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Question Paper Code: 33404

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Third Semester

Electronics and Communication Engineering

01UEC304 - ELECTRONIC CIRCUITS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Mention the need for biasing.
2. What are the techniques used to stabilizing the Q-point of a transistor?
3. State Miller's theorem.
4. Compare Darlington connection and bootstrapping methods.
5. Define Gain Bandwidth Product.
6. Give the expression for higher cutoff frequency of multistage amplifier.
7. What is meant by cross over distortion?
8. Compare voltage amplifiers and power amplifiers.
9. What are the advantages of negative feedback?
10. List the two advantages of negative feedback.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Discuss self bias circuit using BJT. Explain how it stabilizes the Q-point by deriving the stability factor. (8)
- (ii) Explain Thermistor compensation technique. (8)

Or

- (b) What is meant by transistor biasing? State different types of transistor biasing and derive an expression for stability factor of fixed bias circuit. (16)
12. (a) Explain the D.C analysis of emitter coupled differential amplifier with a diagram having resistive load. (16)

Or

- (b) Discuss in detail the methods of increasing input impedance using Darlington connection and Bootstrapping. (16)
13. (a) Explain in detail about low frequency response of BJT common emitter amplifier. (16)

Or

- (b) Derive the expression for frequency response of multistage amplifier and discuss the significance of cut off frequencies of the amplifier. (16)
14. (a) State the different types of distortion occurs in a amplifier and explain them. (16)

Or

- (b) Derive the expression for efficiency of class A audio power amplifier. Describe in detail about its working principle with neat diagram. (16)
15. (a) Draw the circuit of Class-C tuned amplifier and derive the efficiency and also mention its applications and advantages. (16)

Or

- (b) (i) Draw and explain the working of single tuned amplifiers. (8)
- (ii) Discuss Nyquist criterion for stability of feedback amplifiers. (8)