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Question Paper Code: 31434

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

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 is Bias? What is the need for biasing?
2. Define Stability factor.
3. Define Miller's Theorem.
4. Draw the Circuit diagram of Darlington type amplifier.
5. Define Gain Bandwidth Product.
6. Draw the high frequency equivalent circuit of FETs.
7. What is meant by cross over distortion?
8. List the applications of MOSFET power amplifier?
9. What do you mean by tuned amplifiers?
10. Define Sensitivity.

PART - B (5 x 16 = 80 Marks)

11. (a) With the help of neat diagram, explain methods used in biasing the FET and MOSFET. (16)

Or

(b) Write short note on

(i) Method of Stabilizing the Q-point. (8)

(ii) Bias Compensation. (8)

12. (a) Derive the expressions for the following of a small signal transistor amplifier in terms of the h-parameters i) Current gain ii) Voltage gain iii) input impedance iv) output admittance. (16)

Or

(b) Discuss in detail the methods of increasing input impedance using Darlington connection and Bootstrapping. (16)

13. (a) Explain in detail with neat diagram frequency response of BJT amplifier. Discuss the significance of cut off frequencies and Bandwidth of the 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 the working of complementary symmetry class B push pull amplifier. What are its merits, demerits and applications? (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) Explain voltage shunt feedback amplifiers. (16)

Or

(b) Explain in detail about single tuned amplifier. (16)
