Unit-I

Chapter 1 : Low Power Amplifiers **1-1 to 1-38**

Syllabus : Classification of amplifiers, BJT as an amplifier, Single stage CE amplifier, Frequency response, Gain, Bandwidth, Multistage amplifier : General multistage amplifier, BJT based. Type of BJT amplifier coupling : Circuit diagram, Operation, Frequency response and applications of RC, Transformer and direct coupling.
FET amplifier : Common source amplifier, Working principle and applications.

Unit-I

Syllabus : Need for tuned amplifier, Basic tuned circuit, Circuit diagram, Operating principle and frequency response of single tuned, Double tuned and stagger tuned amplifiers.

Unit-II

Syllabus : Comparison between small signal amplifier and power amplifier, Performance parameter of power amplifier like : Bandwidth, Gain, Frequency band, Efficiency, Classification : class A, class B, class AB and class C, Circuit operation, Input /output waveforms, Efficiency and power equations of single stage class A, Class B, Class AB and Class C power amplifiers.

Unit-III

Syllabus : Principle of feedback amplifier, Types of feedback : Negative and positive feedback, Advantages and disadvantages of negative feedback. Types of feedback connections, Voltage shunt, Voltage series, Current series and current shunt, Block diagram, Circuit diagram and operation.

Unit-IV

Syllabus : Oscillators : Need, Oscillator and amplifier, Condition for oscillation (Barkhausen's criteria), Classification of oscillators, Sine wave oscillator : RC phase shift oscillator and crystal oscillator, Concept, Working and applications.

Unit-V

Syllabus : Types of IC voltage regulator : Fixed and variable : 78XX, 79XX, Specification, Series and LM 723, LM 317, Line and load regulation.

SMPS : Block diagram, Working principle, Specifications, Special features, Advantages, Disadvantages and applications, Use of heat sink for regulated power supply.

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