

COURSE STRUCTURE

I Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|------|----|-----------|
| 1 | English – I | 3+1* | -- | 3 |
| 2 | Mathematics - I | 3+1* | -- | 3 |
| 3 | Engineering Chemistry | 3+1* | -- | 3 |
| 4 | Engineering Mechanics | 3+1* | -- | 3 |
| 5 | Environmental Studies | 3+1* | -- | 3 |
| 6 | Computer Programming | 3+1* | -- | 3 |
| 7 | Engineering Chemistry Laboratory | -- | 3 | 2 |
| 8 | English – Communication Skills Lab - I | -- | 3 | 2 |
| 9 | C Programming Lab | -- | 3 | 2 |
| Total Credits | | | | 24 |

I Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|------|----|-----------|
| 1 | English - II | 3+1* | -- | 3 |
| 2 | Mathematics – II (Mathematical Methods) | 3+1* | -- | 3 |
| 3 | Mathematics – III | 3+1* | -- | 3 |
| 4 | Engineering Physics | 3+1* | -- | 3 |
| 5 | Professional Ethics and Human Values | 3+1* | -- | 3 |
| 6 | Engineering Drawing | 1 | 3 | 3 |
| 7 | English-Communication Skills Lab - II | -- | 3 | 2 |
| 8 | Engineering Physics Laboratory | -- | 3 | 2 |
| 9 | Engineering Physics – Virtual Labs - Assignments | -- | 2 | -- |
| 10 | Engineering Workshop & IT Workshop | -- | 3 | 2 |
| Total Credits | | | | 24 |

II Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--------------------------------------|------|----|-----------|
| 1 | Electrical & Electronics Engineering | 3+1* | -- | 3 |
| 2 | Probability & Statistics | 3+1* | -- | 3 |
| 3 | Strength of Materials-I | 3+1* | -- | 3 |
| 4 | Building Materials and Construction | 3+1* | -- | 3 |
| 5 | Surveying | 3+1* | -- | 3 |
| 6 | Fluid Mechanics | 3+1* | -- | 3 |
| 7 | Surveying Field work-I | -- | 3 | 2 |
| 8 | Strength of Materials Lab | -- | 3 | 2 |
| Total Credits | | | | 22 |

II Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|---|------|----|-----------|
| 1 | Building Planning & Drawing | 3+1* | -- | 3 |
| 2 | Managerial Economics and Financial Analysis | 3+1* | -- | 3 |
| 3 | Strength of Materials- II | 3+1* | -- | 3 |
| 4 | Hydraulics and Hydraulic Machinery | 3+1* | -- | 3 |
| 5 | Concrete Technology | 3+1* | -- | 3 |
| 6 | Structural Analysis - I | 3+1* | -- | 3 |
| 7 | Fluid Mechanics and Hydraulic Machinery Lab | -- | 3 | 2 |
| 8 | Concrete Technology Lab | -- | 3 | 2 |
| 9 | Surveying Field work-II | -- | 3 | 2 |
| Total Credits | | | | 24 |

III Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|------|----|-----------|
| 1 | Engineering Geology | 3+1* | -- | 3 |
| 2 | Structural Analysis – II | 3+1* | -- | 3 |
| 3 | Design and Drawing of Reinforced Concrete Structures | 3+1* | -- | 3 |
| 4 | Geotechnical Engineering – I | 3+1* | -- | 3 |
| 5 | Transportation Engineering – I | 3+1* | -- | 3 |
| 6 | IPR & Patents | 3+1* | -- | 2 |
| 7 | Geotechnical Engineering Lab | -- | 3 | 2 |
| 8 | Engineering Geology Lab | -- | 3 | 2 |
| Total Credits | | | | 21 |

III Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|------|----|-----------|
| 1 | Design and Drawing of Steel Structures | 3+1* | -- | 3 |
| 2 | Geotechnical Engineering – II | 3+1* | -- | 3 |
| 3 | Water Resources Engineering-I | 3+1* | -- | 3 |
| 4 | Environmental Engineering – I | 3+1* | -- | 3 |
| 5 | Transportation Engineering – II | 3+1* | -- | 3 |
| 6 | OPEN ELECTIVE | 3+1* | -- | 3 |
| 7 | Computer Aided Engineering Drawing | -- | 3 | 2 |
| 8 | Transportation Engineering Lab | -- | 3 | 2 |
| Total Credits | | | | 22 |

IV Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|------|----|-----------|
| 1 | Environmental Engineering – II | 3+1* | -- | 3 |
| 2 | Prestressed Concrete | 3+1* | -- | 3 |
| 3 | Construction Technology and Management | 3+1* | -- | 3 |
| 4 | Water Resources Engineering–II | 3+1* | -- | 3 |
| 5 | Remote Sensing and GIS Applications | 3+1* | -- | 3 |
| 6 | ELECTIVE - I | 3+1* | -- | 3 |
| 7 | Environmental Engineering Lab | -- | 3 | 2 |
| 8 | GIS & CAD Lab | -- | 3 | 2 |
| Total Credits | | | | 22 |

IV Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|------|----|-----------|
| 1 | Estimating, Specifications & Contracts | 3+1* | -- | 3 |
| 2 | ELECTIVE – II | 3+1* | -- | 3 |
| 3 | ELECTIVE – III | 3+1* | -- | 3 |
| 4 | ELECTIVE – IV | 3+1* | -- | 3 |
| 5 | Project Work | | | 9 |
| Total Credits | | | | 21 |

OPEN ELECTIVE:

- a) Environmental Pollution and Control
- b) Disaster Management
- c) Industrial Water & Waste Water Management
- d) Architecture and Town Planning
- e) Finite Element Method
- f) Green Technologies

Elective-I:

- a) Ground Improvement Techniques
- b) Air Pollution and Control
- c) Matrix methods of Structural Analysis
- d) Urban Hydrology
- e) Advanced Surveying
- f) Interior Designs and Decorations

Elective-II:

- a. Engineering with Geo-synthetics
- b. Environmental Impact Assessment and Management
- c. Advanced Structural Engineering
- d. Ground Water Development and Management
- e. Traffic Engineering
- f. Infrastructure Management

Elective-III:

- a) Advanced foundation Engineering
- b) Solid waste Management
- c) Earthquake Resistant Design
- d) Water Shed Management
- e) Pavement Analysis and Design
- f) Green Buildings

Elective-IV:

- a) Soil Dynamics and Machine Foundations
- b) Environmental and Industrial Hygiene
- c) Repair and Rehabilitation of Structures
- d) Water Resources System Planning and Management
- e) Urban Transportation Planning
- f) Safety Engineering
- g) Bridge Engineering

ACADEMIC REGULATIONS COURSE STRUCTURE AND DETAILED SYLLABUS

**COMPUTER
SCIENCE AND
ENGINEERING**

For

COMPUTER SCIENCE AND ENGINEERING FOUR DEGREE COURSE

(Applicable for batches admitted from 2013-2014)



COURSE STRUCTURE

I Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|-----|----|-----------|
| 1 | English – I | 3+1 | -- | 3 |
| 2 | Mathematics - I | 3+1 | -- | 3 |
| 3 | Engineering Chemistry | 3+1 | -- | 3 |
| 4 | Engineering Mechanics | 3+1 | -- | 3 |
| 5 | Computer Programming | 3+1 | -- | 3 |
| 6 | Environmental Studies | 3+1 | -- | 3 |
| 7 | Engineering Chemistry Laboratory | -- | 3 | 2 |
| 8 | English - Communication Skills Lab - I | -- | 3 | 2 |
| 9 | C Programming Lab | -- | 3 | 2 |
| Total Credits | | | | 24 |

I Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|-----|----|-----------|
| 1 | English – II | 3+1 | -- | 3 |
| 2 | Mathematics – II (Mathematical Methods) | 3+1 | -- | 3 |
| 3 | Mathematics – III | 3+1 | -- | 3 |
| 4 | Engineering Physics | 3+1 | -- | 3 |
| 5 | Professional Ethics and Human Values | 3+1 | -- | 3 |
| 6 | Engineering Drawing | 3+1 | -- | 3 |
| 7 | English - Communication Skills Lab - II | -- | 3 | 2 |
| 8 | Engineering Physics Lab | -- | 3 | 2 |
| 9 | Engineering Physics – Virtual Labs - Assignments | -- | 2 | -- |
| 10 | Engg. Workshop & IT Workshop | -- | 3 | 2 |
| Total Credits | | | | 24 |

II Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|----|----|-----------|
| 1 | Managerial Economics and Financial Analysis | 4 | -- | 3 |
| 2 | Object Oriented Programming through C++ | 4 | -- | 3 |
| 3 | Mathematical Foundations of Computer Science | 4 | -- | 3 |
| 4 | Digital Logic Design | 4 | -- | 3 |
| 5 | Data Structures | 4 | -- | 3 |
| 6 | Object Oriented Programming Lab | -- | 3 | 2 |
| 7 | Data Structures Lab | -- | 3 | 2 |
| 8 | Digital Logic Design Lab | -- | 3 | 2 |
| 9 | Seminar | -- | -- | 1 |
| Total Credits | | | | 22 |

II Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--------------------------------------|----|----|-----------|
| 1 | Probability and statistics | 4 | -- | 3 |
| 2 | Java Programming | 4 | -- | 3 |
| 3 | Advanced Data Structures | 4 | -- | 3 |
| 4 | Computer Organization | 4 | -- | 3 |
| 5 | Formal Languages and Automata Theory | 4 | -- | 3 |
| 6 | Advanced Data Structures Lab | -- | 3 | 2 |
| 7 | Java Programming Lab | -- | 3 | 2 |
| 8 | Free Open Source Software(FOSS) Lab | -- | 3 | 2 |
| Total Credits | | | | 21 |

III Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|-------------------------------------|----|----|-----------|
| 1 | Compiler Design | 4 | - | 3 |
| 2 | Data Communication | 4 | - | 3 |
| 3 | Principles of Programming Languages | 4 | - | 3 |
| 4 | Database Management Systems | 4 | - | 3 |
| 5 | Operating Systems | 4 | - | 3 |
| 6 | Compiler Design Lab | - | 3 | 2 |
| 7 | Operating System Lab | - | 3 | 2 |
| 8 | Database Management Systems Lab | | 3 | 2 |
| 9 | Linux Programming Lab | - | 3 | 2 |
| 10 | IPR and Patents- 1 | 2 | - | - |
| 11 | Seminar | -- | -- | 1 |
| Total Credits | | | | 24 |

III Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|-----------------------------------|---|----|-----------|
| 1 | Computer Networks | 4 | - | 3 |
| 2 | Data Ware housing and Mining | 4 | - | 3 |
| 3 | Design and Analysis of Algorithms | 4 | - | 3 |
| 4 | Software Engineering | 4 | - | 3 |
| 5 | Web Technologies | 4 | - | 3 |
| 6 | Computer Networks Lab | - | 3 | 2 |
| 7 | Software Engineering Lab | - | 3 | 2 |
| 8 | Web Technologies Lab | - | 3 | 2 |
| 9 | IPR and Patents- II | 2 | -- | -- |
| Total Credits | | | | 21 |

IV Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|--------|------------------------------------|---|---|---------|
| 1 | Cryptography and Network Security | 4 | - | 3 |
| 2 | UML & Design Patterns | 4 | - | 3 |
| 3 | Mobile Computing | 4 | - | 3 |
| 4 | Elective –I | 4 | - | 3 |
| 5 | Elective – II | 4 | - | 3 |
| 6 | UML & Design Patterns Lab | - | 3 | 2 |
| 7 | Mobile Application Development Lab | - | 3 | 2 |

| | | | | |
|----------------------|----------------------|---|---|-----------|
| 8 | Software Testing Lab | - | 3 | 2 |
| 9 | Hadoop & BigData Lab | - | 3 | 2 |
| Total Credits | | | | 23 |

IV Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|-----------------------|---|---|-----------|
| 1 | Elective – III | 4 | - | 3 |
| 2 | Elective – IV | 4 | - | 3 |
| 3 | Distributed Systems | 4 | - | 3 |
| 4 | Management Science | 4 | - | 3 |
| 5 | Project | - | - | 9 |
| Total Credits | | | | 21 |

Elective – I:

- i) Software Testing Methodologies
- ii) Simulation Modeling
- iii) Information Retrieval Systems
- iv) Artificial Intelligence
- v) Multimedia Computing
- vi) High Performance Computing

Elective – II:

- i. Digital Forensics
- ii. Hadoop and Big Data
- iii. Software Project Management
- iv. Machine Learning
- v. Advanced Databases

Elective – III:

- i) Human Computer Interaction
- ii) Advanced Operating Systems
- iii) Mobile Adhoc & Sensor Networks
- iv) Pattern Recognition
- v) Digital Image Processing
- vi) Micro processors and Multi Core Systems

Elective-IV:

- i) Embedded and Real Time Systems
- ii) Neural Networks & Soft Computing
- iii) Social Networks and the Semantic Web
- iv) Cloud Computing

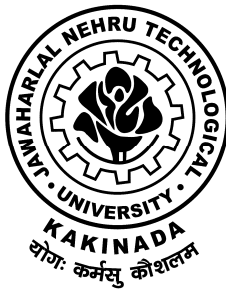
**ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS**

**ELECTRONICS &
COMMUNICATION
ENGINEERING**

For

B.Tech., FOUR YEAR DEGREE COURSE

(Applicable for the batches admitted from 2013-14)



**JAWAHARLAL NEHRU TECHNOLOGICAL
UNIVERSITY KAKINADA
KAKINADA – 533003, ANDHRA PRADESH, INDIA.**

COURSE STRUCTURE

I Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|-----|----|-----------|
| 1 | English – I | 3 | -- | 3 |
| 2 | Mathematics - I | 3+1 | -- | 3 |
| 3 | Mathematics – II (Mathematical Methods) | 3+1 | -- | 3 |
| 4 | Engineering Physics | 3+1 | -- | 3 |
| 5 | Professional Ethics and Human Values | 3+1 | -- | 3 |
| 6 | Engineering Drawing | 1+3 | -- | 3 |
| 7 | English - Communication Skills Lab -1 | -- | 3 | 2 |
| 8 | Engineering Physics Laboratory | -- | 3 | 2 |
| 9 | Engineering Physics – Virtual Labs - Assignments | -- | 2 | -- |
| 10 | Engineering Workshop& IT Workshop | -- | 3 | 2 |
| Total Credits | | | | 24 |

I Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|---------------------------------------|-----|----|-----------|
| 1 | English – II | 3 | -- | 3 |
| 2 | Mathematics – III | 3+1 | -- | 3 |
| 3 | Engineering Chemistry | 3+1 | -- | 3 |
| 4 | Engineering Mechanics | 3+1 | -- | 3 |
| 5 | Computer Programming | 3+1 | -- | 3 |
| 6 | Network Analysis | 3+1 | -- | 3 |
| 7 | Engineering Chemistry Laboratory | -- | 3 | 2 |
| 8 | English - Communication Skills Lab -2 | -- | 3 | 2 |
| 9 | Computer Programming Lab | -- | 3 | 2 |
| Total Credits | | | | 24 |

II Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|---|-----|----|-----------|
| 1 | Managerial Economics and Financial Analysis | 3+1 | -- | 3 |
| 2 | Electronic Devices and Circuits | 3+1 | -- | 3 |
| 3 | Data Structures | 3+1 | -- | 3 |
| 4 | Environmental Studies | 3 | -- | 3 |
| 5 | Signals & Systems | 3+1 | -- | 3 |
| 6 | Electrical Technology | 3+1 | -- | 3 |
| 7 | Electronic Devices and Circuits Lab | -- | 3 | 2 |
| 8 | Networks & Electrical Technology Lab | -- | 3 | 2 |
| Total Credits | | | | 22 |

II Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|---|-----|----|-----------|
| 1 | Electronic Circuit Analysis | 3+1 | -- | 3 |
| 2 | Management Science | 3+1 | -- | 3 |
| 3 | Random Variables & Stochastic Processes | 3+1 | -- | 3 |
| 4 | Switching Theory & Logic Design | 3+1 | -- | 3 |
| 5 | EM Waves and Transmission Lines | 3+1 | -- | 3 |
| 6 | Analog Communications | 3+1 | -- | 3 |
| 7 | Electronic Circuit Analysis Lab | -- | 3 | 2 |
| 8 | Analog Communications Lab | -- | 3 | 2 |
| Total Credits | | | | 22 |

III Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|---|-----|---|-----------|
| 1 | Pulse & Digital Circuits | 3+1 | - | 3 |
| 2 | Linear IC Applications | 3+1 | - | 3 |
| 3 | Control Systems | 3+1 | - | 3 |
| 4 | Digital System Design & Digital IC Applications | 3+1 | - | 3 |
| 5 | Antennas and Wave Propagation | 3+1 | - | 3 |
| 6 | Pulse & Digital Circuits Lab | | 3 | 2 |
| 7 | LIC Applications Lab | - | 3 | 2 |
| 8 | Digital System Design & DICA Lab | | 3 | 2 |
| 9 | IPR& Patents | 3 | | 2 |
| Total Credits | | | | 23 |

III Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|-----|---|-----------|
| 1 | Microprocessors and Microcontrollers | 3+1 | - | 3 |
| 2 | Digital Signal Processing | 3+1 | - | 3 |
| 3 | Digital Communications | 3+1 | - | 3 |
| 4 | Microwave Engineering | 3+1 | - | 3 |
| 5 | Open Elective | 3+1 | - | 3 |
| 6 | Microprocessors and Microcontrollers Lab | - | 3 | 2 |
| 7 | Digital Communications Lab | - | 3 | 2 |
| 8 | Digital Signal Processing Lab | | 3 | 2 |
| 9 | Seminar | | 2 | 1 |
| Total Credits | | | | 22 |

IV Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|-----|---|-----------|
| 1 | VLSI Design | 3+1 | - | 3 |
| 2 | Computer Networks | 3+1 | - | 3 |
| 3 | Digital Image Processing | 3+1 | - | 3 |
| 4 | Computer Architecture & Organization | 3+1 | - | 3 |
| 5 | Elective – I 1. Electronic Switching Systems 2. Analog IC Design 3. Object Oriented Programming & O S 4. Radar Systems 5. Advanced Computer Architecture | 3+1 | - | 3 |
| 6 | Elective – II 1. Optical Communication 2. Digital IC Design 3. Speech Processing 4. Artificial Neural Network & Fuzzy Logic 5. Network Security & Cryptography | 3+1 | - | 3 |
| 7 | V L S I Lab | - | 3 | 2 |
| 8 | Microwave Engineering Lab | - | 3 | 2 |
| Total Credits | | | | 22 |

IV Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|---|-----|---|-----------|
| 1 | Cellular Mobile Communication | 3+1 | | 3 |
| 2 | Electronic Measurements and Instrumentation | 3+1 | | 3 |
| 3 | Elective III 1. Satellite Communication 2. Mixed signal Design 3. Embedded systems 4. RF Circuit Design 5. Cloud Computing | 3+1 | | 3 |
| 4 | Elective IV 1. Wireless Sensors and Networks 2. System on Chip 3. Low Power IC Design 4. Bio-Medical Instrumentation 5. EMI/EMC | 3+1 | | 3 |
| 5 | Project & Seminar | | | 9 |
| Total Credits | | | | 21 |

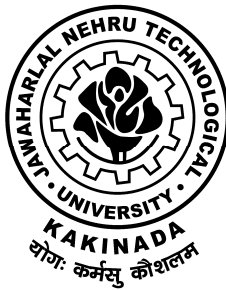
**ACADEMIC REGULATIONS
COURSE STRUCTURE
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DETAILED SYLLABUS**

**ELECTRICAL AND
ELECTRONICS
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For

B.Tech., FOUR YEAR DEGREE COURSE

(Applicable for the batches admitted from 2013-14)



**JAWAHARLAL NEHRU TECHNOLOGICAL
UNIVERSITY KAKINADA
KAKINADA – 533003, ANDHRA PRADESH, INDIA.**

COURSE STRUCTURE

I Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|-----|----|-----------|
| 1 | English - I | 3+1 | -- | 3 |
| 2 | Mathematics - I | 3+1 | -- | 3 |
| 3 | Mathematics – II (Mathematical Methods) | 3+1 | -- | 3 |
| 4 | Engineering Physics | 3+1 | -- | 3 |
| 5 | Professional Ethics and Human Values | 3+1 | -- | 3 |
| 6 | Engineering Drawing | 3+1 | -- | 3 |
| 7 | English – Communication Skills Lab - I | -- | 3 | 2 |
| 8 | Engineering Physics Laboratory | -- | 3 | 2 |
| 9 | Engineering Physics – Virtual Labs - Assignments | -- | 2 | -- |
| 10 | Engineering Workshop & IT Workshop | -- | 3 | 2 |
| Total Credits | | | | 24 |

I Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|---|-----|----|-----------|
| 1 | English – II | 3+1 | -- | 3 |
| 2 | Mathematics – III | 3+1 | -- | 3 |
| 3 | Engineering Chemistry | 3+1 | -- | 3 |
| 4 | Engineering Mechanics | 3+1 | -- | 3 |
| 5 | Electrical Circuit Analysis - I | 3+1 | -- | 3 |
| 6 | Computer Programming | 3+1 | -- | 3 |
| 7 | Engineering Chemistry Lab | -- | 3 | 2 |
| 8 | English – Communication Skills Lab - II | -- | 3 | 2 |
| 9 | C Programming lab | -- | 3 | 2 |
| Total Credits | | | | 24 |

II Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|--------|--------------------------------|-----|----|---------|
| 1 | Electrical Circuit Analysis-II | 3+1 | -- | 3 |
| 2 | Thermal and Hydro Prime movers | 3+1 | -- | 3 |
| 3 | Basic Electronics And Devices | 3+1 | -- | 3 |

| | | | | |
|----------------------|---|-----|----|-----------|
| 4 | Complex Variables and Statistical Methods | 3+1 | -- | 3 |
| 5 | Electro Magnetic Fields | 3+1 | -- | 3 |
| 6 | Electrical Machines-I | 3+1 | -- | 3 |
| 7 | Thermal and Hydro Lab | -- | 3 | 2 |
| 8 | Electrical Circuits Lab | -- | 3 | 2 |
| Total Credits | | | | 22 |

II Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|-----------------------------------|-----|----|-----------|
| 1 | Environmental studies | 3+1 | -- | 3 |
| 2 | Switching Theory and Logic Design | 3+1 | -- | 3 |
| 3 | Pulse & Digital Circuits | 3+1 | -- | 3 |
| 4 | Power Systems-I | 3+1 | -- | 3 |
| 5 | Electrical Machines-II | 3+1 | -- | 3 |
| 6 | Control Systems | 3+1 | -- | 3 |
| 7 | Electrical Machines -I Lab | -- | 3 | 2 |
| 8 | Electronic Devices & Circuits Lab | -- | 3 | 2 |
| Total Credits | | | | 22 |

III Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|---|-----|----|-----------|
| 1 | Managerial Economics and Financial Analysis | 3+1 | -- | 3 |
| 2 | Electrical Measurements | 3+1 | -- | 3 |
| 3 | Power Systems-II | 3+1 | -- | 3 |
| 4 | Electrical Machines-III | 3+1 | -- | 3 |
| 5 | Power Electronics | 3+1 | -- | 3 |
| 6 | Linear & Digital IC Applications | 3+1 | -- | 3 |
| 7 | Electrical Machines-II Lab | -- | 3 | 2 |
| 8 | Control Systems Lab | -- | 3 | 2 |
| 9 | IPR & Patents | 3+1 | | 2 |
| Total Credits | | | | 24 |

III Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|--------|---------------------------|-----|----|---------|
| 1 | Switchgear and Protection | 3+1 | -- | 3 |

| | | | | |
|----------------------|------------------------------------|-----|----|-----------|
| 2 | Microprocessors & Microcontrollers | 3+1 | -- | 3 |
| 3 | Utilization of Electrical Energy | 3+1 | -- | 3 |
| 4 | Power System Analysis | 3+1 | -- | 3 |
| 5 | Power Semiconductor Drives | 3+1 | -- | 3 |
| 6 | Management Science | 3+1 | -- | 3 |
| 7 | Power Electronics Lab | -- | 3 | 2 |
| 8 | Electrical Measurements Lab | -- | 3 | 2 |
| Total Credits | | | | 22 |

IV Year – I SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|--|-----|---|-----------|
| 1 | Renewable Energy Sources and Systems | 3+1 | - | 3 |
| 2 | HVAC & DC Transmission | 3+1 | - | 3 |
| 3 | Power System Operation & Control | 3+1 | - | 3 |
| 4 | Open Elective | 3+1 | - | 3 |
| 5 | Elective – I | 3+1 | - | 3 |
| 6 | Microprocessors & Microcontrollers Lab | - | 3 | 2 |
| 7 | Electrical Simulation Lab | - | 3 | 2 |
| 8 | Power systems lab | | 3 | 2 |
| Total Credits | | | | 21 |

IV Year – II SEMESTER

| S. No. | Subject | T | P | Credits |
|----------------------|-------------------------|-----|---|-----------|
| 1 | Digital Control Systems | 3+1 | - | 3 |
| 2 | Elective – II | 3+1 | - | 3 |
| 3 | Elective – III | 3+1 | - | 3 |
| 4 | Elective – IV | 3+1 | - | 3 |
| 5 | Project | - | - | 9 |
| Total Credits | | | | 21 |

Open Elective:

1. Energy Audit, Conservation and Management
2. Instrumentation
3. Non Conventional Sources of Energy
4. Optimization Techniques

Elective – I:

1. VLSI Design
2. Electrical Distribution Systems
3. Optimization Techniques

Elective – II:

1. Advanced Control Systems
2. Extra High Voltage Transmission
3. Special Electrical Machines

Elective – III:

1. Electric Power Quality
2. Digital Signal Processing
3. FACTS: Flexible Alternating Current Transmission Systems.

Elective-IV:

1. OOPS Through Java
2. UNIX and Shell Programming
3. AI Techniques
4. Power System Reforms
5. Systems Engineering