvas is a visual representation in the form of images, block diagrams or illustrations displayed for the purpose of pre-visualizing the concepts of the laboratory experiments in a single real-time application. This is presented to the students before conducting practical experiments in the laboratory to create enthusiasm among them. The sample story board for Network Security Laboratory is displayed in the figure given below

d) INNOVATIVE PRODUCT DEVELOPMENT

Innovative Product Development focuses on transforming creative ideas into products through a structured and collaborative process. It encompasses research, design, prototyping, testing, and refining to meet user needs and ensure functionality, feasibility, and appeal. This process requires a blend of technical skills, creativity, and business acumen to successfully take an idea from concept to reality.

Our institute emphasizes hands-on experience in product development, encouraging students to tackle real-world problems with innovative solutions. Students engage (a team of 4 members) in every phase of the development cycle, from identifying user requirements and research gaps to creating prototypes and conducting usability tests. Through interdisciplinary collaboration, students gain insights into various aspects of product development, such as engineering design, user experience, sustainability, and commercialization strategies. Innovative Product Development begins in Semester III, with each IPD carrying 1 credit. Evaluation can be conducted by industry

It looks like you're trying to format a table with semester details and credits. Here’s a properly tabulated version of your data:

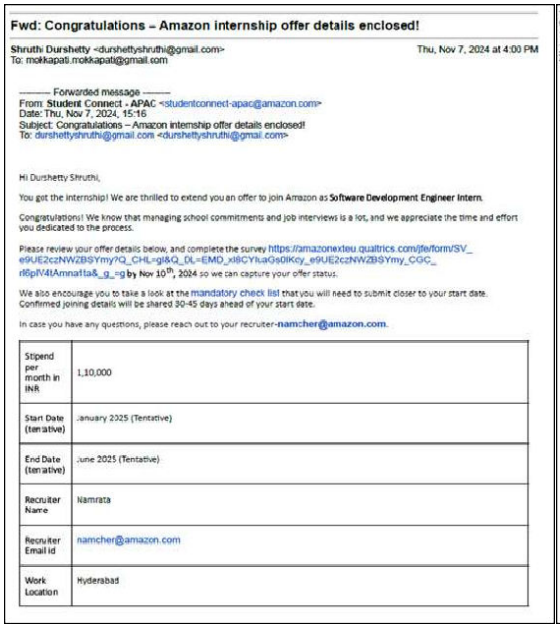
S.NO	SEMESTER	EXEED MODULE / INNOVATIVE DEVELOPMENT	CREDITS
1	III	INNOVATIVE DEVELOPMENT-1	1
2	IV	INNOVATIVE DEVELOPMENT-2	1
3	V	INNOVATIVE DEVELOPMENT-3	1
4	VI	INNOVATIVE PRODUCT	1
5	VII	INNOVATIVE DEVELOPMENT-4	1
6	VII	INNOVATIVE DEVELOPMENT-5	1
7	VII	INNOVATIVE DEVELOPMENT-6	1

Innovative Product Development – Evaluated by Industry Expert

7. PROJECT BASED LEARNING

a) Internships/Industry Oriented Mini Projects

An internship is an opportunity to gain hands-on experience with the companies. Many of the internships leads to offer a fulltime job. It enhances not only the technical skills but also improves communication, teamwork and problem solving. Industry needs are known against the technical path. MRECW promotes internships for the benefit of students by fulfilling the academic curriculum.



Fwd: Congratulations – Amazon internship offer details enclosed!

Shruthi Durshetty <durshettyshruthi@gmail.com> Thu, Nov 7, 2024 at 4:00 PM
To: mokkapati.mokkapati@gmail.com

Forwarded message
From: Student Connect - APAC <studentconnect-apac@amazon.com>
Date: Thu, Nov 7, 2024, 15:16
Subject: Congratulations – Amazon internship offer details enclosed!
To: durshettyshruthi@gmail.com <durshettyshruthi@gmail.com>

Hi Durshetty Shruthi,

You got the internship! We are thrilled to extend you an offer to join Amazon as **Software Development Engineer Intern**.

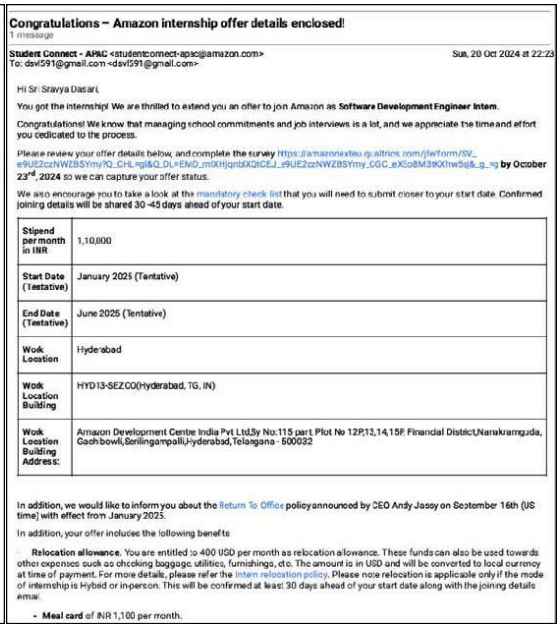
Congratulations! We know that managing school commitments and job interviews is a lot, and we appreciate the time and effort you dedicated to the process.

Please review your offer details below, and complete the survey https://amazonexteu.qualtrics.com/jfe/form/SV_e9UE2czNWZBSYmy?Q_CHL=gl&Q_DL=EMD_xI8CYluaGs0IKcy_e9UE2czNWZBSYmy_CGC_r6pIV4tAmnaf1a&_g_=g by Nov 10th, 2024 so we can capture your offer status.

We also encourage you to take a look at the mandatory check list that you will need to submit closer to your start date. Confirmed joining details will be shared 30-45 days ahead of your start date.

In case you have any questions, please reach out to your recruiter-namcher@amazon.com.

Stipend per month in INR	1,10,000
Start Date (tentative)	January 2025 (Tentative)
End Date (tentative)	June 2025 (Tentative)
Recruiter Name	Namrata
Recruiter Email id	namcher@amazon.com
Work Location	Hyderabad



Congratulations – Amazon internship offer details enclosed!

Student Connect - APAC <studentconnect-apac@amazon.com> Sun, 20 Oct 2024 at 22:23
To: dsvl591@gmail.com <dsvl591@gmail.com>

Hi Sr Sravya Dasari,

You got the internship! We are thrilled to extend you an offer to join Amazon as **Software Development Engineer Intern**.

Congratulations! We know that managing school commitments and job interviews is a lot, and we appreciate the time and effort you dedicated to the process.

Please review your offer details below, and complete the survey https://amazonexteu.qualtrics.com/jfe/form/SV_e9UE2czNWZBSYmy?Q_CHL=gl&Q_DL=EMD_mIXHjqnbIXQtCEJ_e9UE2czNWZBSYmy_CGC_eXo8M3KXhw5s&_g_=g by October 23rd, 2024 so we can capture your offer status.

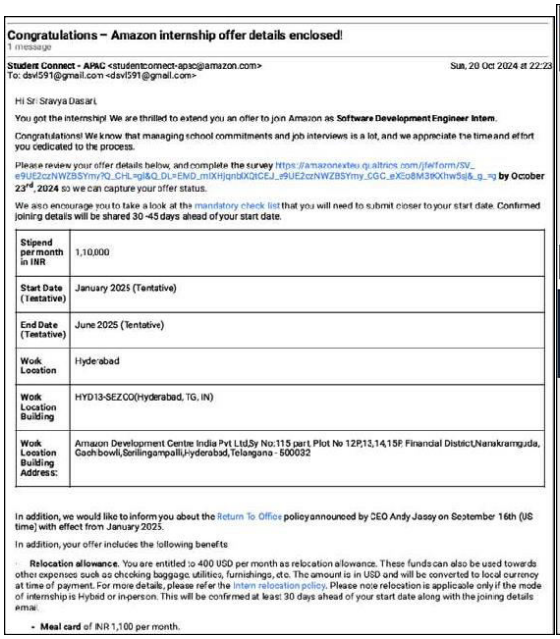
We also encourage you to take a look at the mandatory check list that you will need to submit closer to your start date. Confirmed joining details will be shared 30 -45 days ahead of your start date.

Stipend per month in INR	1,10,000
Start Date (Tentative)	January 2025 (Tentative)
End Date (Tentative)	June 2025 (Tentative)
Work Location	Hyderabad
Work Location Building	HYD13-SEZCO(Hyderabad, TG, IN)
Work Location Building Address:	Amazon Development Centre India Pvt Ltd,Sy No:115 part, Plot No 12P,13,14,15P, Financial District,Nanakramguda, Gachibowli,Serilingampalli,Hyderabad,Telangana - 500032

In addition, we would like to inform you about the Return To Office policy announced by CEO Andy Jassy on September 16th (US time) with effect from January 2025.

In addition, your offer includes the following benefits:

- **Relocation allowance.** You are entitled to 400 USD per month as relocation allowance. These funds can also be used towards other expenses such as checking baggage, utilities, furnishings, etc. The amount is in USD and will be converted to local currency at time of payment. For more details, please refer the Intern relocation policy. Please note relocation is applicable only if the mode of internship is Hybrid or in-person. This will be confirmed at least 30 days ahead of your start date along with the joining details email.
- **Meal card** of INR 1,100 per month.



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Student Connect - APAC <studentconnect-apac@amazon.com> Sun, 20 Oct 2024 at 22:23
To: dsvl591@gmail.com <dsvl591@gmail.com>

Hi Sr Sravya Dasari,

You got the internship! We are thrilled to extend you an offer to join Amazon as **Software Development Engineer Intern**.

Congratulations! We know that managing school commitments and job interviews is a lot, and we appreciate the time and effort you dedicated to the process.

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We also encourage you to take a look at the mandatory check list that you will need to submit closer to your start date. Confirmed joining details will be shared 30 -45 days ahead of your start date.

Stipend per month in INR	1,10,000
Start Date (Tentative)	January 2025 (Tentative)
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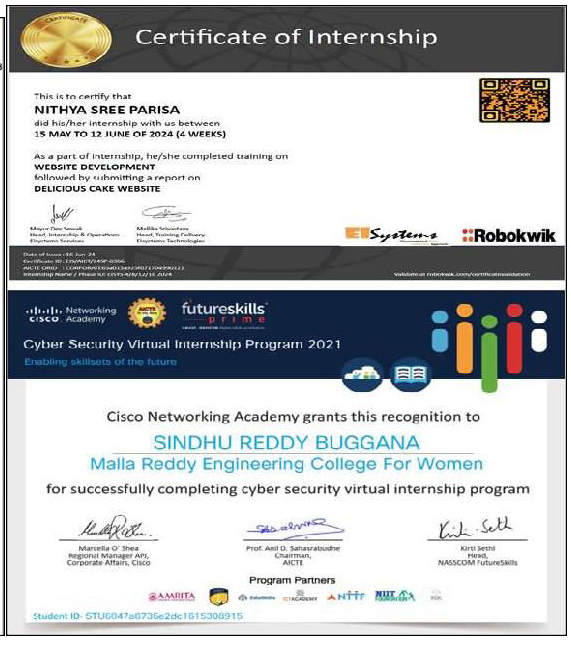
- **Meal card** of INR 1,100 per month.



Certificate of Internship

This is to certify that
NITHYA SREE PARISA
did his/her internship with us between
15 MAY TO 12 JUNE OF 2024 (4 WEEKS)

As a part of Internship, he/she completed training on
WEBSITE DEVELOPMENT
followed by submitting a report on
DELICIOUS CAKE WEBSITE

Mayur Dev Sasak
Head, Internship & Operation
Elysium Services

Mallika Srivastava
Head, Training Delivery
Elysium Technologies

eSystems Robokwik

Networking Academy futureskills prime

Cyber Security Virtual Internship Program 2021

Enabling skillsets of the future

Cisco Networking Academy grants this recognition to

SINDHU REDDY BUGGANA

Malla Reddy Engineering College For Women

for successfully completing cyber security virtual internship program

Marcella O' Shea
Regional Manager APJ,
Corporate Affairs, Cisco

Prof. Anil D. Sahasrabudhe
Chairman,
AICTE

Kirti Sethi
Head,
NASSCOM FutureSkills

Program Partners

AMRITA

Student ID: STU6047a8736e2dcf615308915

cognizant

18-Jan-2023

Candidate ID: 24252647

Krovi Jaswitha
B.Tech Computer Science & Engineering
Malla Reddy Engineering College for Women (MRECW), Secunderabad

Dear Krovi Jaswitha,

Further to our Letter of Intent / Offer for the position of Programmer Analyst Trainee / Programmer Analyst aligned to the hiring category and in response to your subsequent confirmation for Internship Program with us, we are pleased to offer you an Internship on premises with us for a period of 3 to 6 months. Your Internship onboarding will be scheduled based on your availability factoring your college exam schedule and our business requirements.

During this period, you will be provided with a stipend of INR 12,000 per month equated to the planned duration of the internship curriculum and will be paid only subject to successful completion of milestones as defined in the curriculum prior to the monthly stipend processing window for a given month based on your performance and attendance.

Though Cognizant Internship is a pre-requisite skill and capability development program, it does not guarantee employment and there is no employer – employee relationship during the course of this Internship program. However, the successful completion of Internship will form a critical part of your eligibility for employment with Cognizant if an opportunity arises in future.

You will undergo a learning curriculum as per the learning track assigned to you. The learning path will include in-depth sessions, hands on exercise and project work. There will also be series of webinars, quizzes, SME interactions, mentor connects, code challenges, assessments etc. to accelerate your learning. The outcome during Internship would be monitored through formal evaluations.

Prior to joining on the rolls of Cognizant, you must have successfully completed the prescribed Internship program. In the event of unsatisfactory Internship, Cognizant reserves rights at its sole discretion to revoke its employment offer.

Please also note that:

• The Internship timings would be for 10 hours per day from Monday through Friday aligned to the working timings followed in Cognizant which based on the need could also be operated on a shift model. Attendance is mandatory on all the days to stay active in the Internship Program. The Intern Offer would be terminated if the mandatory requirement of minimum 90% attendance at office is not met in a month.

• Interns are covered under Cognizant's calendar holidays of the respective location of Internship, and you would need to adhere with minimum attendance requirements. Prior approvals are must towards any unavoidable leave or break requests during the program and Internship would be terminated if leaves are availed without prior approvals.

• You would be required to ensure timely completion and submission of assignments, project work and preparation required prior to the sessions failing which your Internship would be terminated.

• The Technical skills track mapped could change at the start or mid-way or even later during the program depending on business demand changes and you would be required to be flexible for this change failing which your Internship would be terminated.

cognizant

• Stipend payment will be done for the prescribed Internship Curriculum period only and no additional payment will be done for any delay in completion. Attendance and successful completion of Milestone(s) are the eligible factors for processing stipend payment and tenure spent will not guarantee your monthly stipend payment.

• There would be zero tolerance to plagiarisms and misconduct during the Internship. Adherence to Cognizant Internship policies and guidelines is mandatory and any breach of incident reported will lead to immediate cancellation of Internship without any notice.

• During the course of your Internship and at all times, you shall be governed by Cognizant's Social Media Policy and shall, refrain from posting malicious, libelous, defamatory, false, obscene, political, anti-social, abusive, and threatening messages/statements or disparaging the Company, clients, associates, competitors, or suppliers or any third parties, irrespective of whether any such statements are likely to cause damage to any such entity or person. Any breach of this section would lead to immediate termination of the Internship and revocation of the Employment Offer/Agreement.

• Cognizant reserves rights regarding IT infra as applicable and access to information and material of Cognizant during the Internship period and may modify or amend this Cognizant GenC program terms and conditions from time to time.

At the time of your reporting for the Internship, you will be required to sign a Non - Disclosure Agreement with the company. During the course of your Internship and after completion of the same, you are required to maintain strictest confidentiality with respect to company proprietary or products that you access or come into contact with, during your project as an Intern, at all times as per our Policy. Use of company proprietary information or products shall not be made without prior permission from the concerned authority. Any breach of information security will be dealt as per Company Policy.

This offer from Cognizant shall be active and **valid for only 3 calendar days** and hence you are expected to accept or decline the offer through the company's online portal within the said time-period of 3 calendar days and you will also be required to submit the mandatory documents at least **7 days** before your Internship Onboarding Date as part of your Pre-joining & Background Verification (BGV) process. In case you don't comply to the above timelines, this Offer shall stand withdrawn and will be considered as cancelled. Any official written extension to the offer validity and the above-mentioned timelines will be at the sole discretion of Cognizant.

Below are the **mandatory documents** to be submitted as part of your **Background Verification**:
• Your Pan Card
• Letter of Authorization (LOA) which should be downloaded from the iRAY application hand signed with your name and date and reuploaded back to the application

Below are the **mandatory documents** to be submitted as part of your **Pre- joining formalities**:
• 2 Passport sized Photographs preferably with a Gray / White background
• Personal individual bank account from a nationalized bank for processing stipend

Please do not hesitate to call us for any information you may need.
We wish you good luck.

Yours sincerely,
For Cognizant Technology Solutions India Pvt. Ltd.,

Maya Sreekumar
Vice President - Human Resources

I have read the offer, understood and accept the above mentioned terms and conditions.

Signature: **Date:**

b) Research Projects

Integrating society-related projects into the curriculum aims to strengthen students problem-solving abilities by tackling real-world challenges. These projects enable students to apply their theoretical knowledge in practical research, developing and showcasing pilot projects with potential for future growth and implementation

As part of this process, students present their projects during a dedicated expo, where their work is evaluated by both internal and external examiners. This comprehensive assessment ensures that students receive valuable feedback from diverse perspectives, fostering continuous improvement and innovation in their work. These projects also encourage community engagement and can inspire solutions to societal issues

Best Major Projects for AY: 2023 – 24

S. No	Roll No.	Name of the Student	Project Title	Supervisor Name
1	20RH5A0524 20RH5A0523 20RH5A0519 20RH1A05J6	V. Vijaya Laxmi V. Lahari R. Preethi P. Spoorthi	An Evaluation of the Tidiness of Urban Streets Utilizing Mobile Edge Computing and Deep Learning	Dr. D. B. K. Kamesh
2	20RH1A05E4 20RH1A05G9 20RH1A05D1 20RH1A05D0	MD. Ayesha P. Sindhu M. Chandana M. Hebsheeba	Django Web Framework Software Metrics Measurement Using Radon and Pylint	Dr. Raja Ram
3	20RH1A0509 20RH1A0526 20RH1A0545 20RH1A0553	A. Shirisha K. Bindhu CH. Vandhana CH. Hasika	Integrity Auditing for Multi-Copy in Cloud Storage Based on Red-Black Tree	Mrs. K. Aarati
4	20RH1A0577 20RH1A0585 20RH1A0588 20RH1A0589	G. Deepthi G. Akshaya Reddy G. Vijaya Laxmi G. Rajasree	Anomaly Activity Detection Using CNN and RNN	Mr. Bhanu Prasad Gorantla
5	20RH1A05C2 20RH1A05C8 20RH1A05E2 20RH1A05E6	K. Soujanya M. Nandini M. Sai Thanmai M. Ashwini	Deep Learning-Based Traffic and Fire Incident Surveillance	Dr. Y. Geetha Reddy
6	20RH1A0549 20RH1A0550 20RH1A0557	CH. Rasmitha CH. Sindhu D. Satvika	Surface Identification of Robot Sensed Data - An Artificial Intelligence Approach	Dr. G. Kalpana
7	20RH1A0519 20RH1A0540 20RH1A0544	B. Vidya Dharani A. C. Chandana CH. Shirisha	Privacy Preserving Medical Diagnosis on Edge Computing Platforms: An Efficient Approach	Dr. D. B. K. Kamesh
8	20RH1A0552 20RH1A0556 20RH1A0527	Ch. Hemasai D. Naga Jahnavi B. Lahari	Improving Spacecraft Decision Making Using Deep Learning with Rule Master Generated Rules	Dr. Baby Muni Rathinam
9	20RH1A05L2 20RH1A05L3 20RH1A05M7	S. Akshitha S. Yosmitha T.V. Tejaswini	Machine Learning for Robot Navigation Classification Using Ultrasound Sensor Data	Dr. N. Baskar
10	20RH1A05M0 20RH1A05M6 20RH1A05N8	S. Bhavya A. Supriya V. Jaya Sri	Extreme Learning Framework with Multi-Layer Perceptron for Detection and Classification of Malware Attacks	A. Sravani
11	20RH1A05N3 20RH1A05P8 20RH1A05J8	T. Ankitha Y. Mahitha P. Soumya Sri	The Impact of Artificial Intelligence on Forecasting Startup Success or Failure Using Crunchbase Data	Mrs. A. Sneha Chaturya
12	20RH1A05J9 20RH1A05M4 20RH1A05K8	R. Laxmi Prasana S. Lakshmi Supraja Sameena Begum	A Fernet-Based Lightweight Cryptography Approach for Enhancing Certificate Validation Through Blockchain Technology	Mr. K. Obulesh

13	20RH1A0573 20RH1A0586 20RH1A05A9	G. Sahithi G. Shravani K. Laxmi Nandini	Confidential Deep Packet Inspection: Ensuring Privacy, Efficiency, and Verifiability for Cloud Computing	Dr. A. Swaroopa Rani
14	20RH1A0569 20RH1A0571 21RH5A0509	E. Harshitha Farah Tazeen K. Bhuvana Ramya	Reject-Aware Multi-Task Network: Advancing Credit Scoring Through Modeling Missing-Not-at-Random Data in Finance	Dr. D. B. K. Kamesh
15	20RH1A0563 20RH1A0591	D. Neharika G. Namarath	Blockchain E-Voting Done Right: Privacy and Transparency with Public Blockchain	Dr. D. B. K. Kamesh
16	20RH1A0580 20RH1A0594 21RH5A0508	G. Akshitha I. Nikitha G. Manasa	Trustworthy and Reliable Machine Learning-Based Cyberattack Detection in IoT	Ms. M. Maheshwari
17	20RH1A05D2 20RH1A05H8 20RH1A05H0	M. Srinija Reddy P. Samshritha P. Sravani	Personalized Federated Learning for In-Hospital Mortality Prediction of Multi-Center ICU	Dr. Y. Geetha Reddy
18	20RH1A05C3 20RH1A05F2 20RH1A05F9 20RH1A05G4	B. Kritika M. Harini M. Sree Sai Harshitha Nusrat Begum	Optimal Ambulance Positioning System for Road Accidents Using Deep Embedded Clustering	Mrs. B. Aruna Sree
19	20RH1A05F6 20RH1A05G2 20RH1A05F5	N. Bhavana N. Sai Mohana Sowmya N. Sai Nikitha	Social Recruiter: Dynamic Incentive Mechanism for Mobile Crowdsourcing Worker Recruitment with Social Networks	Ms. K. Ramya Sri
20	20RH1A05G9 20RH1A05E0 20RH1A05E4	P. Sindhu M. Madhu Priya Md. Ayesha	Activity Minimization of Misinformation Influence in Online Social Networks	Dr. B. Santosh

Best Major Projects for AY: 2022 – 23

S. No	Roll No.	Name of the Student	Project Title	Supervisor Name
1	19RH1A0565 19RH1A0566 19RH1A0590	G. Sri Chandrika G. Mary Rithika I. Bhavyasri	Automatic Facial Expression Recognition Based on Spatial and Temporal Sequencing	Dr. D. B. K. Kamesh
2	19RH1A05K0 19RH1A05N8 19RH1A05Q0	K. Reethika V. Sri Chandra Ch. Yukta	Unified Deep Learning Approach for Crop Disease Classification and Prediction	Dr. S. Pradeep
3	19RH1A05N7 19RH1A05L0 19RH1A05M4	V. Srividya Shazia Naaz T. Himabindu	Deep Learning Model for Automated Detection of Cardiac Arrhythmia	Mr. G. Prabhakar
4	19RH1A05D8 19RH1A05C7	M. Bhavana L. Nivegna	Chronic Kidney Disease Stage Identification	Mrs. Aarthi
5	19RH1A0526 19RH1A0531 19RH1A0556	B. Harshitha B. Chandana D. Divija Lakshmi	Implementation of Blockchain in Financial Sector	Mr. K. Obuleshu
6	19RH1A0577 19RH1A0578 19RH1A0574	G. Akshaya G. Sowjanya G. Divya	Vehicle Pattern Recognition Using Machine and Deep Learning to Predict Car Model	Mr. S. Pratap

Best Major Projects for AY: 2021 – 22

S. No	Roll No.	Name of the Student	Project Title	Supervisor Name
1	18RH1A05C7 18RH1A05D2 18RH1A05G8	M. Sravani M. Srileka P. Shwetha Reddy	Disease Drug Prediction Using ML	Mrs. B. Prathyusha
2	18RH1A0521 18RH1A0506 18RH1A0551	A. Bhavana A. Vaibhavi Sree H. Tarunasree	Analysis and Prediction of Cardiovascular Diseases Using Machine Learning Classifiers	Ms. Srivalli
3	18RH1A0572 18RH1A0588 18RH1A05B7	K. Divyasree L. Anushareddy P. Madhumitha	Vehicle Tracking and Speed Estimation	Dr. G. Kalpana
4	18RH1A05F9 18RH1A05G9 18RH1A05F7	P. Swetha P. Nikhitha J. Sravanthi	Location Prediction on Twitter Using Machine Learning	Mrs. G. Navyatha
5	18RH1A0580 18RH1A0592 18RH1A05A4	K. Tulasi Kavya K. Anusha V. Radhika	Expression Recognition-Based Scoring System for Restaurants	Mrs. Baby Rani
6	18RH1A05J1 18RH1A05K5 18RH1A05L1	S. Charithasrikari S. Priyasharma M. Sravani	Deep Learning-Based Improved Security Model for Multi-Modal Biometrics	Ms. C. D. Amulya

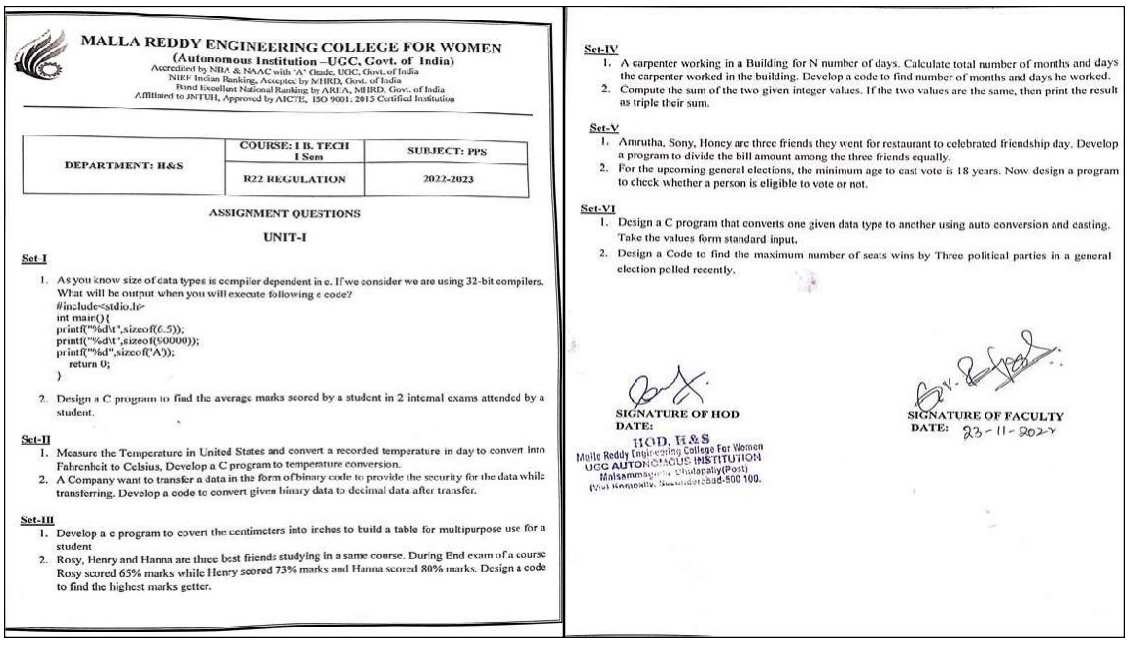
8.PROBLEM SOLVING METHODOLOGIES:

a) Assignments:

Assignments play a crucial role in education as they contribute to the overall learning process and student development. Heres why they are important:

- Assignments help reinforce what is taught in the classroom by requiring students to apply the concepts independently.
- They encourage revision and deepen understanding of the subject. Assignments require analysing and solving problems, improving critical and analytical thinking.
- Students learn how to gather, analyse, and synthesize information. Completing assignments on deadlines teaches students to manage their time effectively.
- Teachers use assignments to evaluate a student's understanding of the topic.
- Feedback on assignments helps students identify their strengths and areas for improvement.
- Assignments act as a form of self-study, preparing students for exams by familiarizing them with potential questions and scenarios.
- Many assignments involve real-world problems, helping students understand how theoretical knowledge is applied practically.
- Assignments promote independent learning, allowing students to take responsibility for their education.

Creative assignments encourage innovation and originality, enhancing a student's ability to think outside the box



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NIRF Indian Ranking, Accepted by MHRD, Govt. of India
Band Excellent National Ranking by ARIA, MHRD, Govt. of India
Affiliated to JNTUH, Approved by AICTE, ISO 9001: 2015 Certified Institution

DEPARTMENT: H&S	COURSE: I B. TECH I Sem	SUBJECT: PPS
	R22 REGULATION	2022-2023

ASSIGNMENT QUESTIONS

UNIT-I

Set-I

1. As you know size of data types is compiler dependent in c. If we consider we are using 32-bit compilers. What will be output when you will execute following c code?
```
#include<stdio.h>
int main(){
printf("%d\t",sizeof(6.5));
printf("%d\t",sizeof(50000));
printf("%d",sizeof('A'));
  return 0;
}
```
2. Design a C program to find the average marks scored by a student in 2 internal exams attended by a student.

Set-II

1. Measure the Temperature in United States and convert a recorded temperature in day to convert into Fahrenheit to Celsius, Develop a C program to temperature conversion.
2. A Company want to transfer a data in the form of binary code to provide the security for the data while transferring. Develop a code to convert given binary data to decimal data after transfer.

Set-III

1. Develop a c program to covert the centimeters into inches to build a table for multipurpose use for a student
2. Rosy, Henry and Hanna are three best friends studying in a same course. During End exam of a course Rosy scored 65% marks while Henry scored 73% marks and Hanna scored 80% marks. Design a code to find the highest marks getter.

Set-IV

1. A carpenter working in a Building for N number of days. Calculate total number of months and days the carpenter worked in the building. Develop a code to find number of months and days he worked.
2. Compute the sum of the two given integer values. If the two values are the same, then print the result as triple their sum.

Set-V

1. Amrutha, Sony, Honey are three friends they went for restaurant to celebrated friendship day. Develop a program to divide the bill amount among the three friends equally.
2. For the upcoming general elections, the minimum age to cast vote is 18 years. Now design a program to check whether a person is eligible to vote or not.

Set-VI

1. Design a C program that converts one given data type to another using auto conversion and casting. Take the values form standard input.
2. Design a Code to find the maximum number of seats wins by Three political parties in a general election polled recently.

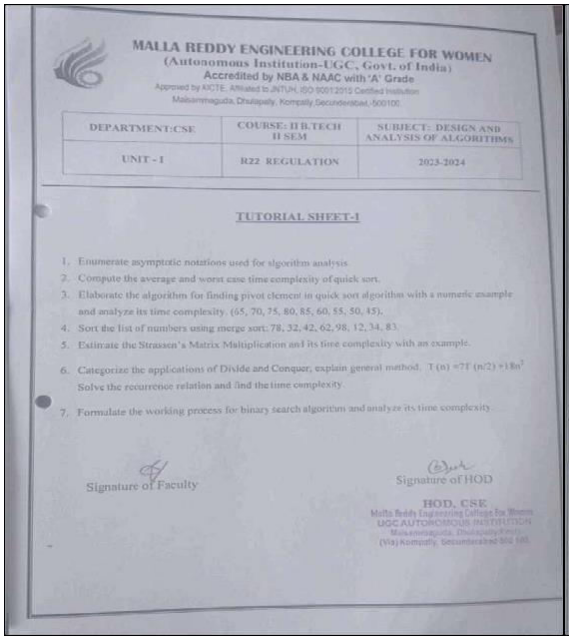
SIGNATURE OF HOD
DATE:
HOD, H&S
Malla Reddy Engineering College For Women
UGC AUTONOMOUS INSTITUTION
Maisammaguda, Dhulapally(Post)
(Via) Kompally, Secunderabad-500 100.

SIGNATURE OF FACULTY
DATE: 23-11-2022

b) TUTORIALS

Tutorials are an essential aspect of the learning process, complementing traditional lectures and self-study. They provide a focused, interactive, and practical learning experience. Here's why tutorials are important:

- Tutorials help clarify and reinforce the concepts taught in lectures.
- They provide opportunities to delve deeper into complex topics and resolve doubt
- Tutorials encourage active participation, enabling students to engage in discussions, ask questions, and share ideas
- Interactive sessions help cater to diverse learning styles and improve retention of knowledge.
- Tutorials often involve smaller groups, allowing instructors to address individual needs. They provide a platform for personalized guidance, helping students overcome specific challenges.
- **Problem-Solving Skills:** Tutorials often focus on practical exercises, encouraging analytical and critical thinking.
- **Collaboration:** Group activities foster teamwork and communication skills.
- **Application of Knowledge:** Tutorials often emphasize the practical application of theoretical concepts.
- Tutorials allow students to apply theoretical knowledge to real-world problems. This hands-on approach strengthens understanding and prepares students for practical scenarios in their careers.
- Regular tutorial participation leads to better preparation for exams and assignments.
- Students gain confidence in their abilities through regular practice and constructive feedback.
- Tutorials often require pre-session preparation, fostering independent learning habits.
- They empower students to take initiative and responsibility for their education.
- Explaining solutions, participating in discussions, and presenting ideas during tutorials enhance communication and interpersonal skills



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Maisammaguda, Dhulapally, Kompally, Secunderabad - 500100

DEPARTMENT:CSE	COURSE: II B.TECH II SEM	SUBJECT: DESIGN AND ANALYSIS OF ALGORITHMS
UNIT - I	R22 REGULATION	2023-2024

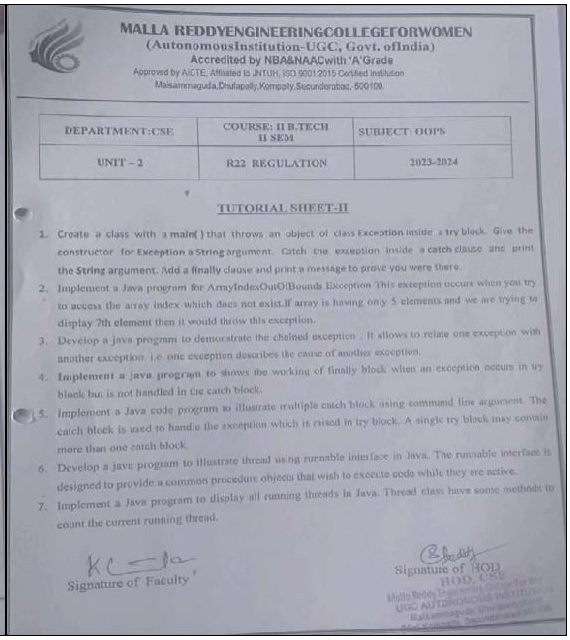
TUTORIAL SHEET-I

1. Enumerate asymptotic notations used for algorithm analysis
2. Compute the average and worst case time complexity of quick sort.
3. Elaborate the algorithm for finding pivot element in quick sort algorithm with a numeric example and analyze its time complexity. (65, 70, 75, 80, 85, 60, 55, 50, 45).
4. Sort the list of numbers using merge sort: 78, 32, 42, 62, 98, 12, 34, 83.
5. Estimate the Strassen's Matrix Multiplication and its time complexity with an example.
6. Categorize the applications of Divide and Conquer, explain general method. $T(n) = 7T(n/2) + 18n^2$ Solve the recurrence relation and find the time complexity
7. Formulate the working process for binary search algorithm and analyze its time complexity

Signature of Faculty

Signature of HOD

HOD, CSE



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Maisammaguda,Dhulapally,Kompally,Secunderabac - 500100.

DEPARTMENT:CSE	COURSE: II B.TECH II SEM	SUBJECT: OOPS
UNIT – 2	R22 REGULATION	2023-2024

TUTORIAL SHEET-II

1. Create a class with a **main( )** that throws an object of class **Exception** inside a **try** block. Give the constructor for **Exception** a **String** argument. Catch the exception inside a **catch** clause and print the **String** argument. Add a **finally** clause and print a message to prove you were there.
2. Implement a Java program for ArrayIndexOutOfBounds Exception This exception occurs when you try to access the array index which does not exist.If array is having only 5 elements and we are trying to display 7th element then it would throw this exception.
3. Develop a java progmm to demonstrate the chained exception . It allows to relate one exception with another exception. i.e one exception describes the cause of another exception.
4. **Implement a java program to** shows the working of finally block when an exception occurs in try block but is not handled in the catch block.
5. Implement a Java code program to illustrate multiple catch block using command line argument. The catch block is used to handle the exception which is raised in try block. A single try block may contain more than one catch block.
6. Develop a java program to illustrate thread using runnable interface in Java. The runnable interface is designed to provide a common procedure objects that wish to execute code while they are active.
7. Implement a Java program to display all running threads in Java. Thread class have some methods to count the current running thread.

Signature of Faculty

Signature of HOD
HOD, CSE

C. CASE STUDY BASED LEARNING

A teaching strategy called case study-based learning (CBL) deepens students comprehension of a subject by using real-world situations. Students actively examine, debate, and suggest solutions to challenging problems through case studies, which develops their critical thinking and problem-solving abilities. Teacher provides the needed guidance to understand the case study in a better way. Teacher search for various case studies that are very much helpful to the students such that their ability to understand the concept in many ways. Through group conversations, this method improves cooperation and communication skills while bridging the gap between theoretical knowledge and real-world application. CBL has several advantages, such better student participation and the development of practical skills, but it also has drawbacks, like the time needed for preparation and the difficulty of some situations. Choosing pertinent instances, establishing clear expectations, promoting dialogues, and assessing student achievement based on their assessments and suggested solutions are all necessary for successful implementation. All things considered, CBL improves education by reorienting the emphasis from memorizing to the practical application of information. For Each Subject, Students are formed as group of three and for each group one real time scenario-based Case Study is provided by the teacher. Teacher explores various real time scenarios, excellent case studies and provide to the student batches. With the help of the teacher support the students will be able to document the case study in the form of a report.

SUBJECT: Design Thinking

Faculty: Murali Ponagant

Case Study on Understanding Design Thinking Process

A company is struggling with product innovation and has tasked a new team to revamp its design process. Discuss how the team could apply the principles of Design Thinking. Explain the process models they could adopt, and how these models help solve complex problems. Use real-world examples to illustrate your answer. Case Study on Comparison of Design Thinking and Engineering Thinking A multinational organization is debating whether to adopt Design Thinking or Engineering Thinking for a new product development initiative. Develop a case study that compares both approaches. Highlight specific advantages and disadvantages in the context of product development, problem-solving, and user satisfaction. Case Study on Design Thinking in the Healthcare Industry The healthcare industry is facing a critical challenge in improving patient experiences in hospitals. How can Design Thinking be utilized to address this problem? Create a case study demonstrating the steps of empathizing with patients, ideating solutions, and prototyping in a healthcare setting.

Case Study on Evolution of Design Thinking: A Historical Perspective

Discuss a case study about the origin of Design Thinking. Analyze the key milestones in its evolution and explain how it has grown from a purely design-centered approach to a universal problem-solving methodology across industries. Include examples of its applications in different domains. Case Study on Importance of Design Thinking for Startups A startup in the tech industry is struggling to differentiate its products from the competition. Create a case study showing how the startup can adopt Design Thinking to innovate and stay ahead in the market. Discuss how each phase of the Design Thinking process helps build a user-centric product that stands out.

Case Study on Application of Design Thinking in Social Impact Projects

NGOs are often tasked with solving pressing societal issues. Using a real or hypothetical example, build a case study that explains how an NGO can apply Design Thinking to develop sustainable solutions. Focus on stages like ideation, prototyping, and testing within the scope of limited resources. Case Study on Redefining Education with Design Thinking A university is looking to reform its educational model to make it more student-centered and engaging. Develop a case study that outlines how Design Thinking can be applied in education to reshape curricula and teaching methods. Describe the role of each process model (empathize, define, ideate, prototype, test) in achieving these reforms.

Case Study on Design Thinking vs Engineering Thinking in Software Development

A software development company is divided between using Design Thinking or traditional Engineering Thinking to build a new app. Develop a detailed case study where you compare the outcomes of both approaches in software design. Discuss how user feedback, iterative design, and problem-solving vary between the two methods. Case Study on Design Thinking for Enhancing Customer Experience in Retail A retail chain is experiencing declining customer satisfaction and wants to redesign its in-store experience. Create a case study where Design Thinking is used to enhance customer interaction. Explain how empathy mapping, customer journey analysis, and rapid prototyping are applied to create solutions.

Case Study on Design Thinking in the Public Sector: Smart City Initiatives

The government of a developing country is planning a smart city project to improve urban living. Build a case study that shows how Design Thinking can be utilized to address the needs of the citizens in the planning phase. Describe how empathizing with stakeholders, defining urban challenges, ideating, prototyping, and testing can lead to better city planning and management.

Case Study on Role of Empathy in Healthcare Product Design

A medical device company aims to create a new solution for elderly patients. Develop a case study that explains how empathy plays a crucial role in understanding the physical and emotional needs of elderly users. How can the company use empathy tools such as interviews, surveys, and shadowing to define the patients' needs?

Case Study on Exploring the Define Phase in User-Centric Software Development

A software company wants to create an inclusive educational app for children with special needs. Build a case study that describes how the company can use empathy methods to gather insights and move through the Define phase. How do empathy tools help in clearly defining the unique problems faced by this user group?

Case Study on Empathizing with Users in Redesigning a Public Transportation System

A city is looking to revamp its public transportation system to improve accessibility for people with disabilities. Create a case study demonstrating how empathy methods such as observation and persona creation can be employed to understand user pain points. How does the team use this information in the Define phase to articulate the needs of disabled commuters?

Case Study on Prototyping and Testing for a Social Good App

An NGO wants to develop a mobile app to provide clean drinking water in rural areas. Develop a case study where the team follows the HCD process from empathizing with rural communities to testing various prototypes. How do iterative testing and empathy influence the design of the final product?

Case Study on Using Empathy Tools in Designing a Mental Health Support Platform

A tech startup is working on creating a mental health support platform. Write a case study that details how empathy tools such as user diaries, empathy maps, and focus groups can uncover emotional challenges faced by users. How can the insights gathered in the Empathize and Define phases shape the ideation and prototype stages?

Case Study on Iterating Solutions for a Sustainable Energy Product

A renewable energy company is designing a new product for off-grid communities. Build a case study explaining how the team iterates through the prototype phase after gathering user insights via empathy. Highlight the importance of testing with real users and refining based on feedback during the iterative design process

Case Study on Exploring Methods of Empathy in a Retail Experience Redesign

A retail brand wants to redesign its in-store experience for a better customer journey. Develop a case study exploring how the company can use empathy methods like journey mapping and role-playing to understand the emotional and practical needs of shoppers. How does empathy lead to a more focused Define phase?

Case Study on Human-Centered Design in Developing Wearable Technology

A tech company is developing wearable fitness technology. Create a case study showing how empathy helps identify the needs of fitness enthusiasts during the Empathize and Define phases. Describe how tools like empathy mapping and contextual inquiry can be employed to define the core issues faced by users.

Case Study on Applying the Define Phase in Redesigning an E-commerce Platform

An e-commerce company is looking to improve its website's user experience. Write a case study on how empathy techniques such as user journey mapping and interviews help define user frustrations and needs. How can the Define phase narrow down the focus areas for the design team to address?

Case Study on Understanding Empathy in the Design of a Smart Home System

A company is designing a smart home system for elderly users. Develop a case study detailing how empathy tools such as shadowing, interviews, and experience maps can reveal daily challenges faced by elderly users. Explain how this empathy-driven approach informs the Define phase and leads to better user-centric product features.

Case Study on Brainstorming for Product Innovation in the Tech Industry

A tech company is struggling to come up with innovative features for their next-generation smartphone. Develop a case study that focuses on how the team can apply brainstorming techniques to generate a wide range of ideas. Discuss the advantages of brainstorming in promoting creativity and collaboration, and explain the role of ideation methods such as mind mapping and sketching in refining these ideas into feasible solutions.

Case Study on Ideation Methods in Solving Environmental Challenges

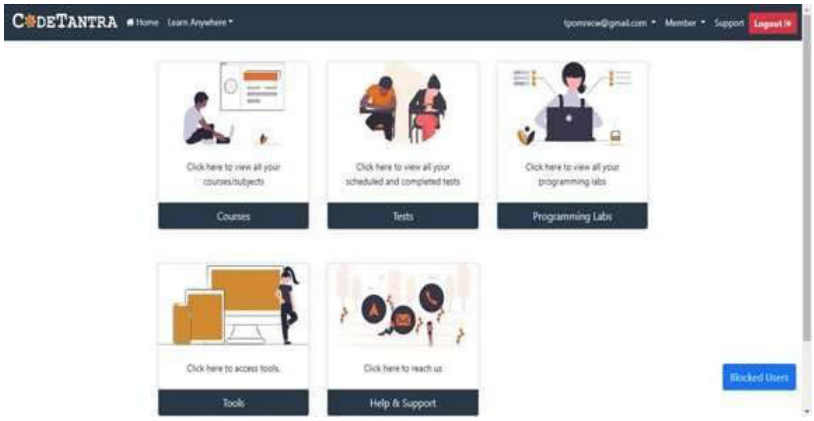
A non-profit organization is looking for creative solutions to reduce plastic waste in urban areas. Create a case study that explores different ideation methods such as SCAMPER, brainwriting, and role-playing to generate diverse ideas. Analyze how these tools of ideation can help the team think outside the box and develop practical, sustainable solutions. Discuss the role of brainstorming in fostering a collaborative environment for innovative thinking

Case Study on Advantages of Brainstorming in Redesigning a Customer Service Experience

A retail company wants to improve its customer service experience and is using brainstorming sessions to gather ideas. Write a case study illustrating the advantages of brainstorming in identifying pain points and generating a variety of customer service improvements. Discuss how tools like affinity diagrams and concept mapping can be used to organize and refine the ideas generated during brainstorming

d) CODING PRACTICE THROUGH CODETANTRA AND HACKER RANKING

We offering online coding practice platforms that helps the students to enhance their skills, expand their knowledge and prepare for technical interviews. It offers an extensive collection of more than 2000 coding challenges for C and Data Structures and Algorithms practice. Theses helps the students for honing coding skills and interview preparation. Students can practice in these coding challenges, contests and competitions for their needs.



9. THEORY TO PRACTICE

Theory to practice is fundamentally about acquiring new skills or knowledge through direct experience rather than through passive activities like reading, watching, or listening.

It is one of the most natural and effective ways of learning, leading to higher engagement rates, improved long-term retention, and better transferability of skills compared to other methods.

This approach fosters richer skill development.

In a technology-driven world, the most essential skills for students is practical learning power skills, which encompass mindset, creativity, leadership, and self management.

Well-structured, supervised, and assessed practical learning programs can encourage academic inquiry by promoting interdisciplinary learning and combining strong technical skills in

engineering design and computation with key business skills, such as marketing and business model generation.

Integrating teaching and learning approaches is essential due to the increasing use of emerging technologies in academia, research, and industry. This integration allows students to gain a clearer understanding of the industry landscape.

Conceptual experiments demonstrate the flow of processes in core industries, enabling students to connect and apply the knowledge acquired in various labs to complete their tasks.

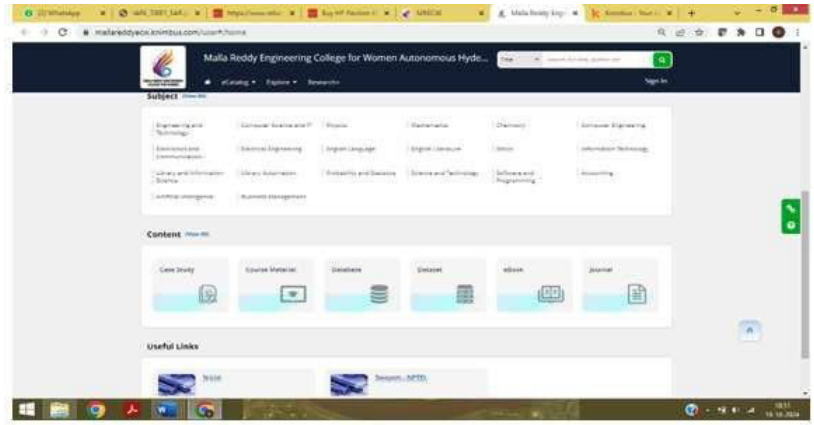
S. No	Conceptual Experiments / Implementations
1	Implementation of Railway Reservation System
2	Implementation of Employee Management
3	Implementation of Banking System
4	Implementation of Hotel Management
5	Implementation of E-Commerce Database
6	Implementation of Hospital Management
7	Implementation of Student Management
8	Implementation of Library Management
9	Implementation of Fashion Designer Website
10	Implementation of Company Management

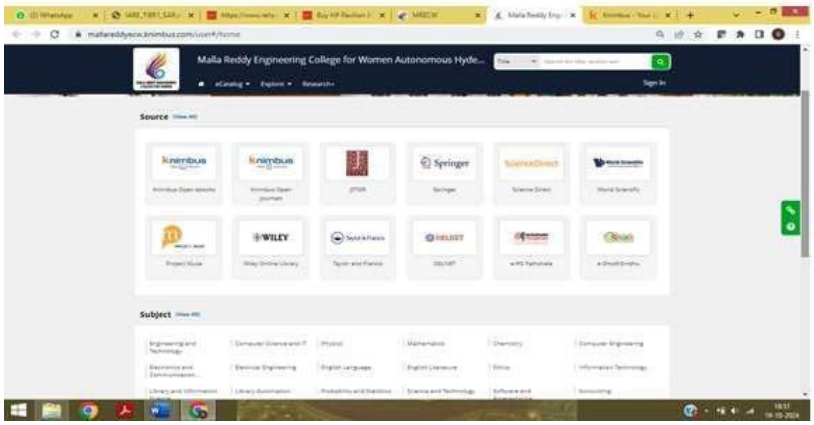
These Conceptual experiments are designed to cultivate a successful graduates ability to grasp fundamental engineering principles, apply knowledge to solve complex problems, and develop the interpersonal skills necessary to work effectively as part of a team. At the beginning of each semester, a list of Conceptual experiments is provided to students to help them acquire practical skills throughout their studies. Students are encouraged to select experiments from this list or to discuss their interests with the relevant faculty members. Below is a sample list of conceptual experiments available for selection.

10. DIGITAL LIBRARY

The colleges digital library features a rich collection of resources, including lecture notes, video lectures, journals, and more, which students can access to enhance their understanding of both theoretical and laboratory courses. This resource not only helps students deepen their knowledge in their program of study but also supports them in preparing tech talks, concept videos, and literature reviews for their projects. Incorporating Knimbus into the Digital Library has offered numerous advantages for the institution, improving the educational experience for students and bolstering the research capabilities of faculty. It provides access to subscribed content, e-journals, e-books and e-databases, the digital nature of Knimbus allows students and faculty to access resources from anywhere, supporting flexible and remote learning environments. Furthermore, the knimbus has integrated NPTEL courses into its framework. The video lectures offered by NPTEL serve as a valuable self-learning resource for students, and all courses provided by IITs are archived in the digital library for use by both students and faculty.

(https://mallareddyecw.knimbus.com/user#/home)





11. TECHNICAL SEMINARS

Technical seminars are invaluable for students as they provide insights into current trends, technologies, and practices in various fields, helping students understand the real-world applications of their studies. Seminars often focus on practical skills, offering workshops or hands-on sessions that enhance students technical competencies. Presenting their work or ideas in seminars allows students to receive constructive feedback and learn from others' experiences. Technical seminars often cover a range of topics, encouraging students to explore different fields and discover new interests. Technical seminars provide students with essential benefits that significantly enhance their educational experience. They offer valuable industry insights, allowing students to stay updated on current trends and technologies, which bridges the gap between theory and practice. Additionally, these seminars help develop practical skills through hands-on workshops, fostering competencies that are crucial for employability. Networking opportunities with professionals and peers can lead to internships and career connections, while exposure to expert speakers inspires and motivates students in their academic and professional journeys. Technical seminars help students develop essential skills like public speaking, critical thinking, and networking, preparing them for professional growth and career readiness. Teacher provides various domains and ideas out of which students will be selecting one particular idea and teacher help in preparing the students for the seminars. Technical seminars are included in the semester wise time table and week wise schedule and various emerging topics to be selected by the students are provided prior to the start of the semester, such that students can explore various IEEE papers and various other standard research and review papers to gather the literature. The students then prepare a power point presentation with the help of the respective teachers such that it can be focusing on current trends and technologies.

Year/Sec	Day/Hour	Year/Sec	Day/Hour
IV / A	WED / 2,3	II / C	MON / 4,5
IV / B	TUS / 2,3	II / D	SAT / 4,5
IV / C	TUS / 4,5	II / E	SAT / 4,5
IV / D	TUS / 4,5	II / F	SAT / 4,5
III / A	SAT / 4,5	II / G	WED / 2,3
III / B	FRI / 2,3	II / H	SAT / 2,3
III / C	SAT / 2,3	II / I	SAT / 2,3
III / D	TUS / 2,3	II / J	FRI / 4,5
III / A	SAT / 4,5	II / K	SAT / 4,5
II / B	FRI / 2,3		

12. GROUP DISCUSSIONS

A Group Discussion (GD) is a widely used evaluation technique in recruitment, involving 6 to 15 participants discussing a specific topic or problem. The primary goal of a group discussion is to assess a candidates ability to communicate, collaborate, and present their ideas effectively within a group setting. Group discussions play a crucial role in assessing not just an individuals knowledge but also their interpersonal skills, teamwork, and ability to think on their feet.

- Testing Communication Skills
- Teamwork and Leadership
- Problem-Solving and Decision-Making
- Knowledge and Awareness
- Time Management
- Convincing and Persuasive Skills
- Handling Pressure

Availability of Work for Peer Review and Critique

The faculty of Malla Reddy Engineering College for Women actively implements innovative teaching and learning strategies to enhance the educational experience. These innovations include modern pedagogical techniques, technology integration, and interdisciplinary approaches. To ensure quality and continuous improvement, the following practices are in place for peer review and critique:

1. Documenting and Sharing Innovations:

Faculty members document their innovative teaching practices in lesson plans, case studies, or research articles and share them in department meetings, workshops, and faculty development programs.

2. Peer Review Mechanisms:

Regular departmental discussions are held, where faculty present their innovative teaching methods for feedback from peers. Faculty members undergo a structured peer-review process for academic content, teaching strategies, and research outputs.

3. Faculty Development Programs (FDPs):

Internal and external FDPs are organized to discuss and review innovative teaching methods and tools. Faculty members are encouraged to present their work in these programs for constructive critique.

4. Collaborative Learning Practices:

Inter-departmental collaborations and expert reviews are conducted to align innovative methods with industry standards and pedagogical advancements.

5. Feedback Collection:

Feedback is sought from students, peers, and academic experts on the effectiveness of the innovations. This helps refine teaching methods and ensures they meet educational objectives.

These practices demonstrate the facultys commitment to fostering an academic environment of continuous learning and innovation.

Reproducibility and Reusability by Other Scholars for Further Development

The faculty at Malla Reddy Engineering College for Women ensures that their innovative teaching and learning practices are reproducible and reusable for other scholars to build upon.

This is achieved through systematic documentation, dissemination, and collaboration. The approaches include:

1. Structured Documentation:

- Innovative teaching strategies, tools, and methodologies are meticulously documented like lesson plans, project reports, and case studies.
- These documents include clear objectives, implementation steps, and outcomes to facilitate reproducibility.

2.Sharing Through Open Educational Resources (OERs):

- Faculty develop and share educational content, such as lecture notes, instructional videos, and assignments, on public platforms or institutional repositories.
- These resources are designed to be reused and adapted by other educators and institutions.

3. Publication in Peer-Reviewed Journals and Conferences:

- Faculty publish their work in reputed journals and present it at conferences, ensuring visibility and accessibility to the academic community.
- These publications provide a foundation for other scholars to validate, replicate, and expand upon the innovations.

4. Workshops and Training Programs:

- Innovative practices are shared with other educators through workshops, faculty development programs (FDPs), and seminars.

- These events allow for practical demonstrations and discussions, encouraging adoption and adaptation

5. Collaboration with Academic and Industry Experts:

Faculty collaborate with peers from other institutions and industry experts to refine and propagate their teaching practices. These collaborations often result in scalable models that can be further developed

6. Integration into Curriculum Design:

Effective innovations are incorporated into the curriculum, making them a part of institutional best practices and enabling their application in different contexts.

7. Encouraging Research and Development:

Faculty motivate students and peers to conduct research on these innovations, ensuring continuous improvement and the generation of new knowledge.

Through these efforts, the institution fosters a culture of academic sharing and advancement, ensuring that innovative teaching methodologies are accessible and impactful across the educational community.