(DEE 222)

B. Tech. DEGREE EXAMINATION, MAY - 2015

(Examination at the end of Second Year)

ELECTRICALS AND ELECTRONICS

Paper - II : Electronic Circuits - I

Time : 3 Hours **Maximum Marks : 75**

Answer question No.1 compulsory

Answer ONE question from each unit

1) a) What are the applications of rectifiers?

b) What are the characteristics of Darlington pair?

c) Draw the High pass RC circuit.

d) What are the advantages of CE amplifier?

e) Compare and contrast BJT and FET amplifiers.

f) List out different coupling schemes used in multistage amplifiers.

g) What are the advantages of hybrid model in transistor analysis?

h) What are characteristics of CE-CB cascade amplifier?

i) What is effect of bypass capacitor in CE amplifier?

UNIT - I

2) a) Explain how an RC low pass circuit acts as an integrator.

b) Explain the response of high pass circuit with the help of waveforms

i) Exponential input ii) Square input

OR

3) a) What is meant by clipping in wave shaping?

b) Explain the circuit of two diode clipper with necessary wave forms.

UNIT – II

4) a) Analysis CE amplifier with emitter resistance.

b) Classify different types of amplifiers.

OR

5) a) State and explain Millers theorem and its dual.

b) Analyze general transistor amplifier circuit using h-parameter model. Derive the Expressions for A_I, A_v, R_i, R_o, A_{Is}, A_{Vs}.

UNIT – III

6) a) Describe the emitter follower at high frequency and also derive that equation for higher cutoff frequency.

b) Define and explain f_β and f_T.

OR

7) a) Explain the hybrid-π model for a transistor in the CE configuration with neat sketch.

b) Derive the expression for the CE short circuit current gain A_i with resistive load.

UNIT – IV

8) a) Explain the operation of transformer coupled transistor amplifier?

b) Compare the three types of coupling used in multi stage amplifiers.

OR

9) a) Draw the circuit for Darlington pair and derive the expressions for A_v, A_I, R_i, & R_o.

b) List the salient features Darlington pair amplifiers.

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