

Volume 1 | Issue 2

# INSIDESPHERE

CSM MAGAZINE

JAN 2025

*Theme:*

# GATE 2026



DEPARTMENT OF CSE (ARTIFICIAL  
INTELLIGENCE AND MACHINE LEARNING)

**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING**

(AUTONOMOUS)

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**N naga sai Sree**

**SK Ameer**

## Department Vision

To pioneer transformative advancements that redefine the boundaries of intelligence, empower individuals and organizations, and inspire positive change in society.

## Department Mission

To cultivate interdisciplinary partnerships and drive impactful research that addresses the world's most pressing challenges.

To developing transparent, accountable, and equitable AI solutions that empower individuals and communities.

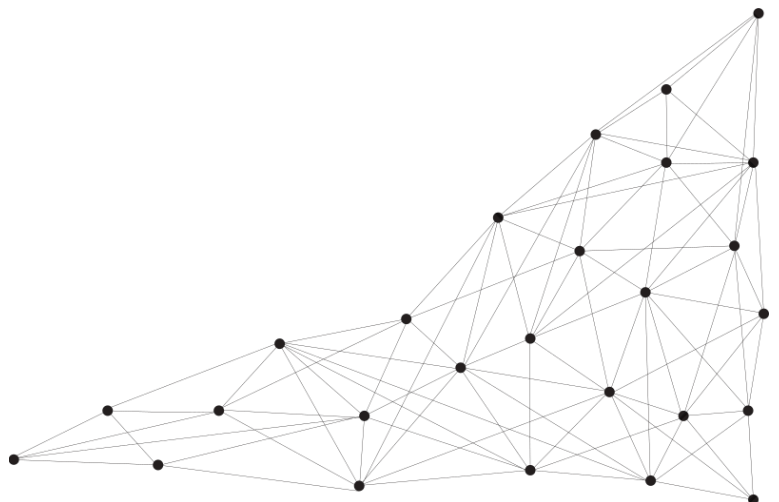
To lead by example and inspire innovation, department champions a culture of continuous learning and experimentation, driving progress and pushing the frontier of possibilities.

To create actionable insights, drive informed decision-making, and transform industries and societies for the better.

## RECOGNITIONS



## STUDENT CHAPTER / ASSOCIATION / CLUB



# Keynote Address



Dear Students, Faculty Members, and Readers,

It gives me immense pleasure to welcome you all to the inaugural edition of our departmental magazine – InsideSphere, a platform that mirrors the intellectual depth, creativity, and achievements of the Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning). This magazine is not just a collection of articles and events; it is a reflection of our journey, values, and vision to nurture a generation of innovators, thinkers, and leaders.



The theme of this first issue, “AI for Everyone,” perfectly aligns with the spirit of inclusivity and accessibility in the modern technological era. Artificial Intelligence is no longer a distant concept – it is now deeply integrated into our daily lives. From personalized learning platforms to medical diagnostics, AI’s impact reaches every corner of society. The true essence of this theme lies in the belief that AI is not limited to scientists or engineers – it belongs to every learner, creator, and problem-solver who aspires to make a difference.

## **Applications of AI Across Domains**

Artificial Intelligence (AI) is transforming the world in extraordinary ways, influencing nearly every sector of human activity. Its ability to analyze complex data, learn from patterns, and make intelligent decisions is revolutionizing industries, improving efficiency, and enhancing the quality of life across the globe.

## EXPECTED OUTCOMES OF OUR DEPARTMENT STUDENTS

Our CSE (AI & ML) department envisions producing technically proficient, ethically responsible, and socially aware graduates equipped to excel in both research and industry. The expected student outcomes are:

- Students will gain deep expertise in Artificial Intelligence, Machine Learning, Deep Learning, and Data Science concepts, enabling them to design intelligent systems and real-world solutions.
- Through project-based learning and hands-on implementation, students will engage in research that contributes to emerging AI technologies and publications.
- Our curriculum encourages the integration of AI with IoT, Robotics, Cybersecurity, and Cloud Computing to prepare students for dynamic, cross-domain roles.
- Graduates will develop awareness of AI ethics, bias, and data privacy — understanding the social and moral implications of technology.
- Our students will evolve as adaptable professionals with strong communication, teamwork, and leadership skills, ready to contribute to academia, startups, and global industries.
- As we open the pages of InsideSphere, let us celebrate the collective achievements of our faculty and students who continuously strive for excellence. This magazine will be published three times every academic year — in July, November, and March — providing updates on departmental events, research accomplishments, and creative expressions.

I extend my heartfelt congratulations to Dr. Johnwesily Chappidi, the Editor-in-Chief, and the Editorial Board for curating this wonderful initiative that truly embodies our department's ethos — learning, innovation, and inclusivity.

Let this first issue of InsideSphere be a beacon of knowledge, guiding our readers to understand and embrace the vast possibilities of "AI for Everyone."

**Dr. S. Jayaprada**

*Professor & Head of the Department*

*Department of CSE (Artificial Intelligence and Machine Learning)  
Lakireddy Bali Reddy College of Engineering (Autonomous), Mylavaram*

# GATE Strategy to Score a Good Rank

**A Time-Bound and  
PYQ-Driven  
Preparation Plan for  
GATE (Computer  
Science)**

*The Graduate Aptitude Test in Engineering (GATE) is a national-level competitive examination that evaluates a candidate's conceptual understanding, analytical ability, and problem-solving skills. Scoring a good rank in GATE requires a structured, time-bound, and practice-oriented approach rather than exhaustive syllabus coverage. This article presents a realistic preparation strategy for the GATE Computer Science (CS) paper, emphasizing priority-based subject planning, effective utilization of previous year question papers (PYQs), structured mock testing, and achievable score targets.*



The GATE (Graduate Aptitude Test in Engineering) is one of India's most competitive exams for engineering graduates. It tests not just memory, but your concept clarity, logical thinking, and problem-solving skills. If you are preparing for Computer Science (CS), the key to scoring a good rank is not studying everything endlessly — but studying smartly, consistently, and strategically. This article presents an easy-to-follow, time-bound, and PYQ-driven strategy specially designed for students aiming to perform well in GATE CS.

Author:

**Peddagamalla  
Yaswanth Kumar  
22761A4244**

## GATE 2026 NOTIFICATION IS OUT

### IMPORTANT DATES

Registration Opens	25th Aug 2025
Last Date to Register (w/o late fee)	25th Sep 2025
Last Date to Register (with late fee)	6th Oct 2025
Test Dates	7th, 8th, 14th and 15th Feb 2026

### TEST PATTERN

Particulars	Details
Sections	General Aptitude (GA) + Candidate's Selected Subject(s)
Type of Questions	Multiple Choice Question (MCQ), Multiple Select Question (MSQ), Numerical Answer Type (NAT)
Testing of Abilities	Recall, Comprehension, Application, Analysis & Synthesis

## 1. Understanding the GATE Exam

The GATE exam is conducted for:

- M.Tech / MS / PhD admissions
- PSU recruitment
- Research opportunities

## 2. Types of Questions in GATE

GATE includes 3 types of questions:

### a. MCQ (Multiple Choice Questions)

- 1 mark ( $\frac{1}{3}$  negative marking)
- 2 marks ( $\frac{2}{3}$  negative marking)

### Exam Pattern:

- Total Marks: 100
- Duration: 3 Hours
- Mode: Computer-Based Test

### b. MSQ (Multiple Select Questions)

- 1 or 2 marks
- No negative marking

### c. NAT (Numerical Answer Type)

- 1 or 2 marks
- No negative marking

*Tip: MSQ and NAT questions are safer because there is no negative marking. Focus on mastering these to improve your score safely.*

## 3. Smart Priority-Based Preparation

Instead of randomly studying subjects, follow this priority order based on official weightage:

- General Aptitude – 15 Marks
- Engineering Mathematics – 13 Marks
- Core Computer Science Subjects – 72 Marks

This structure ensures you focus on high-scoring areas first.

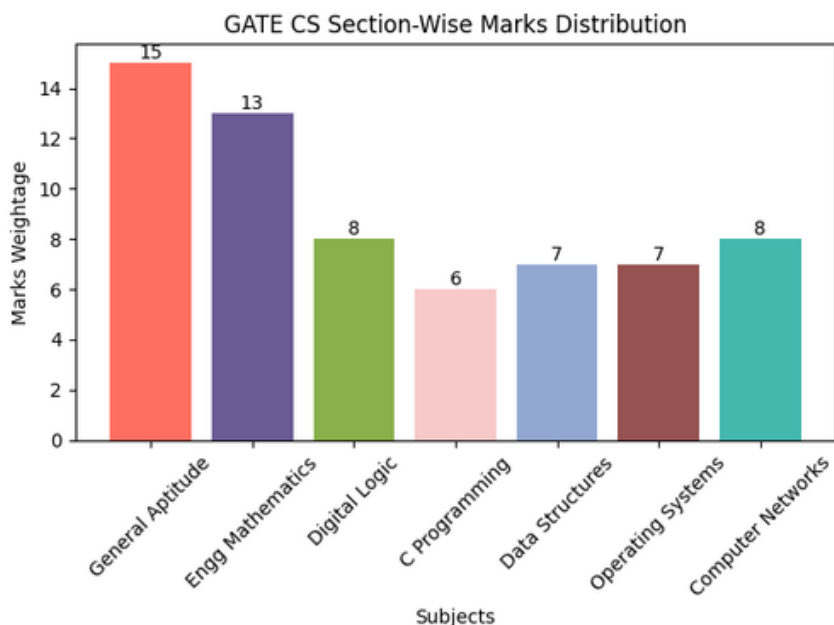
#### 4. How Much Time Do You Need?

- Minimum preparation time: 90 days
- Ideal preparation time: 120 days

#### This duration allows:

- Complete syllabus coverage
- Multiple revisions
- PYQ practice
- Mock test practice
- Proper analysis

*Consistency is more important than long study hours.*



The figure illustrates the section-wise marks distribution in GATE CS, highlighting that General Aptitude and Engineering Mathematics carry the highest weightage compared to core technical subjects.

Subject	Marks Weightage	Recommended Time	Key Topics to Focus	Expected Score
<b>General Aptitude</b>	15 Marks	10–12 Days	Synonyms, Sentence Correction, Ratios & Averages, Time & Work	11–14
<b>Engineering Mathematics</b>	13 Marks	20–25 Days	Linear Algebra, Probability, Discrete Mathematics	8–11
<b>Digital Logic</b>	8 Marks	8–10 Days	Boolean Algebra, K-Maps, Logic Gates, Basic Circuits	5–7
<b>C Programming</b>	6 Marks	6–8 Days	Pointers, Arrays, Functions, Output-Based Questions	4–5
<b>Data Structures</b>	7 Marks	10–12 Days	Stacks, Queues, Linked Lists, Trees, Arrays	4–6
<b>Operating Systems</b>	6–8 Marks	10–12 Days	CPU Scheduling, Deadlocks, Memory Management	4–6
<b>Computer Networks</b>	8 Marks	10–12 Days	OSI & TCP/IP Models, Subnetting, Flow Control, Error Detection	5–7

This table presents a clear, colorful overview of the GATE CS section-wise preparation plan, highlighting marks weightage, recommended study time, key topics, and expected scores for strategic exam preparation.

#### 5. Conclusion

A good GATE rank is achieved through intelligent planning, consistent practice, and effective use of previous year questions rather than exhaustive syllabus coverage. This time-bound, PYQ-driven strategy focuses on high-weightage topics, structured revision, and systematic testing. Following this approach for 90–120 days can significantly improve performance and rank in the GATE examination.



## FOOD EXPIRY DETECTION APP Design

### Smarter Kitchens, Safer Plates, Sustainable Living

A food expiry app is a digital inventory manager designed to help households and businesses track the shelf life of their groceries. With roughly one-third of all food produced globally going to waste, these apps serve as a practical solution to save money, reduce environmental impact, and simplify meal planning.

In today's fast-paced world, it's easy to forget what's hiding in the back of the fridge or buried deep inside the pantry. The result? Expired groceries, wasted money, and unnecessary environmental impact. Studies show that nearly one-third of all food produced globally goes to waste. A major reason is simple — lack of proper tracking.

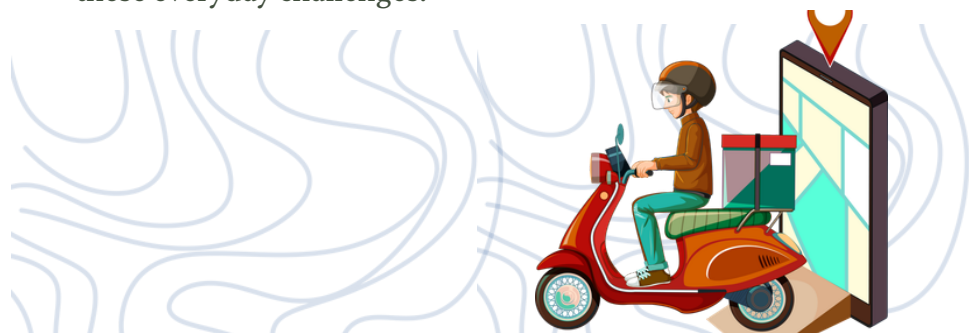
The Food Expiry Detection App is designed as a smart digital inventory manager that helps households and businesses monitor food shelf life, reduce waste, and promote safer eating habits.

### The Problem

Busy lifestyles often lead people to forget about stored food items. Without proper tracking:

- Food expires unnoticed
- Money is wasted
- Spoiled food may be consumed, risking health
- Kitchens become disorganized
- This app provides a simple yet powerful solution to tackle these everyday challenges.

SRIVIDYA  
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## I. Objectives of the App

The Food Expiry Detection App is designed with clear and practical objectives that address everyday kitchen challenges. Each objective plays a vital role in reducing food waste, saving money, and promoting healthier living.

The Food Expiry Detection App aims to:

- Store food item details digitally
- Track expiry dates accurately
- Send timely alerts before items expire
- Maintain an organized kitchen inventory
- Reduce food waste and improve food safety awareness

### 1. Store Food Item Details Digitally

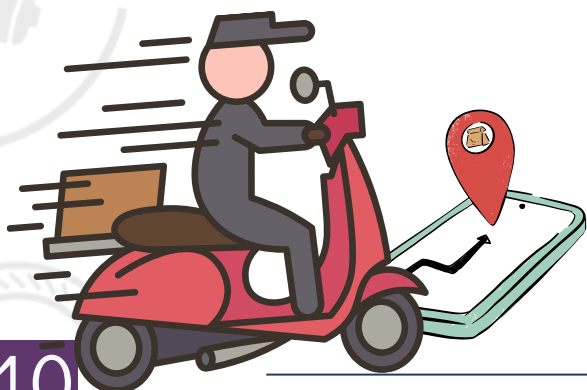
One of the primary goals of the app is to replace traditional memory-based tracking with a digital inventory system. Users can store complete details of food items such as name, category, quantity, purchase date, and expiry date. Information is saved securely in a database and can be accessed anytime.

Digital storage reduces dependency on paper bills or manual checking. Cloud synchronization ensures data is available across multiple devices. This creates a centralized, organized system where all food-related information is easily accessible.

### 2. Track Expiry Dates Accurately

Accurate tracking is essential to prevent food spoilage and health risks. The app continuously compares the current date with the stored expiry date. It calculates remaining shelf life automatically.

Items are categorized as Fresh, Expiring Soon, Expires Today, or Expired. Automated tracking eliminates human error in remembering dates. By ensuring precise monitoring, the app minimizes accidental consumption of expired food.



### 3. Send Timely Alerts Before Items Expire

Many people forget to check expiry dates regularly. The app solves this problem through an intelligent notification system. Push notifications are sent a few days before expiry (e.g., 2–3 days prior). Alerts are also sent on the expiry date itself.

Color-coded warnings (Green, Yellow, Red) visually indicate urgency. Users can customize reminder timing according to their preference. These proactive alerts encourage users to consume food on time or plan meals accordingly.

### 4. Maintain an Organized Kitchen Inventory

A well-organized kitchen reduces confusion and duplicate purchases. The app categorizes items by storage location (Fridge, Freezer, Pantry). It allows quantity tracking (e.g., 3 milk packets).

Users can mark items as consumed or discarded. The dashboard displays items sorted by nearest expiry date. This structured approach ensures better kitchen management and smarter grocery planning.

### 5. Reduce Food Waste and Improve Food Safety Awareness

The ultimate objective of the app is sustainability and health protection.

- By reminding users before food spoils, wastage is significantly reduced.
- Reduced waste means saving money and lowering environmental impact.
- Users become more aware of food safety practices.
- The app promotes responsible consumption habits and FIFO (First-In, First-Out) usage.

This not only benefits individual households but also contributes to broader environmental conservation efforts.

## II. Research & Inspiration Behind the Food Expiry Detection App

The development of the Food Expiry Detection App is inspired by several intelligent systems and existing applications that focus on reducing food waste, improving food safety, and enhancing user awareness. Each system contributed unique ideas and technological approaches that influenced the app's design and functionality.

### 1. SLED Tracking System

The Shelf Life Expiration Date Tracking System (SLED) Tracking System moves beyond traditional printed expiry dates. Instead of simply trusting the "Best Before" or "Use By" label, it focuses on predicting actual food spoilage.

#### How It Works:

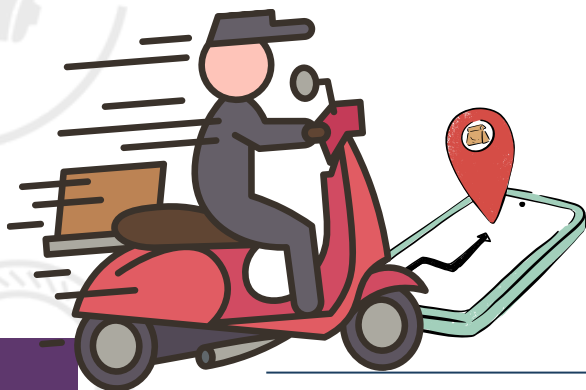
- The system uses machine learning algorithms to analyze sensory characteristics such as color changes, texture variations, and odor detection. Based on these observations, it predicts real-time freshness levels and determines whether the food is still safe for consumption.

#### Key Contributions:

- SLED demonstrates that printed expiry dates can sometimes be conservative and may not accurately reflect real food quality. It shows how AI-based freshness detection can reduce unnecessary food disposal and highlights the importance of reminder-based systems in influencing user behavior.

#### Influence on Our App:

- The concept of combining technology with intelligent monitoring inspired the Food Expiry Detection App to include optional AI-based freshness prediction features for smarter food management.



### 2. SmartBite AI (Web-Based System)

SmartBite AI is a web-based food management system that emphasizes automation and user convenience. It integrates advanced technologies to simplify the process of tracking food items and managing kitchen inventory efficiently.

#### Core Technologies Used

SmartBite AI combines multiple intelligent tools to reduce manual effort. Barcode scanning automatically identifies product details, while OCR (Optical Character Recognition) reads expiry dates directly from product packaging. In addition, machine learning analyzes available ingredients and suggests suitable recipes.

#### Key Highlights

The system significantly reduces manual data entry by automating product information capture. It encourages users to cook meals using ingredients that are close to expiry, thereby minimizing food waste. It also supports healthier meal planning and maintains a well-organized digital kitchen inventory.

#### Influence on Our App

SmartBite AI inspired several important features in the Food Expiry Detection App, including barcode scanning, OCR-based expiry detection, automated inventory logging, and recipe suggestions for expiring items. It clearly demonstrated how automation enhances usability, saves time, and improves overall efficiency in food management.

#### Food Wise System

The Food Wise System focuses mainly on increasing user awareness and encouraging behavioral change rather than relying only on technical tracking methods. Its goal is to help users develop responsible food management habits.

#### Main Features

The system includes dashboard visualizations that clearly display stored food items and their status. It uses gamification techniques such as points, rewards, and progress tracking to motivate users. Encouragement-based reminders are also provided to prompt users to check and consume food items on time.

## Observed Results

The implementation of this system led to increased awareness of food consumption habits. Users showed improved consistency in tracking their food items, and there was a noticeable reduction in food waste behavior.

## Influence on Our App

- The Food Wise System highlighted the importance of clear visual dashboards, waste tracking analytics, behavior-driven design, and strong user engagement features. It inspired the inclusion of waste analytics and savings tracking in the Food Expiry Detection App to promote sustainable consumption habits.



## How the Food Expiry Detection App Improves Upon These Systems

While these systems provide valuable features, the Food Expiry Detection App combines their strengths into a more comprehensive solution:

- Digital inventory + AI freshness detection
- Smart alerts + behavior change strategies
- Barcode scanning + OCR integration
- Recipe suggestions + waste analytics
- Organized dashboard + sustainability focus

By integrating intelligent monitoring, automation, and user engagement features, the app creates a complete ecosystem for smart kitchen management.

### Overall Insight

The research and existing applications demonstrate that:

- Technology can significantly reduce food waste.
- Automation improves user participation.
- AI enhances freshness prediction.
- Behavior-focused design encourages sustainable habits.

The Food Expiry Detection App builds upon these proven concepts to deliver a smarter, safer, and more sustainable food management solution.



Art By: Nagasai shree nunna  
23761A42A8, Csm- b section

This painting focuses on the expressive eyes of Lord Krishna, created using poster colours and a variety of brush techniques. The use of blue tones represents calmness, depth, and spirituality. Different brushes were used to achieve smooth blending and fine details, especially around the eyes, to bring out emotion and life. Rather than showing the entire face, the artwork emphasizes expression through the gaze alone. Light and shadow add depth and intensity to the eyes. The painting reflects serenity, devotion, and inner peace. Through this artwork, an attempt is made to connect artistic expression with spiritual emotion.

# DEPARTMENT NEWS



Shaik Gouse (23761A42C1), Shaik Jakir Hussain(23761A42C2), D. Naresh (23761A4277), P. Nikhil (23761A42B3), Illrd year students secured Second Prize in Hackathon-25 organized by IIIT Nuzvid



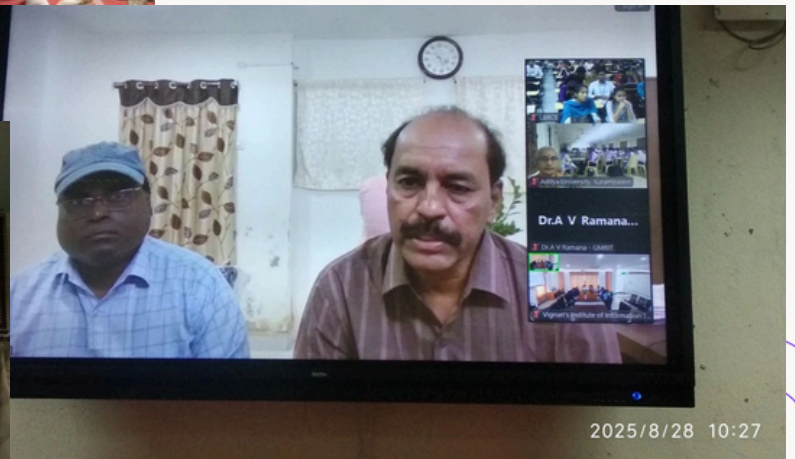
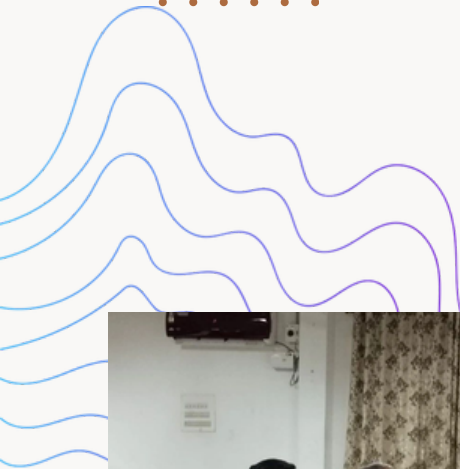
Proud moment for I SEM – B Section! Hearty congratulations to our semester toppers for their outstanding academic performance.

Sivaraju Sowmya Tejaswini (25761A42B7) secured 9.89 CGPA,  
Athukuri Vedha Varshini (25761A4268) secured 9.77 CGPA,  
and Parasa Manohar (25761A42A8) secured 9.66 CGPA.

Your hard work, dedication, and consistency truly inspire everyone.



# DEPARTMENT NEWS



Date: 28.08.2025

## Amravati Quantum Valley Internal Hackathon – 2025 at L.B.R.C.E

CSE(AI&ML) Students participated in an internal hackathon under the Amaravati Quantum Valley Hackathon 2025 (AQVH 2025), an APSICHE initiative to promote innovation in quantum technologies



# DEPARTMENT NEWS

Students recived 5000 Cash



## Alumni Meet 2026 at LBRCE



# DEPARTMENT NEWS

● ● ● ● ● ● Lakireddy Bali Reddy College of Engineering NSS Volunteers Selected for Youth Exchange Program

Mylavaram: Five NSS volunteers from Lakireddy Bali Reddy College of Engineering (LBRCE) have been selected to participate in a Youth Exchange Program to be held in Ernakulam, Kerala, from January 22 to 26, 2026. The programme is organized under the Central Government's MY Bharat initiative.

During the five-day event, students will interact with youth from different parts of the country, explore Kerala's culture and heritage, and take part in workshops on leadership and social responsibility. The programme also includes sessions on environmental protection and Swachh Bharat initiatives.

The participation of LBRCE students in this national-level programme reflects the institution's commitment to encouraging leadership, service, and cultural exchange among youth.



# PLACEMENTS

LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING



pennant  
future ready

25  
LPA  
COMBO OFFER



CONGRATULATIONS

— KATRAGADDA MADHUVANI —

22761A4222

You are an inspiration to us all.

Cheers to your incredible success and a brilliant future

DEPARTMENT OF  
CSE (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

# PLACEMENTS

**LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING**  
(An Autonomous Institution Since 2010)

**2025-26 PLACEMENTS**  
**DEPARTMENT OF CSE (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)**

**Infosys**

**CONGRATULATIONS**



**6 SELECTIONS**

**3.75 LPA**

**KUSUMA GANTA**  
22761A4211

**KATRAGADDA MADHUVANI**  
22761A4222

**KODUMURU KAVYA BHANU CHANDRIKA**  
22761A4224

**MANDA KOUSALYA REDDY**  
22761A4232

**OBULAREDDY NAGESWARI**  
22761A4241

**VELURI BHAVYA**  
22761A4259

**Congratulations**

**[24]7.ai**



**MEDISETTY SAI PRANEETH**  
22761A4235

**MOLUGUMATI ANAND RAJU**  
22761A4237

**Got Selected at [24]7.ai**  
**Heartfelt Congratulations on Your Achievement!**

**Package**  
**3.6 LPA**

# PLACEMENTS



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2025-26 Placements



ALLU GIRI  
22761A4201



ALLURI BHARGAVI  
22761A4202



GIDDA MANIKANTA  
22761A4213



JAMPANI YASWANTH  
22761A4217



KAKARLAPUDI PREM  
22761A4219



KODUMURU CHANDRIKA  
22761A4224



KUNCHALA NARAYANA  
22761A4228



MANDA KOUSALYA  
22761A4232



NAGULA MADHURI  
22761A4238



NOMULA YASWANTH  
22761A4240



PARISE KIRAN TEJA  
22761A4243



SUNKARA VARSHINI  
22761A4252



TATIPAMULA KATHYAYINI  
22761A4253



VALTURE TEJESWAR  
22761A4257



4-6.75  
LPA



placed at ...  
cognizant

# Congratulations

Heartfelt Congratulations on Your Achievement!



TECHNOPARINSOFT



3.6 LPA



CHEBROLU KEERTHANA  
22761A4206

Got Selected for Graduate Trainee at  
TECHNOPARIN Software Pvt. Ltd.





*Celebrating 28 Years of Academic  
Excellence: LBRCE*

## **ANNUAL DAY 2026**

Lakireddy Bali Reddy College of Engineering Marks 28th Annual Day

Mylavaram, February 7, 2026: Lakireddy Bali Reddy College of Engineering (LBRCE) celebrated its 28th Annual Day with enthusiasm, commemorating nearly three decades of academic excellence.

The Chief Guest, Vasantha Venkata Krishna Prasad, MLA of Mylavaram, praised the vision of founder Lakireddy Bali Reddy and encouraged students to adapt to technological advancements and aim to become job creators. Guest of Honor Sirisha Pammi from Oracle India highlighted the importance of continuous learning and soft skills.

Chairman Lakireddy Prasad Reddy reaffirmed the institution's focus on placements and skill development. Merit students and competition winners were honored, followed by vibrant cultural performances.

The event concluded with a vote of thanks, marking another milestone in the institution's journey of excellence.





Dr. Sk. Salma Asiya Begum was honored with the Research Award, in recognition of her outstanding contributions to education and dedication to academic excellence.



## CALL FOR CONTRIBUTIONS: ARTICLES, DIAGRAMS, STORIES, AND TECHNICAL PUZZLES

*We are pleased to invite students and faculty members to contribute original content for our upcoming publication.*

*We welcome a diverse range of submissions, including:*

- • *Articles on academic, technical, or creative topics*
- • *Diagrams that illustrate concepts or innovations*
- • *Stories that inspire, inform, or entertain*
- • *Technical puzzles that challenge and engage readers*
- • *Creative works that highlight and nurture student talent*



This is a wonderful opportunity to showcase your creativity, knowledge, and problem-solving skills to a wider audience.

Please send your contributions to  
[wesily013@lbrce.ac.in](mailto:wesily013@lbrce.ac.in).



**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Permanently affiliated to JNTUK, Kakinada  
L.B. Reddy Nagar, Mylavaram, N.T.R. District, Andhra Pradesh-521230

