EC 222 (R-20)

Total No. of Questions : 10] [Total No.of Pages : 02

II/IV B. Tech. DEGREE EXAMINATIONS, AUGUST - 2024

Second Semester

ELECTRONICS AND COMMUNICATIONS ENGINEERING

ANALOG CIRCUITS

Time : **Three Hours** Maximum : **70** Marks

Answer ONE question from each Unit. 5x14=70 M

All Questions carry equal marks.

UNIT - I

1. a) Derive the expressions for higher and lower cut-off frequency of a multistage amplifier.

   b) Explain different methods of inter stage coupling in detail.

(OR)

2. a) Explain the effect of cascading on bandwidth.

   b) Describe the principle and operation of RC coupled CE-CE amplifier.

UNIT - II

3. a) Explain the small signal model of Common Gate amplifier.

   b) Draw and explain the operation of CE amplifier.

(OR)

4. a) Explain the operation of small signal model of Common source amplifier.

   b) Draw and explain the operation of CC amplifier.

UNIT - III

5. a) Draw the complimentary-symmetry class-B power amplifier and explain its operation.

   b) Write the comparison between Class-A, Class-B and Class-C power amplifiers.

(OR)

6. a) Explain the classification of Power amplifiers.

   b) Draw and explain the operation of class-C power amplifier.

P.T.O.

UNIT - IV

7. a) Draw and explain different types of ideal feedback topologies.

   b) Write short notes on voltage amplifiers.

(OR)

8. a) Explain Barkausen Criterion in detail.

   b) Draw and explain the operation of crystal oscillator.

UNIT - V

9. a) Explain the functionality of OP-AMP in detail.

   b) Write short notes on OP-AMP with negative feedback.

(OR)

10. a) With help of neat block diagram explain the differential amplifier with one OP-AMP.

    b) Discuss about feedback configurations OP-AMP diagram.