Reg. No. : | | | | | | | | | | |

Question Paper Code: 33404

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

Third Semester

Electronics and Communication Engineering

01UEC304 - ELECTRONIC CIRCUITS

(Regulation 2013)

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 $10^{o}C$ 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 48*dB* and 2*dB* respectively, then common mode rejection ratio is

   (a) 24*dB* (b) 25*dB* (c) 46*dB* (d) 50*dB*

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 rbb^1, rb^1e and h_{ie}

(a) $rbb^1 = h_{ie} - rb^1e$ (b) $rbb^1 = rb^1e$ (c) $rbb^1 = h_{ie}$ (d) $rbb^1 = h_{ie} + rb^1e$

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. Discuss self bias circuit using BJT. Explain how it stabilizes the Q-point by deriving the stability factor. (8)

12. Explain the D.C analysis of emitter coupled differential amplifier with a diagram having resistive load. (8)

13. Sketch the high frequency hybrid π model for a transistor in CE configuration and explain the significance of each component. (8)

14. State the different types of distortion occurs in a amplifier and explain them. (8)

15. Draw the circuit of Class-C tuned amplifier and derive the efficiency and also mention its applications and advantages. (8)