Reg. No. :

Question Paper Code: 33404

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

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. What are the techniques used to stabilizing the Q-point of a transistor?

2. What are the advantages of self bias?

3. State Miller's theorem.

4. Compare Darlington connection and bootstrapping methods.

5. Give reasons of the drop in gain at the low frequency region and high frequency region.

6. Give the expression for higher cutoff frequency of multistage amplifier.

7. What is meant by cross over distortion?

8. What is class S operation?

9. What are the advantages of negative feedback?

10. Give an important application of negative current feedback circuit.

PART - B (5 x 16 = 80 Marks)

11. (a) What is meant by transistor biasing? State different types of transistor biasing and derive an expression for stability factor of fixed bias circuit.   (16)

Or

(b) (i) Briefly describe about any two bias compensation techniques of BJT. (6)

(ii) With neat circuit diagram and needed expressions, explain the working principle of self-bias of transistor. (10)

12. (a) Draw the hybrid model of CE amplifier and obtain its, gain, input and output impedance. Compare the performance of this CE amplifier with CB and CC configuration. (16)

Or

(b) (i) Discuss the working of a basic emitter coupled differential amplifier circuit. (8)

(ii) Write short notes on Multistage Amplifiers. (8)

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) Explain in detail about the transformer coupled class-A audio power Amplifier and analyze its efficiency. (16)

Or

(b) Explain the operation of the class B push pull amplifier with neat diagram. (16)

15. (a) Derive the input resistance R_{iF} and output resistance R_{oF} of a voltage series and current shunt feedback amplifiers. (16)

Or

(b) (i) Draw and explain the working of single tuned amplifiers. (8)

(ii) Discuss Nyquist criterion for stability of feedback amplifiers. (8)

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