

ELECTRONIC CIRCUITS ANALYSIS & DESIGN

(Common to ECE & EIE)

Time: 3 hours

Max. Marks: 70

PART - A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What is the function of multistage amplifier?
 - (b) List out the applications of cascade amplifier.
 - (c) What is the significance of frequency response of BJT amplifier?
 - (d) Draw the circuit diagram of RC coupled amplifier and give its application.
 - (e) Explain the concept of negative feedback.
 - (f) What are the conditions for oscillators?
 - (g) Compare class C and class D power amplifier.
 - (h) What are the limitations of push pull amplifier?
 - (i) What do you understand by the term "Frequency of oscillation"?
 - (j) Compare the current series and current shunt amplifiers.

PART - B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT - I

- 2 With a neat diagram, explain in detail about the operation of direct and transformer coupled amplifiers.

OR

- 3 Explain about various types of distortions in amplifiers and with a neat diagram discuss the analysis of cascade RC coupled BJT amplifier.

UNIT - II

- 4 Discuss in detail about the hybrid- π (π) common emitter transistor model with diagrams.

OR

- 5 Explain in detail about the single state CE transistor amplifier response.

UNIT - III

- 6 Discuss in detail about voltage series and voltage shunt feedback configuration with diagrams.

OR

- 7 Derive the expression for frequency of oscillation of Colpitts oscillator and explain its operation.

UNIT - IV

- 8 Discuss the concept of power transistor heat sinking and amplifier distortion.

OR

- 9 With respect to any five parameters, compare the transformer coupled class A amplifier and complementing symmetry class-B power amplifier.

UNIT - V

- 10 Define Q-factor and explain in detail the effect of cascading single tuned amplifiers on bandwidth.

- 11 Explain the operation and applications of stagger tuned amplifier.
