Reg. No. : ☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 31044

B.E. / B.Tech. DEGREE EXAMINATION, OCTOBER 2014.

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. What is a Darlington connection in the amplifiers?

4. Define CMRR of a transistor.

5. State the reason for fall in gain at higher frequencies.

6. Give two advantages of common source FET amplifier.

7. State the merits of push pull configuration.

8. What is the use of transformer coupling in the output stage of multistage amplifier?

9. Define negative feedback.

10. Mention the different coupling methods of tuned amplifiers.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain the fixed bias method and derive an expression for the stability factor.
(8)

(ii) Explain the voltage divider bias method and derive an expression for the stability factor. (8)

Or

(b) Discuss in detail about the various bias compensation techniques. (16)

12. (a) (i) Compare CE , CB and CC transistor configurations. (8)

(ii) Describe the method to increase the input impedance using Darlington Connection. (8)

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) Draw the high frequency equivalent circuit of FET and analyze in detail. (16)

Or

(b) (i) Explain in detail about the calculation of overall upper and lower cutoff frequencies of multistage amplifiers. (8)

(ii) Draw the Hybrid π equivalent circuit of BJT. (4)

(iii) Discuss the terms rise time and sag. (4)

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) Explain in detail about Class 'C' tuned Amplifier. (16)

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