NARAYANA ENGINEERING COLLEGE, GUDUR

AUTONOMOUS

Multiple Choice Questions

Name: **Sem:**

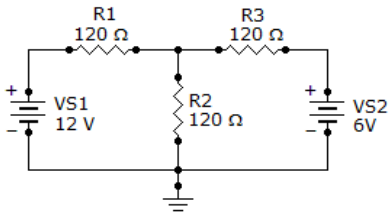
Section: **Reg No. :**

EACH QUESTION CARRIES 1 MARK

TECHNICAL PART

CIRCUITS ANALYSIS

1. Find the current in R_2 of the given circuit, using the superposition theorem. **( )**



a. 50 mA
b. 33.3 mA
c. 16.7 mA
d. 16.6 mA

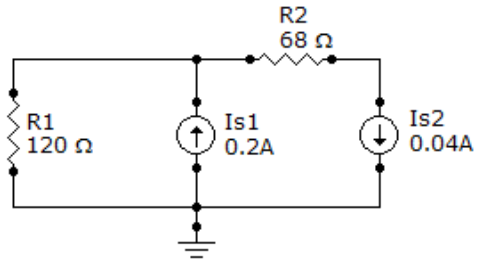
2. A 120 Ω load is connected across an ideal voltage source with V_S = 12 V. The voltage across the load is **( )**

a. 12 V
b. 0 V
c. 120 V
d. Cannot be determined

3. You cannot convert a voltage source to an equivalent current source, or vice versa. **( )**

a. True
b. False

4. Referring to circuit given, if R_1 is changed to a 68 Ω resistor, what will be the current through it? **( )**



a. 0.04 A
b. 0.24 A
c. 0.2 A
d. 0.16 A

5. A practical voltage source has a nonzero internal resistance. **( )**

a. True
b. False

DC MACHINES & TRANSFORMERS

1. The condition for maximum efficiency for a D.C. generator is **( )**

a. Eddy current losses = stray losses
b. Hysteresis losses = eddy current losses
c. Copper losses = 0
d. Variable losses = constant losses

2. The speed of a D.C. shunt motor can be increased by **( )**

a. Increasing the resistance in armature circuit
b. Increasing the resistance in field circuit
c. Reducing the resistance in the field circuit
d. Reducing the resistance in the armature circuit

3. In a D.C. generator all of the following could be the effects of iron losses except **( )**

a. Loss of efficiency
b. Excessive heating of core
c. Increase in terminal voltage
d. Rise in temperature of ventilating air

4. Which of the following losses are significantly reduced by laminating the core of a D.C. generator? **( )**

a. Hysteresis losses
b. Eddy current losses
c. Copper losses
d. Windage losses

5. D.C. shunt motors are used for driving **( )**

a. Machine tools
b. Cranes
c. Hoists
d. Trains

ELECTRONIC DEVICES AND CIRCUITS

1. The element that has the biggest size in a transistor is …….. ( )

a. Collector
b. base
c. emitter
d. collector-base-junction

2. A transistor has …… ( )

a. One pn junction
b. Two pn junctions
c. Three pn junctions
d. Four pn junctions

3. In a tansistor, IC = 100 mA and IE = 100.2 mA. The value of ß is …… ( )

a. 100
b. 50
c. about 1
d. 200

4. A heat sink is generally used with a transistor to …… ( )

a. Increase the forward current
b. Decrease the forward current
c. Compensate for excessive doping
d. Prevent excessive temperature rise

5. . The collector-base junction in a transistor has …….. ( )

a. Forward bias at all times
b. Reverse bias at all times
c. Low resistance
d. None of the above

NON-TECHNICAL PART

1. A tank is filled by three pipes with uniform flow. The first two pipes operating simultaneously fill the tank in the same time during which the tank is filled by the third pipe alone. The second pipe fills the tank 5 hours faster than the first pipe and 4 hours slower than the third pipe. The time required by the first pipe is: ( )

a. 6 hours
b. 10 hours
c.15 hours
d. 30 hours

2. Look at this series: 36, 34, 30, 28, 24, ... What number should come next? ( )

a. 20
b. 22
c. 23
d. 26

3. Sara lives in a large city on the East Coast. Her younger cousin Marlee lives in the Mid-west in a small town with fewer than 1,000 residents. Marlee has visited Sara several times during the past five years. In the same period of time, Sara has visited Marlee only once. ( )

a. Marlee likes Sara better than Sara likes Marlee.
b. Sara thinks small towns are boring.
c. Sara is older than Marlee.
d. Marlee wants to move to the East Coast.

4. If South-East becomes North, North-East becomes West and so on. What will West become? ( )

a. North-East
b. North-West
c. South-East
d. South-West

5. Which of the following material has nearly zero temperature co-efficient of resistance? ( )

a. Manganin
b. Porcelain
c. Carbon
d. Copper