UNIT 1: ELECTRODYNAMICS (1)

COURSE OUTLINE:

Here the students will learn

1. Laplace’s equation in various problems.

2. Monopole, uncharged metal in uniform field.

3. Poynting theorem.

COURSE OUTCOME:

After completion of this course students will

1. able to derive poynting theorem from Maxwell’s equation.

2. able to find potential inside and outside hollow sphere.

3. Solution of Laplace’s equation in spherical coordinates.
UNIT 2: ELECTRODYNAMICS (ELECTROMAGNETIC WAVES)

COURSE OUTLINE:

Electrodynamics II provides more in depth exposition of the subject, from Maxwell’s equations to electromagnetic waves in media. Here students will study

1. Plane monochromatic electromagnetic waves, energy and momentum in electromagnetic waves.
2. Electromagnetic waves in conductors, skin depth, complex dielectric constant, anomalous dispersion, Cauchy’s formula.

COURSE OUTCOME:

On successful completion of this course, students will be able to

1. Have knowledge of theory of EM wave generation and propagation.
2. Apply this knowledge in practical situations.
3. Solve relevant theoretical problems.

UNIT 3: ELECTRONICS (AMPLIFIER CIRCUITS)

COURSE OUTLINE:

1. Analysis of amplifier.
2. Frequency response of amplifier.

COURSE OUTCOME:

On successful completion of this course, students will be able to

1. Determine Y, Z and h parameters of different amplifier circuit.
2. Determine band width, half power frequencies, amplitude, phase distortion, normalized gain and phase plots of CE amplifier.
UNIT 4: ELECTRONICS (MULTI-STAGE AMPLIFIERS)

COURSE OUTLINE:

Electronics is at the heart of amazing technology at our disposal. The student will learn about multistage amplifiers, oscillators operational and their roles and properties in different circuits.

COURSE OUTCOME:

At the end of the study, the student will have learned the fundamental principles governing the operation of electronic devices and circuits and mathematical understandings of the principles involved and develop problem solving skills.

UNIT 5: ELECTRONICS (DIGITAL ELECTRONICS)

COURSE OUTLINE:

1. Binary systems and Boolean algebra.
2. Logic gate realization

COURSE OUTCOME:

On successful completion of this course, students will be able to

1. Convert different number system (decimal and binary).
2. Apply Boolean algebra in addition, subtraction, multiplication and division to solve Boolean expression or equations.
3. Use different logic gates for different logical and arithmetic operations.