SANTHIRAM ENGINEERING COLLEGE (AUTONOMOUS)

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TECHNEX

THE CSE MAGAZINE

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ACADEMIC YEAR 2024-2025 | VOLUME 10 | ISSUE 1



Innovate. Integrate. Inspire.

Code the Future.

CHIEF EDITOR

Dr. S.Md.Farooq
Professor & HOD
CSE DEPT

EDITOR

Mrs.V.Lakshmi Chaitanya
ASSISTANT PROFESSOR
CSE DEPT

STUDENT COORDINATORS

Mr.G.Jaya Sai Karthik
IV CSE

Ms.K.Vyshnavi
IV CSE

NH-40, NANDYAL – 518 501, KURNOOL (Dt.), A.P, INDIA.

SANTHIRAM ENGINEERING COLLEGE

(Autonomous)

Nandyal, Andhra Pradesh, India

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MESSAGES

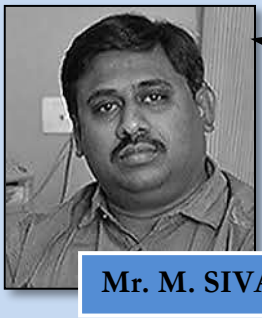
CHAIRMAN'S MESSAGE



Dr. M. SANTHIRAMUDU

I am happy to hear that Department of Computer Science & Engineering of SREC is coming out with the Half yearly magazine in a tenth consecutive year. Efforts such as this will provide an opportunity for the staff and students to showcase their talents in technical writing. I sincerely appreciate and congratulate the Principal, the editorial team and the students of the department for their unrelenting efforts in compiling this magazine.

MANAGING DIRECTOR'S MESSAGE



Mr. M. SIVARAM

I am delighted to hear that our college is bringing out TECHNEX, Half yearly magazine for this academic year. It is a nice platform for both the faculty and the students to explore their knowledge. I hope that this would be an ongoing process and the magazine would bring out the latent talent of everyone. I am appreciating and recognizing the hard work of the editors and the magazine committee in bringing out the magazine and in wishing them success in their endeavour.

PRINCIPAL'S MESSAGE



Dr. M. V. SUBRAMANYAM

Today, Department of Computer Science Engineering of SREC has grown in all directions and has become a distinguished center for modern learning. This magazine provides a platform for students and staff to share information, spread the latest technical knowledge and cultivate right ways that will equip all of us to stay competent in our respective fields of study and research.

H.O.D's MESSAGE



Dr.S.MD.FAROOQ

It is my pleasure to congratulate the team that has taken the initiative for producing TECHNEX. Reading this magazine would definitely be an inspiration and motivation for all students and staff to contribute even more to the forthcoming issues. On this occasion I would like to say that the Computer Science Engineering department creates engineers with dynamism, smartness and in-depth understanding of technical fundamentals.

Department profile

Recognizing the overwhelming demand for computer engineering, the Institute started a 4 year B.Tech course in Computer Science and Engineering in the year 2007 with an intake of 60 students and the intake currently raised to 300 in the year 2024.

The department has 35 highly qualified and committed faculties, all of them have a rich experience in teaching, dedication towards the pursuit of academic excellence and they are specialized in diverging areas of technology like Computer Networks, Big Data, Network Security, Cloud Computing and Artificial Intelligence etc. The Department of CSE continues to recruit teachers with rich experience in academics, industry, and research and supports them providing superior research facilities.

The Department has interaction with industries which have a high reputation and track record. It also has tie-ups with well-known associations like IEEE,IE,ISTE in pursuit of excellence reaching higher standards through Research Collaboration, faculty and students have regular interactions together.

The department has well-equipped computer laboratories and a rich repository of software covering a wide spectrum of applications. In total there exists a network of 700 computers with internet facility for teaching, research and administration purposes. The other features include projectors to bring a sense of live class environment and for seminars; UPS for uninterrupted use during the power cuts; air condition etc.

Department Vision

To become a center for quality education in the field of computer science & engineering and to create competent professionals.

Department Mission

1. To provide academic ambience and latest software tools to prepare competent Software Engineers with strong theoretical and practical knowledge.
2. To foster professionalism and strong work ethics in students for the betterment of society.
3. To uplift innovative research in Computer Science and Engineering to serve the needs of Industry, Government and Society
4. To encourage the spirit of entrepreneurship and adaptability in our students in view of the ever-changing scenario of the Software Industry.

FACULTY ARTICLE

Quantum Computing: Revolutionizing the Future of Technology

Quantum computing is an emerging field that has the potential to transform the way we process information, solve complex problems, and unlock new scientific discoveries. Unlike classical computers that use bits (0s and 1s) to store and process data, quantum computers use *quantum bits*, or *qubits*, which can exist in multiple states at once thanks to principles of quantum mechanics such as superposition and entanglement.

In classical computing, a bit is either a 0 or a 1. However, a qubit can be both at the same time (superposition), and multiple qubits can be entangled, meaning the state of one qubit depends on the state of another. These quantum properties allow quantum computers to perform many calculations simultaneously, drastically increasing computational power for certain types of problems.

One of the most promising applications of quantum computing lies in cryptography. Today's encryption methods could be broken by a powerful enough quantum computer, which is why researchers are also working on quantum-resistant algorithms. Quantum computing also holds potential in fields such as drug discovery, materials science, climate modeling, financial modeling, and optimization problems that are currently unsolvable due to their complexity.

However, quantum computing is still in its early stages. Building stable quantum computers is a massive engineering challenge. Qubits are extremely sensitive to their environments, requiring ultra-cold temperatures and isolation from external interference to function correctly. Current quantum computers are limited in terms of qubit count and error rates.

Leading tech companies like IBM, Google, and startups like Rigetti and IonQ are investing heavily in quantum research. Governments worldwide are also funding quantum initiatives, recognizing its strategic importance in science, defense, and cybersecurity.

In conclusion, while practical and scalable quantum computing may still be years away, it promises to reshape the future of technology. As the field progresses, it is likely to impact every sector that relies on complex data and computation, opening doors to innovations that were previously unimaginable.

Mrs.V.Lakshmi Chaitanya

Asst.Prof.

STUDENT ARTICLE

Generative AI: Transforming Creativity and Innovation

Generative Artificial Intelligence (Generative AI) refers to a branch of AI that focuses on creating new content — such as text, images, music, code, and videos — by learning from existing data. Unlike traditional AI systems that primarily classify or predict, generative models *generate* outputs that closely resemble human-created content.

At the heart of generative AI are advanced machine learning models such as Generative Adversarial Networks (GANs) and transformer-based models like OpenAI's GPT (Generative Pre-trained Transformer). These systems are trained on massive datasets and learn patterns, structures, and styles in order to produce realistic and original outputs.

Generative AI is already transforming many industries. In the creative arts, it helps generate music compositions, paintings, and even entire movie scripts. In business, it's used to write reports, automate customer responses, and design marketing content. In software development, AI tools can write code, detect bugs, and assist in testing. Educational tools powered by generative AI can personalize learning by creating quizzes, summaries, and interactive lessons on demand.

One of the most well-known examples is ChatGPT, which can converse, write essays, translate languages, and even solve complex problems. Similarly, image generation tools like DALL·E and Midjourney can create photorealistic images from text prompts, expanding the possibilities for designers and content creators.

However, the rise of generative AI also raises important ethical concerns. Issues such as misinformation, plagiarism, job displacement, and copyright violations must be carefully addressed. Deepfakes — realistic fake images or videos generated by AI — are one such example where generative AI can be misused.

In conclusion, generative AI is a powerful tool that is reshaping the boundaries of creativity, productivity, and innovation. As technology continues to advance, society must balance its vast potential with responsible use to ensure it benefits humanity as a whole.

RAMISETTY SOMESH
IV - CSE

DEPARTMENT CONDUCTED PROGRAMS

1) A One Day Faculty Development Program on "Innovative AI Tools for Academic Research and Writing"



The department of CSE Conducted a One Day FDP on "Innovative AI Tools for Academic Research and Writing" in association with IEEE RAS Student branch chapter-17901A on 3rd August 2024. Dr. Farooq Sunar Mahammad, HOD of CSE department acted as a Resource person for this program.

2)A One Day Faculty Development Program on "Sense Board"



The department of CSE Organized a One Day FDP on "Sense Board" in association with IEEE RAS Student branch chapter-17901A on 13th august 2024.Mr. Mahesh, Technical Person on Sense Board acted as a resource person for this program

3) INTRA INSTITUTIONAL STARTUP COMPETITION -IDEAFORGE- 2K24



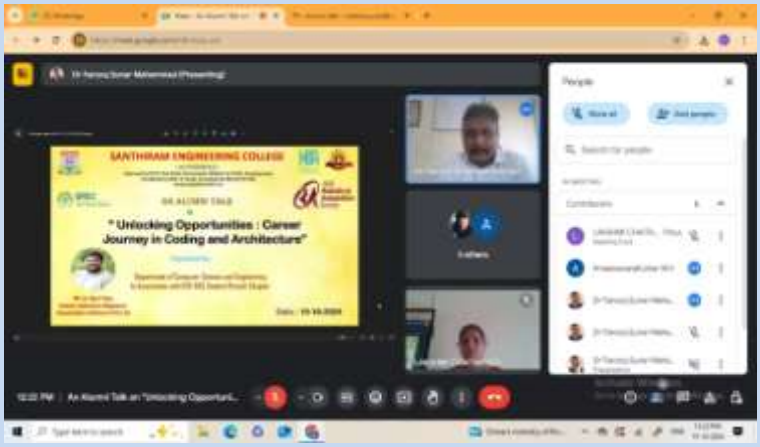
The department of CSE Organized "INTRA INSTITUTIONAL STARTUP COMPETITION -IDEAFORGE- 2K24" in association with Escort Tech Hub on 24.08.2024. This competition aimed to nurture and showcase the entrepreneurial talent within the institution, providing a platform for students to present innovative start up ideas.

4) Fresher's Party



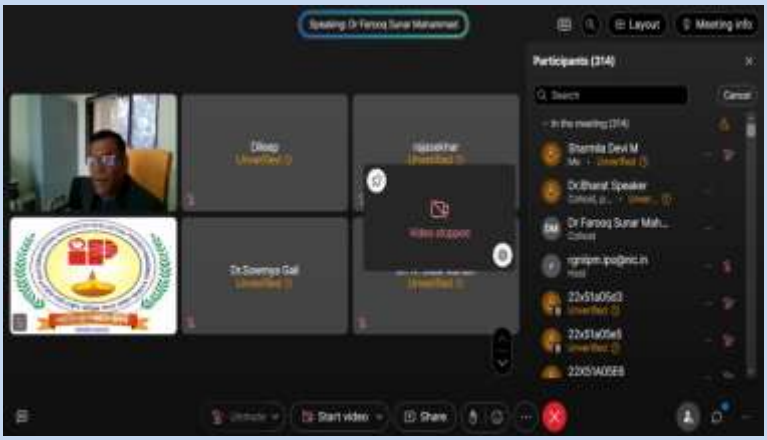
The department of CSE Organized a Fresher's party on 29-09-2024.

5) An Alumni Talk Program on "Unlocking Opportunities: Career Journey in Coding and Architecture"



The department of CSE conducted an Alumni Talk on "Unlocking Opportunities: Career Journey in Coding and Architecture" in association with IEEE RAS Student branch chapter-17901A on 15th October 2024. Mr.R.Ravi Teja, Senior Software Engineer, Inno minds Software Pvt Ltd acted as a resource person for this program

6) Online Workshop on "Intellectual Property Rights (IPR) & Patents and Design filing"



The department of CSE conducted an "Intellectual Property Rights (IPR) & Patents and Design filing" in association with IIC and IEEE RAS Student branch chapter-17901A on 17th December 2024. Dr. Bharat N Suryawanshi, Asst. Controller of Patents acted as a resource person for this program.

7) A Webinar on "The Importance of Innovations and the KAPILA Scheme"



The department of CSE conducted a webinar on "The Importance of Innovations and the KAPILA Scheme" in association with R&D and IPR and IIC cell, IEEE RAS Student branch chapter-17901A on 19th December 2024. Mr. Yogesh Brahmankar acted as a resource person for this program.

8) A National Level STTP on "JAVA FULL STACK WITH REACT JS &AI"



The department of CSE Conducted a National Level STTP on "JAVA FULL STACK WITH REACT JS &AI" from 02-12-2024 to 22-12-2024 in Virtual mode. Dr. Buddha Chandra Shekar chief coordinating Officer-AICTE acted as a resource person for this program.

STUDENT ACHIEVEMENTS

➢ Ms. G Sandya Rani (22X51A0542) has participated and **secured** 3rd position in Shot Put competition on event of National Sports Day held on 29-08-2024 organized by Santhiram Engineering College, Nandyal.

➢ Following students were Selected to All India inter University National Ball Badminton Championship & South zone Inter University National Soft Ball Championship

- Ms. Vadla Haseena(22X51A05F0)
- Ms. Talari Sreevani (22X51A05E5)

➢ Following students were participated in 9th A.P. State Junior Inter District Ball Badminton Championship organized by Visakhapatnam District Ball Badminton Association from 05-10-2024 to 07-10-2024.

- Mr. Pidathala Uday Kiran (23X51A05H0)
- Mr. N.Sharath Chandra Reddy(21X51A0587)

➢ Following students were selected for JNTUA Hand Ball South Zone University Championship organized by Pulivendula JNTU Engineering College on 15-11-2024.

- Mr. C. Srinivasa Reddy(21X51A0516)
- Ms. Vadla Husena(22X51A05F1)

➢ Following students were Participated in National Inter-College Crossword Expedition 2024 (NICE-24) SOUTH ZONE FINALS held on 16-07-2024 at IIT Madras.

- Ms. Nichenametla Harshitha (22X51A0595) Ms. Talari Sreevani (22X51A05E5)
- Ms. Ummadi Hemalatha (22X51A05E9)
- Ms. Seelam Subba Sahithi (22X51A05C3)
- Ms. Kuruva Sunitha (22X51A0572)

➢ The following students were participated in Umang-2K24(Anantapur Zonal Congress), organized by IEEE Hyderabad section students activities Committee in association with IEEE Anantha Puram sub-section at G Pulla Reddy Engineering College, Kurnool on 14-09-2024

- Mr.Besta Uma Maheswar (23X51A0522)
- Mr.Dudekula Chinna Jamalu (23X51A0550)
- Mr.Dudekula Sharmash (23X51A0554)
- Mr.Donthu Srinivas (23X51A0549)
- Mr.Dudekula Huzaifa (22X51A0528)
- Ms.Kasimsetty Anoosha (22X51A0555)
- Ms.Koppera Ruchitha (22X51A0562)
- Mr.Asadi Venkata Karthik(22X51A0506)
- Mr.Namala Sreenivasulu(22X51A05A0)
- Mr.P Somasekhar Reddy(22X51A05A3)
- Mr.D M Varun Tej(21X51A0520)
- Mr.Gadekari Jayasai Karthik(21X51A0530)

➢ Following students were participated in Section Student Congress 2024 on 19-10-2024 organized by Student Activities Committee of IEEE Hyderabad Section held at Osmania University, Hyderabad, Telangana.

- Ms.Ummadi Hemalatha (22X51A05E9)
- Ms.Nichenametla Harshitha (22X51A0595)
- Ms.Koppera Ruchitha (22X51A0562)
- Ms.Sugali Sai Sudha (22X51A05E1)

➢ 341 students were completed internship in Edu Skills Cohort 9.

Faculty Achievements

S.No	Name of the Faculty	Name of the Award/Recognition	Name of the organization wih detail	Date
1	M Sharmila Devi	Dodge ball Runners	Inter College Faculty & Staff Sports & Games Meet - 2K24	20.09.2024 & 21.09.2024
2	M Anusha	Dodge ball Runners	Inter College Faculty & Staff Sports & Games Meet - 2K24	20.09.2024 & 21.09.2024
3	M Anusha	3rd place in Women Relay 200m	Inter College Faculty & Staff Sports & Games Meet - 2K24	20.09.2024 & 21.09.2024
4	M Anusha	3rd place in Mixed Relay	Inter College Faculty & Staff Sports & Games Meet - 2K24	20.09.2024 & 21.09.2024
5	Dr.S.Md.Farooq	Appreciation - notable contribution as a MENTOR for the project Roof of love in IEEE YESIST12 2024 Grand Finale	Tunis Science City. Tunisia	07.09.2024 & 08.09.2024
6	M Anusha	Appreciation - notable contribution as a MENTOR for the project Roof of love in IEEE YESIST12 2024 Grand Finale	Tunis Science City. Tunisia	07.09.2024 & 08.09.2024
7	Dr.S.Md.Farooq	AD Scientific Indexing	AD Scientific Indexing	01.10.2024
8	Mrs V.Lakshmi Chaitanya	AD Scientific Indexing	AD Scientific Indexing	01.10.2024

FACULTY ATTENDED JOURNALS / CONFERENCES / WORKSHOPS/FDP/PATENTS

Patents

Sl. No.	Inventor(s) Name	Title of the Patent	Patent Application No.	Status of Patent (Published / Granted)	Patent Published/ Granted Date (DD.MM.YYYY)
1	S Md Farooq	IMPROVING ALZHEIMER''S DISEASE DIAGNOSIS WITHCONVOLUTIONAL NEURAL NETWORKS LEVERAGING ADVANCEDMAXPO	202441086596	Published	15.11.2024
2	V.Lakshmi Chaithanya	ENHANCING COLLEGE STUDENTS'' INFORMATION LITERACY:ANALYSING LEARNING BEHAVIOUR CHARACTERISTICS ANDPREDICTING LEARNING OUTCOMES USING XGBOOST AND MACHINELEARNING TECHNIQUES	202441086591	Published	15.11.2024
3	P Subba Rao	OPTIMIZING WILD BIRD SPECIES IDENTIFICATION: INTEGRATING ALIGHTWEIGHT MODEL WITH A HYBRID RANDOM	202441086595	Published	15.11.2024
4	M Sharmila Devi	MIGRATION OF VIRTUAL MACHINES (VMS) IN FEDERATED CLOUD TO OPTIMIZE PROFITS	202441086592	Published	22.11.2024
5	P Bhaskar	CLIENT SIDE PROTECTION AGAINST WEB SPOOFING ATTACKS WITHPHISH CATCHER:THE ADVANCED XGBOOST ALGORITHM	202441086587	Published	15.11.2024

FDP & Workshops

➢ Following faculty members were Participated in one week Faculty Development Program on “Machine Learning Algorithms and Exploratory data analysis” from 08.07.2024 to 13.07.2024 organized by Pantech e Learning Pvt. Ltd.

- Ms.S.Naziya Bhanu Assistant Professor
- Mrs.M.Anusha, Assistant Professor
- Mrs.M.Jayamma, Assistant Professor

➢ Following faculty members were attended in A One Day Faculty Development Program on “Innovative AI Tools For Academic Research and Writing” on 03-08-2024 organized by Department of Computer science & Engineering, Santhiram Engineering College

- Mrs. V.Lakshmi Chaitanya, Assistant Professor
- Mr.P,Bhaskar, Assistant Professor
- Mrs.M.Sharmila Devi, Assistant Professor
- Mr.M.Amareswara Kumar, Assistant Professor
- Mr.P.SubbaRao , Assistant Professor
- Mr.K.V.Saiphani, Assistant Professor
- Mrs.M.Anusha, Assistant Professor
- Ms.S.Naziya Bhanu, Assistant Professor
- Mrs.M.Jayamma, Assistant Professor
- Mrs.O.Bhulakshmi, Assistant Professor

➢ Following faculty members were attended in one-week AICTE Training and Learning (ATAL) Academy Faculty Development Program on “Cyber Security Essentials and Digital Forensics” from 09-12-2024 to 14-12-2024 organized by Srinivasa Ramanujan Institute of Technology

- Mrs. V.Lakshmi Chaitanya, Assistant Professor
- Mr.P,Bhaskar, Assistant Professor
- Mrs.M.Sharmila Devi, Assistant Professor
- Mr.M.Amareswara Kumar, Assistant Professor
- Mrs.M.Anusha, Assistant Professor

➢ Mr.P.Subbarao, Assistant Professor attended in one week AICTE Training and Learning (ATAL) Academy, Faculty Development Program on “Block chain - Enabled IoT Networks with AI-Driven Automation: Transforming Smart Ecosystems for a Decentralized Future” from 02-12-2024 to 07-12-2024 organized by Siddhartha Academy Of Higher Education Deemed To Be University- VRSE

➢ Mrs. V.Lakshmi Chaitanya, Assistant Professor completed 12 weeks **NPTEL** course on “Programming in Java” from July to October 2024.

➢ Mr.M.Amareswara Kumar, Assistant Professor completed 12 weeks **NPTEL** course on “Introduction to Internet of Things” from July to October 2024.

➢ Mrs.M.Anusha , Assistant Professor completed 12 weeks **NPTEL** course on “Cloud Computing” from July to October 2024.

➢ Mrs.M.Jayamma, Assistant Professor completed 12 weeks **NPTEL** course on “Cloud Computing” from July to October 2024.

➢ Ms.S.Naziya Bhanu Assistant Professor completed 12 weeks **NPTEL** course on “Cloud Computing” from July to October 2024.

➢ Mrs.O.Bhulakshmi, Assistant Professor completed 12 weeks **NPTEL** course on “Introduction to Internet of Things” from July to October 2024.

➢ Mr.M.Amareswara Kumar, Assistant Professor received IEEE membership

JOURNALS

➢ Following faculty members were published a technical paper in International Conference on Emerging Trends in Electronics and Communication Engineering - 2023, API Proceedings July-2024

- Dr. Farooq Sunar Mahammad, Professor entitled with "Key distribution scheme for preventing key reinstallation attack in wireless networks"
- Dr. Farooq Sunar Mahammad, Professor entitled with "Detecting Social Distancing By Using Detectron2 and Open CV"
- Dr. Farooq Sunar Mahammad, Professor entitled with "Fake review detection using machine learning"
- Mr.P.Bhaskar, Assistant Professor entitled with "Incorporating deep learning techniques to estimate the damage of cars during the accidents"
- Mrs. V.Lakshmi Chaitanya, Assistant Professor entitled with "Identification of traffic sign boards and voice assistance system for driving"
- Mr.M.Amareswara Kumar, Assistant Professor entitled with "Baby care warning system based on IoT and GSM to prevent leaving a child in a parked car"
- Mrs.M.Sharmila Devi, Assistant Professor entitled with "Rainfall prediction using machine learning"
- Mr.P.SubbaRao , Assistant Professor entitled with "Detecting malicious Twitter bots using machine learning"
- The Following Faculty Members were participated and presented technical papers 3rd International Conference on Optimization Techniques in the Field of Engineering (ICOFE-2024) organized by Department of Computer science & Engineering, K.S.R. College of Engineering, Namakkal, Tamila Nadu, India during 22nd & 23rd October, 2024.
- Mr.K.V.Saiphani, Assistant Professor presented a paper entitled "Implementation Of Efficient Data Collection And Dissemination Strategies In Ad Hoc Networks Using Cooperative Diversity Techniques".
- Ms.S.Naziya Bhanu Assistant Professor presented a paper entitled "Development Of Satellite Communication Using Integrated Metamaterials Antenna Arrays With Deep Learning Techniques In Ka-Band Frequency"

➢ Dr. Farooq Sunar Mahammad, Professor has presented the following papers at the 1st International conference on Power Energy and Secure Smart Technologies (ICPEST-2024) held during 13 & 14 December 2024 at Chaitanya Bharathi Institute of Technology, Hyderabad, India

- Titled with "Optimal Placement of Renewable Based DG and DSTATCOM in Distribution Systems to Alleviate the Effects of EVCS"
- Titled with "Optimization of Power Loss Mitigation in Distribution Systems Using Hunter-Prey Optimization Algorithm for Multiple Types of DFACTS"
- Titled with "SPWM Fed MLI (Multi-level Inverter) Configuration for Induction Motor Drive with Minimal Switch Count"

STUDENT'S VOICE

RAMISETTY SOMESH(21X51A0595),IV CSE



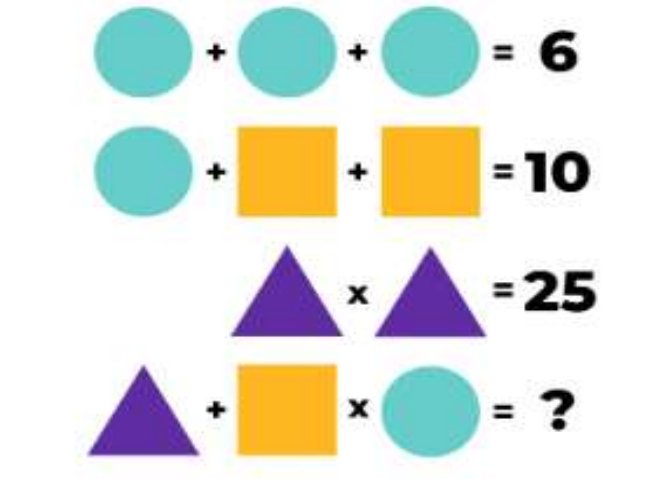
"My experience at this engineering college has been truly enriching. The college provides a perfect balance between academics and personal development. The modern laboratories and advanced equipment help us gain hands-on experience, and the faculty always motivates us to push our boundaries. The library is a treasure trove of knowledge with access to numerous journals and e-resources. The campus is student-friendly with good hostel, sports, and cafeteria facilities. I am grateful to be part of an institution that prioritizes both quality education and overall student well-being."

SOLVE IT

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2)



Thank you