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Question Paper Code: 43404

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Third Semester

Electronics and Communication Engineering

14UEC304- ELECTRONIC CIRCUITS

(Regulation 2014)

Duration: One hour

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. What happens to I_{co} for every $10^\circ C$ rise in temperature?
(a) doubles (b) remains same (c) reduces (d) triples
2. The disadvantage of voltage divider bias is that it has
(a) high stability factor (b) low base current
(c) many resistors (d) none of these
3. If the differential voltage gain and common mode voltage gain of a differential amplifier are $48dB$ and $2dB$ respectively, then common mode rejection ratio is
(a) $24dB$ (b) $25dB$ (c) $46dB$ (d) $50dB$
4. Which type of amplifier has moderate input and output impedance?
(a) CE (b) CB (c) CC (d) None
5. The upper or lower cut off frequency is also called _____ frequency
(a) resonant (b) sideband (c) 3 db (d) none of the above
6. Write the relation between r_{bb}^l , $r_{b^l}^l e$ and h_{ie}
(a) $r_{bb}^l = h_{ie} \cdot r_{b^l}^l e$ (b) $r_{bb}^l = r_{b^l}^l e$ (c) $r_{bb}^l = h_{ie}$ (d) $r_{bb}^l = h_{ie} + r_{b^l}^l e$

7. Where the Q-point located in Class-B amplifier?
- (a) at cut off (b) at saturation region
(c) at the center of dc load line (d) below cut off region
8. Class C amplifiers are used as
- (a) AF amplifiers (b) detectors (c) R.F. amplifiers (d) none of these
9. The basic purpose of applying negative voltage feedback is to
- (a) increase voltage gain (b) reduce distortion
(c) keep the temperature within limits (d) none of these
10. What happened to noise with negative feedback?
- (a) increases (b) decreases
(c) no change (d) increases then decreases

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. What is meant by transistor biasing? Describe various methods used for transistor biasing? State the advantages of voltage divider bias. (8)
12. Explain the three types of gain in Common Emitter (CE) amplifier in detail. (8)
13. Analyze the FET models at high frequencies. (8)
14. Briefly explain complementary push pull Class-B amplifier, also derive its efficiency. (8)
15. Compare the four types of feedback topologies with respect to basic amplifier, R_{if} and R_{of} . Draw example circuit for each type of feedback. (8)