



**SAMSKRUTI COLLEGE OF ENGINEERING AND TECHNOLOGY
(UGC – AUTONOMOUS)**

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade

Kondapur, Ghatkesar, Medchal-Malkajiri Dist., - 501 301



B.Tech - Computer Science and Engineering

Course Structure (SCET - R25)

Applicable From 2025-26 Admitted Batch

I YEAR I SEMESTER

| S. No. | Course Code | Course Name | Course Area | Periods per week | | | Credits | Scheme of Examination Maximum Marks | | |
|--------------|-------------|--|-------------|------------------|----------|----------|-----------|-------------------------------------|----------------|------------|
| | | | | L | T | P | | Internal (CIE) | External (SEE) | Total |
| 1 | 25MA101BS | Matrices and Calculus | BS | 3 | 1 | 0 | 4 | 40 | 60 | 100 |
| 2 | 25CH102BS | Engineering Chemistry | BS | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 3 | 25EN103HS | English for Skill Enhancement | HS | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 4 | 25EC104ES | Electronic Devices and Circuits | ES | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 5 | 25CS105ES | Programming for Problem Solving | ES | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 6 | 25CH106BS | Engineering Chemistry Laboratory | BS | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| 7 | 25CS107ES | Programming for Problem Solving Laboratory | ES | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| 8 | 25EN108HS | English Language and Communication Skills Laboratory | HS | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| 9 | 25ME109ES | Engineering Workshop | ES | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| 10 | | Induction Programme | | | | | | | | |
| TOTAL | | | | 15 | 1 | 8 | 20 | 360 | 540 | 900 |

I YEAR II SEMESTER

| S. No. | Course Code | Course Name | Course Area | Periods per week | | | Credits | Scheme of Examination Maximum Marks | | |
|--------------|-------------|---|-------------|------------------|----------|-----------|-----------|--|----------------|------------|
| | | | | L | T | P | | Internal (CIE) | External (SEE) | Total |
| 1 | 25MA201BS | Ordinary Differential Equations and Vector Calculus | BS | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 2 | 25PH202BS | Advanced Engineering Physics | BS | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 3 | 25ME203ES | Engineering Drawing and Computer Aided Drafting | ES | 2 | 0 | 2 | 3 | 40 | 60 | 100 |
| 4 | 25EE204ES | Basic Electrical Engineering | ES | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 5 | 25CS205ES | Data Structures | ES | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| 6 | 25PH206BS | Advanced Engineering Physics Laboratory | BS | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| 7 | 25CS207ES | Data Structures Lab | ES | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| 8 | 25CS208ES | Python Programming Laboratory | ES | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| 9 | 25EE209ES | Basic Electrical Engineering Lab | ES | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| 10 | 25CS210ES | IT Workshop | ES | 0 | 0 | 2 | 1 | 40 | 60 | 100 |
| TOTAL | | | | 14 | 0 | 12 | 20 | 360 | 540 | 900 |

II YEAR I SEMESTER

| S. No. | Course Code | Course Title | L | T | P | Credits |
|----------------------|-------------|--|-----------|----------|-----------|-----------|
| 1. | 25CS301PC | Discrete Mathematics | 3 | 0 | 0 | 3 |
| 2. | 25CS302PC | Computer Organization and Architecture | 3 | 0 | 0 | 3 |
| 3. | 25CS303PC | Object Oriented Programming through java | 3 | 0 | 0 | 3 |
| 4. | 25CS304PC | Software Engineering | 3 | 0 | 0 | 3 |
| 5. | 25CS305PC | Database Management Systems | 3 | 0 | 0 | 3 |
| 6. | 25MS306HS | Innovation and Entrepreneurship | 2 | 0 | 0 | 2 |
| 7. | 25CS307PC | Object Oriented Programming through java Lab | 0 | 0 | 2 | 1 |
| 8. | 25CS308PC | Software Engineering Lab | 0 | 0 | 2 | 1 |
| 9. | 25CS309PC | Database Management Systems Lab | 0 | 0 | 2 | 1 |
| 10. | 25CS310SD | Node Js/React JS/ Django | 0 | 0 | 2 | 1 |
| 11. | 25VA300ES | Environmental Science | 1 | 0 | 0 | 1 |
| Total Credits | | | 18 | 0 | 08 | 22 |

II YEAR II SEMESTER

| S. No. | Course Code | Course Title | L | T | P | Credits |
|----------------------|-------------|---|-----------|----------|-----------|-----------|
| 1. | 25MA401PC | Computer oriented Statistical Methods | 3 | 0 | 0 | 3 |
| 2. | 25CS402PC | Operating Systems | 3 | 0 | 0 | 3 |
| 3. | 25CS403PC | Algorithm design and Analysis | 3 | 0 | 0 | 3 |
| 4. | 25CS404PC | Computer Networks | 3 | 0 | 0 | 3 |
| 5. | 25CS405PC | Machine Learning | 3 | 0 | 0 | 3 |
| 6. | 25MA406PC | Computational Mathematics Lab | 0 | 0 | 2 | 1 |
| 7. | 25CS407PC | Operating Systems Lab | 0 | 0 | 2 | 1 |
| 8. | 25CS408PC | Computer Networks Lab | 0 | 0 | 2 | 1 |
| 9. | 25CS409PC | Machine Learning Lab | 0 | 0 | 2 | 1 |
| 10. | 25CS410SD | Data Visualization- R/ Python/ Power BI | 0 | 0 | 2 | 1 |
| Total Credits | | | 15 | 0 | 10 | 20 |

III YEAR I SEMESTER

| S. No. | Course Code | Course Title | L | T | P | Credits |
|----------------------|-------------|---|-----------|----------|-----------|-----------|
| 1. | 25CS501PC | Automata Theory and Compiler Design | 3 | 0 | 0 | 3 |
| 2. | 25CS502PC | Artificial Intelligence | 3 | 0 | 0 | 3 |
| 3. | 25CS503PC | DevOps | 3 | 0 | 0 | 3 |
| 4. | | Professional Elective-I | 3 | 0 | 0 | 3 |
| 5. | | Open Elective-I | 2 | 0 | 0 | 2 |
| 6. | 25CS504PC | Compiler Design Lab | 0 | 0 | 2 | 1 |
| 7. | 25CS505PC | Artificial Intelligence with Python Lab | 0 | 0 | 2 | 1 |
| 8. | 25CS506PC | DevOps Lab | 0 | 0 | 2 | 1 |
| 9. | 25CS507PC | Field-Based Research Project | 0 | 0 | 4 | 2 |
| 10. | 25CS508SD | UI Design – Flutter/ Android Studio | 0 | 0 | 2 | 1 |
| 11. | 25VA500HS | Indian Knowledge System | 1 | 0 | 0 | 1 |
| Total Credits | | | 15 | 0 | 12 | 21 |

III YEAR II SEMESTER

| S. No | Course Code | Course Title | L | T | P | Credits |
|----------------------|-------------|--|-----------|----------|-----------|-----------|
| 1. | 25CS601PC | Cryptography and Networks Security | 3 | 0 | 0 | 3 |
| 2. | 25CS602PC | Deep Learning | 3 | 0 | 0 | 3 |
| 3. | 25MS603HS | Business Economics and Financial Analysis | 3 | 0 | 0 | 3 |
| 4. | | Professional Elective-II | 3 | 0 | 0 | 3 |
| 5. | | Open Elective – II | 2 | 0 | 0 | 2 |
| 6. | 25CS604PC | Cryptography and Networks Security Lab | 0 | 0 | 2 | 1 |
| 7. | 25CS605PC | Deep Learning Lab | 0 | 0 | 2 | 1 |
| 8. | 25CS606PC | Advanced Data Structures using Python Lab | 0 | 0 | 2 | 1 |
| 9. | 25EN607HS | English for Employability Skills Lab | 0 | 0 | 2 | 1 |
| 10. | 25CS608SD | Prompt Engineering | 0 | 0 | 2 | 1 |
| 11. | 25VA600HS | Gender Sensitization*/ Human Values and Professional Ethics* | 1 | 0 | 0 | 0.5+0.5 |
| Total Credits | | | 15 | 0 | 10 | 20 |

***Note: For the courses Gender Sensitization and Human Values and Professional Ethics**

- one hour of instruction will be conducted on alternate weeks. For example, if a one-hour class for Gender Sensitization is conducted this week, then a one-hour class for Constitution of India will be conducted in the following week.

YEAR I SEMESTER

| S. No. | Course Code | Course Title | L | T | P | Credits |
|----------------------|-------------|--|-----------|----------|-----------|-----------|
| 1. | 25CS701PC | Natural Language Processing | 3 | 0 | 0 | 3 |
| 2. | 25CS702PC | Cyber Security | 3 | 0 | 0 | 3 |
| 3. | 25MS703HS | Fundamentals of Management | 3 | 0 | 0 | 3 |
| 4. | | Professional Elective-III | 3 | 0 | 0 | 3 |
| 5. | | Professional Elective – IV | 3 | 0 | 0 | 3 |
| 6. | | Open Elective – III | 2 | 0 | 0 | 2 |
| 7. | 25CS704PC | Natural Language Processing Lab | 0 | 0 | 2 | 1 |
| 8. | 25CS705PC | Cyber Security Lab | 0 | 0 | 2 | 1 |
| 9. | 25CS706PC | Industry Oriented Mini Project/ Internship | 0 | 0 | 4 | 2 |
| Total Credits | | | 17 | 0 | 08 | 21 |

IV YEAR II SEMESTER

| S. No. | Course Code | Course Title | L | T | P | Credits |
|----------------------|-------------|----------------------------|----------|----------|-----------|-----------|
| 1. | | Professional Elective – V | 3 | 0 | 0 | 3 |
| 2. | | Professional Elective – VI | 3 | 0 | 0 | 3 |
| 3. | 25CS801PC | Project Work | 0 | 0 | 42 | 14 |
| Total Credits | | | 6 | 0 | 42 | 20 |

PROFESSIONAL ELECTIVES

Professional Elective - I

| | |
|-----------|------------------------------|
| 25CS511PE | Computer Graphics |
| 25CS512PE | Introduction to Data Science |

| | |
|-----------|--------------------------------|
| 25CS513PE | Software Testing Methodologies |
| 25CS514PE | Data Mining |
| 25CS515PE | Web Programming |
| 25CS516PE | Distributed Systems |

Professional Elective - II

| | |
|-----------|-----------------------------|
| 25CS621PE | Image Processing |
| 25CS622PE | Blockchain Technology |
| 25CS623PE | Software Project Management |
| 25CS624PE | Mining Massive Datasets |
| 25CS625PE | Full Stack Development |
| 25CS626PE | Generative AI |

Professional Elective - III

| | |
|-----------|---------------------------------------|
| 25CS731PE | Computer Vision |
| 25CS732PE | Scripting Languages |
| 25CS733PE | Vulnerability and Penetration Testing |
| 25CS734PE | Data Stream Mining |
| 25CS735PE | Cloud Computing |
| 25CS736PE | Information Retrieval Systems |

Professional Elective - IV

| | |
|-----------|-------------------------------------|
| 25CS731PE | Augmented Reality & Virtual Reality |
| 25CS732PE | Agile Methodology |
| 25CS733PE | Big Data Analytics |
| 25CS734PE | Quantum Computing |
| 25CS735PE | Robotic Process Automation |
| 25CS736PE | Cyber Forensics |

Professional Elective - V

| | |
|-----------|---------------------------|
| 25CS731PE | Social Media Mining |
| 25CS732PE | Nature Inspired Computing |
| 25CS733PE | Internet of Things |

| | |
|-----------|--------------------------------|
| 25CS734PE | Game Theory |
| 25CS735PE | Mobile Application Development |
| 25CS736PE | Human Computer Interaction |

Professional Elective - VI

| | |
|-----------|----------------------------|
| 25CS731PE | High Performance Computing |
| 25CS732PE | Edge Computing |
| 25CS733PE | Graph Theory |
| 25CS734PE | Adhoc and Sensor Networks |
| 25CS735PE | Sustainable Engineering |
| 25CS736PE | Distributed Databases |

OPEN ELECTIVES

Open Elective -1:

1. 25CS511OE: Operating Systems
2. 25CS512OE: Database Management Systems

Open Elective -2:

1. 25CS621OE: Introduction to Computer Networks
2. 25CS622OE: Software Engineering

Open Elective -3:

1. 25CS731OE: Algorithms Design and Analysis
2. 25CS732OE: Fundamentals of Cyber Security