Code: 15A04401

R15

B.Tech II Year II Semester (R15) Regular Examinations May/June 2017

ELECTRONIC CIRCUIT ANALYSIS

(Common to ECE and EIE)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) Identify different types of feedback available.
(b) Write the condition for generating oscillations.
(c) Draw the hybrid equivalent model of CE amplifier.
(d) Mention four h-parameters of CE amplifier.
(e) Identify different types of coupling used in amplifiers.
(f) Write the advantages of multistage amplifier.
(g) Draw the circuit of transformer couple power amplifier.
(h) Mention the efficiency of class-B power amplifier.
(i) List out applications of tuned amplifiers.
(j) Draw the circuit diagram of matched capacitive coupled amplifier.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Draw the circuit of voltage shunt feedback amplifier and derive the expressions for Av, Ri, Ro.

OR

3 (a) Write the advantages and disadvantages of positive and negative feedback.
(b) Derive the expression for frequency of Wein bridge oscillator.

UNIT – II

4 Explain about Hybrid π capacitance and also briefly discuss miller's theorem.

OR

5 Derive the expressions for hybrid π model parameters g_m, g_{ce}, r_{ce}.

UNIT – III

6 Explain different types of coupling. When two identical stages are cascaded, obtain voltage gain, current gain and power gain.

OR

7 Draw and explain the circuit of cascade amplifier and mention the advantages.

UNIT – IV

8 Draw and explain class-B push pull amplifier.

OR

9 (a) Compare various types of power amplifier.
(b) Write about importance of heat sink in power amplifiers.

UNIT – V

10 Derive the expression for Q factor of double tuned amplifier.

OR

11 Write the effect of cascading single tuned amplifier on bandwidth.

*****