

Class XII

55. ELEMENTS OF ELECTRONICS ENGINEERING

SEMESTER-I

Theory paper Time: 2hrs

Marks: 40

CCE/Internal Assessment: 10

Total Marks:50

THEORY

Structure of Question Paper

Eight questions of eight marks each will be set in the question paper. First question will be of objective type, consist of eight parts and it will be compulsory. A question may consist of more than one part. Students are required to attempt any four questions from remaining seven questions. The question paper will be evenly distributed from the syllabus prescribed for semester -I

SYLLABUS

SEMESTER-I

1. **Modulation:** - Introduction, need of modulation, types with wave shapes, side bands production in A.M. and F.M. Phase modulation, Classification of A.M.

Methods: Typical Circuit of AM, modulators and their description.

2. **Detection:** - Introduction, needs of detection, Square law diode detection, grid leak detector, linear diode detection, anode bend detection.

Types of video detectors and their typical circuits, Phase shift discriminator, Ratio detector, Unifiers and their detailed descriptions.

PRACTICAL

Structure of Question Paper

Time: 3Hrs

Marks:30

The description of marks will be follows:

- | | |
|-----------------------------|-----------------|
| 1. Viva –Voce | 5 Marks |
| 2. Note book/Sessional Work | 5 Marks |
| 3. Actual Performance | 20 Marks |

(a) Major Practical:

The examiner shall set any three practical from the practical No 1,2,3. The candidate shall choose any two from these. The examiner will ask the student to perform any one from the two chosen by him.

(b) Minor Practical:

The examiner shall set any three practical from the practical Nos. 4,5,6. The candidate shall choose any two from these. The examiner will ask the student to perform any one from the two chosen by him.

SYLLABUS

1. To construct an oscillator
2. To wire an A.P. amplifier
3. To wire a circuit from a given blue print.
4. Stage description of an A.M. Radio-Receiver
5. Fault finding in different stages of a Radio-Receiver
6. Tuning of a Radio-Receiver with the help of signal generation.

55. ELEMENTS OF ELECTRONICS ENGINEERING

Semester-II

Theory Paper

Time: 2Hrs

Marks:40

CCE/Internal Assessment: 20

Total Marks: 60

THEORY

Structure of Question Paper

Eight questions of eight marks each will be set in the question paper. First question will be objective type consist of eight part, it will be compulsory and will be from syllabus prescribed for semester-I and semester-II. A question may consist of more than one part. Students are required to attempt any four questions from remaining seven questions. Other than first question the question paper will be evenly distributed from the syllabus prescribed for session-II.

SYLLABUS

Semester-II

1. Oscillators: - Introduction, requirements, various types, detailed circuit description of Hartley and colpits oscillators, Multi Vibrators- Classification. Stable and Bistable multivibrators and their detailed circuit description.

2. Amplifiers: - Introduction, A.F and Power amplifiers, Push-pull amplifier and their circuit description, feedback.

Amplifiers: - Voltage Feedback Amp., R.C coupled amplifier with voltage inverse feed back, feedback amp. Characteristics of Tuned voltage and power amplifiers. Op-Amplifiers (Operational Amps), their functions and uses.

PRACTICAL

Time: 3Hrs Structure of Question Paper Marks: 60

The distribution of marks will be follows:

- | | |
|-----------------------------|----------|
| 1. Viva -voce | 10 Marks |
| 2. Note book/Sessional work | 10 Marks |
| 3. Actual Performance | 40 Marks |

(a) Major Practical: (25 Marks)

The examiner shall set any three practical from the practical Nos.5, 7, 8. The candidate shall choose any two from these. The examiner will ask the student to perform any one from the two chosen by him.

(b) Minor Practical: (15 Marks)

The examiner shall set any three practical from the practical Nos. 1, 2,3,4,6. The candidate shall choose any two from these. The examiner will ask student to perform any one from the two chosen by him.

SYLLABU

SEMESTER-II

1. Study of selectivity in a Radio-Receiver
2. Study of sensitivity in a Radio-Receiver
3. Study of fidelity in a Radio-Receiver
4. Stage description of a T.V Receiver
5. Fault finding in different stages of a T.V. Receiver.
6. Study of E.H.T stage of a T.V. Receiver.
7. Verification of basic truth tables.
8. To construct a Flip-Flop circuit.

