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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year I Semester (R16) Regular Examinations Nov/Dec 2017
BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
(COMPUTER SCIENCE & ENGINEERING)**

Time: 3 hours

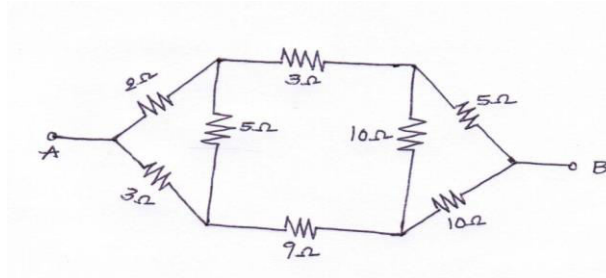
Max. Marks: 60

(Answer all Six Units 6 X 10 = 60 Marks)

**PART-A
(ELECTRICAL ENGINEERING)**

UNIT-I

- 1 Find the voltage to be applied across AB in order to drive a current of 5A into the circuit



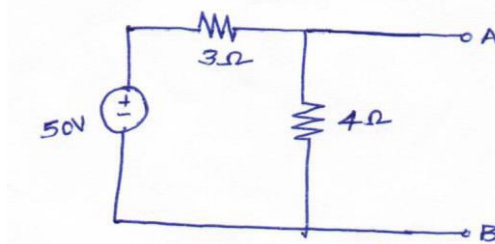
10 M

OR

- 2 a Define and Explain about ohms law. 4M
b Explain about basic circuit components in detail 6M

UNIT-II

- 3 a State super position theorem 2M
b Find Thevinins equivalent circuit across AB for the circuit shown in below



8M

OR

- 4 a Define and explain about Impedance parameters. 5M
b Define and explain about Y- parameters 5 M

UNIT-III

- 5 A 220V shunt motor takes a total current of 80A and runs at 800 r.p.m .Shunt field resistance and armature resistance are 50Ω and 0.1Ω respectively.If iron and friction losses amount to 1600W.find(i)Copper losses(ii)Armature torque(iii)Shaft torque(iv)Efficiency. 10M

OR

- 6 a Explain about constructional details of dc motor. 5M
b Derive Torque equation of dc motor. 5M

**PART-B
(ELECTRONICS ENGINEERING)****UNIT-IV**

- 7 Distinguish between intrinsic and extrinsic semiconductors and explain the process of conduction In each of them. 10M

OR

- 8 a With neat diagram, explain the working principle of Full Wave Rectifier. Draw its input and Output waveforms. 5M
b Discuss the operation of half wave rectifier with capacitor filter. 5M

UNIT-V

- 9 a Draw the circuit diagram for a common base circuit arrangement and plot its input and Output characteristics. Show the different regions of the output characteristics and explain their occurrence. 5M
b Compare the characteristics of BJT CB, CE and CC transistor configurations. 5M

OR

- 10 a Derive the relationship between α and β of BJT configurations. 5M
b Compare BJT and JFET with its properties 5M

UNIT-VI

- 11 a. With neat diagram, explain the operation of LC tuned transistor oscillator. 5M
b. Compare RC and LC oscillators. 5M

OR

- 12 a Discuss the Characteristics of an ideal operational amplifier. 5M
b Describe Integrator amplifier of op amp with diagram. 5M

***** END *****