

WELCOME, FIRST-YEAR STUDENTS

Department of Electronics & Telecommunication Engineering

A first look at the courses, evaluation schemes, learning outcomes, and applications across Semester I & II

7
COURSES

2
SEMESTERS

Courses Offered Semester-I

3 courses to build your foundation

SEMESTER I

1.Elements of Electronics Engineering. **EEE**

Engineering Science Course · ES-I

(Compulsory)

3 credits

2. Applied Electronics and IoT. **AEIoT**

Engineering Science Course · ES-II

(Choice Based)

3 credits

3. Digital Logic Design. **DLD**

Engineering Science Course · ES-III

(Choice Based)

3 credits

Elements of Electronics Engineering

3

credits

ES - I (Compulsory) Offered in Semester I

TEACHING SCHEME

L-2

T-0

P-2

S-1

EVALUATION SCHEME

THEORY

MSE 30

TA 20

ESE 50

LAB

CIE 50

ESE 50



KEY LEARNING

- Introduction to Semiconductors
- Functions of Semiconductor Diodes
- Construction and functions of Junction Transistors
- Fundamentals of Digital Electronics



IMPORTANCE

- Blends device characterization with gate-level logic design
- Reflects the twin analog–digital nature central to the E&TC program



APPLICATION AREAS

- Analog circuits
- Digital system design
- VLSI
- Embedded systems

ES – II Choice Based Offered in Semester I & II

TEACHING SCHEME

L-3

T-0

P-0

S-1

EVALUATION SCHEME

THEORY

MSE 30

TA 20

ESE 50



KEY LEARNING

- Diodes and Applications
- Transistor Circuits and IC 555 Applications
- Operational Amplifiers and Applications
- Digital Electronics Fundamentals
- Communication Systems and Protocols
- Microcontrollers, IoT and Emerging Trends



IMPORTANCE

- Broad, application-oriented grounding in electronics extending into IoT architecture
- Covers emerging trends such as Industry 4.0, Digital Twin and Edge AI
- Builds practical, multidisciplinary competence in applied electronics and connected devices



APPLICATION AREAS

- Embedded Systems
- IoT Applications
- Communication Systems

ES – III Choice Based Offered in Semester I

TEACHING SCHEME

L-2

T-0

P-2

S-1

EVALUATION SCHEME

THEORY

MSE 30

TA 20

ESE 50

LAB

CIE 50

ESE 50



KEY LEARNING

- Boolean Algebra and Number Systems
- Combinational Logic Circuits
- Sequential Logic Circuits
- Counter ICs and Shift Registers



IMPORTANCE

- Develops the ability to represent, simplify and implement digital logic
- Hands-on IC-based design and simulation work
- Builds foundational digital-design skills across many engineering domains



APPLICATION AREAS

- Digital systems
- VLSI Design
- Embedded Systems
- Computer Architecture

Courses Offered Semester-II

4 courses to build your foundation

SEMESTER II

1. Applied Electronics and IoT. AEIoT

Engineering Science Course · ES-IV

(Choice Based)

3 credits

2. Circuit Analysis. CA

Program Core Course · PCC

(Compulsory)

3 credits

3. Digital Public Infrastructure. DPI

Vocational & Skill Course · VSEC

(Choice Based)

2 credits

4. Data Preprocessing and Visualization. DPV

Vocational & Skill Course · VSEC

(Choice Based)

2 credits

ES – II Choice Based Offered in Semester I & II

COURSE DETAILS

L-3

T-0

P-0

S-1

EVALUATION SCHEME

THEORY

MSE 30

TA 20

ESE 50



KEY LEARNING

- Diodes and Applications
- Transistor Circuits and IC 555 Applications
- Operational Amplifiers and Applications
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IMPORTANCE

- Broad, application-oriented grounding in electronics extending into IoT architecture
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APPLICATION AREAS

- Embedded Systems
- IoT Applications
- Communication Systems

Circuit Analysis

3
credits

PCC (Compulsory) Offered in Semester II

COURSE DETAILS

L-2

T-0

P-2

S-1

TEACHING SCHEME

THEORY
LAB

MSE 30
CIE 50

TA 20

ESE 50
ESE 50



KEY LEARNING

- Laplace Transform and Transfer Function Derivation
- Network Theorems
- Two-Port Networks
- Transient Response of Networks
- System Response and Frequency Analysis



IMPORTANCE

- Model, analyze and interpret circuit behaviour in time and frequency domains
- Directly relevant to designing and troubleshooting electronic systems
- Central to the E&TC discipline



APPLICATION AREAS

- Embedded Systems
- Control Systems
- Communication Systems
- Network Analysis

VSEC Choice Based Offered in Semester II

COURSE DETAILS

L-1

T-0

P-2

S-2

TEACHING SCHEME

THEORY

TA 20

ESE 30

LAB

CIE 50



KEY LEARNING

- Introduction to DPI
- Key Components of DPI
- Societal Impacts of DPI
- DPI Governance and Policy
- Case Studies and Applications



IMPORTANCE

- Introduces the concepts and components of digital public systems
- Covers governance and societal impact of large-scale digital public systems



APPLICATION AREAS

- Designing and deployment of scalable, secure public-facing platforms
- Data privacy and digital transformation
- Real-world governance
- Financial-inclusion

Data Preprocessing and Visualization

2
credits

VSEC Choice Based Offered in Semester II

COURSE DETAILS

L-1

T-0

P-2

S-2

TEACHING SCHEME

THEORY

TA 20

ESE 30

LAB

CIE 50



KEY LEARNING

- Fundamentals of Data Visualization
- Data Visualization Techniques
- Dashboard Design
- Data Pre-processing Techniques



IMPORTANCE

- Practical, tool-based skills in cleaning, transforming and normalizing data
- Performing exploratory analysis
- Communicating insights through charts and dashboards across platforms



APPLICATION AREAS

- Data analytics
- Data mining
- Data Visualization

**Two semesters
Seven Courses
Strong E&TC foundation**

THANK YOU!!