Code: 15A04409

R15

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)
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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.

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