

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

ANALOG ELECTRONIC CIRCUITS
(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What are the advantages and limitations of RC coupled amplifier?
 - (b) What is cascaded amplifier?
 - (c) List out the four basic feedback topologies.
 - (d) Compare the input and output resistance of voltage and current shunt feedback amplifier.
 - (e) State Barkhausen criterion for an oscillator.
 - (f) How frequency stability can be improved in the oscillators?
 - (g) Briefly explain the working principle of push pull amplifier.
 - (h) Define heat sink.
 - (i) How RC circuit be used as a differentiator?
 - (j) Why monostable multivibrator is also called as delay circuit?

PART – B
(Answer all five units, 5 X 10 = 50 Marks)**UNIT – I**

- 2 Analyze the RC coupled amplifier in Low range, Mid-range and High range frequencies.

OR

- 3 Explain the operation of single stage amplifier with circuit diagram and determine its gain bandwidth product.

UNIT – II

- 4 Discuss the effects of negative feedback on gain, band width and distortion.

OR

- 5 Analyze the circuit and determine the input and output resistance of voltage series feedback amplifier.

UNIT – III

- 6 Derive an expression for frequency of oscillation for Colpitts oscillator and explain the operation of the same.

OR

- 7 Explain the working principle and operation of Wein bridge oscillator with diagram.

UNIT – IV

- 8 Discuss about the operation of transformer coupled amplifier with diagram. Write down the advantages of the same.

OR

- 9 Explain the working principle and operation of transformer-less class B power amplifier with diagram.

UNIT – V

- 10 Derive and draw the response of low pass RC circuit to the following waveforms. (i) Step. (ii) Square.

OR

- 11 With neat circuit diagram, explain the triggering of astable multi vibrator and derive its time period.
