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Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year II Semester Supplementary Examinations October-2020
ANALOG ELECTRONIC CIRCUITS
(Electrical & Electronics Engineering)

Time: 3 hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1 Describe different methods used for coupling multistage amplifiers with their frequency response. **12M**

OR

2 With neat diagram, analyze the two stage RC coupled amplifier. **12M**

UNIT-II

3 **a** Explain Feedback topologies. **8M**
   b Give the detailed analysis of Current Series feedback amplifier. **4M**

OR

4 **a** Draw the block diagram of an amplifier with feedback and explain its concept. **7M**
   b Derive the stabilization gain of negative feedback amplifier. **5M**

UNIT-III

5 **a** Draw the circuit diagram of Colpitts oscillator and explain its working. **5M**
   b In Colpitts oscillator, $C1 = 0.2$ μF and $C2 = 0.02$ μF. if the frequency of the oscillator is 10 KHz , find the value of the inductor .Also find the required gain for oscillation. **7M**

OR

6 **a** State and explain Barkhausen criterion of Oscillations. **6M**
   b In a Hartley oscillator, the value of the capacitor in the tuned circuit is 500 pF and the two sections of coil have inductances 38 μH and 12 μH. Find the frequency of oscillations and the feedback factor β. **6M**

UNIT-IV

7 **a** Explain the classification of amplifiers based on the based on biasing condition. **6M**
   b Write short note on class A amplifiers. **6M**

OR

8 **a** Explain about Power dissipation thermal stability for a transistor. **6M**
   b In a class B amplifier, V_{CE} (min) = 2V and supply voltage V_{CC} = 15 v. Find the collector circuit efficiency. **6M**

UNIT-V

9 **a** Derive the response of a high pass RC circuit for step Input. **6M**
   b How High pass RC circuit be used as a Differentiator. **6M**

OR

10 **a** Derive the Response of a low pass RC circuit for Step input. **6M**
    b Determine the upper 3-dB frequency for low pass RC circuit, if a pulse of 0.4 μsec is required to pass without distortion. Find the value of resistance if the capacitor is 0.001μF. **6M**

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