BEE ESE SAMPLE COPY

F.E. CBCGS-H ISA

* Required

1. Email address *

2. Name of the student *

3. Branch: *

Mark only one oval.

- COMP
- E&TC
- ELEX
- IT
- MECH
- CIVIL

4. 1. In applying the Superposition theorem which statement is correct? 1 point

Mark only one oval.

- Only Voltage source should be removed
- Only Current Source source should be removed
- All sources should be removed
- Include One source at a time

5. 2. Ideal Current source has 1 point

Mark only one oval.

- 100 ohm internal resistance
- Zero Internal Resistance
- Infinite Internal Resistance
- 1 ohm Internal Resistance

6. 3. Why does Ohm's Law hold true only at a constant temperature? 1 point

Mark only one oval.

- As temperature increases electrical resistance in most materials increases as well
- As temperature increases the potential difference in most batteries decreases
- As temperature increases electrical resistance in most materials decreases
- As temperature increases the potential difference in most batteries increases as well

7. 4. Which one of the following statements is true about a series circuit? 1 point

Mark only one oval.

- The current gets less as it goes round the circuit.
- The currents add up to the total current and the voltage remains the same.
- The current increases as it goes around the circuit but the voltage decreases to zero.
- The current remains the same and the voltages across each component add up to the battery voltage

8. 5. Kirchhoff's Voltage Law states: 1 point

Mark only one oval.

- Sum of the potential differences is less than the battery voltage.
- The sum of potential differences throughout the circuit adds up to zero, regardless of the route taken.
- The sum of the potential differences is dependent on the route taken by the current.
- The sum of potential differences throughout the circuit adds up to zero, but only if the components are in series.

9. 6. By using source transformation voltage source in series resistor is replaced by _____ 1 point

Mark only one oval.

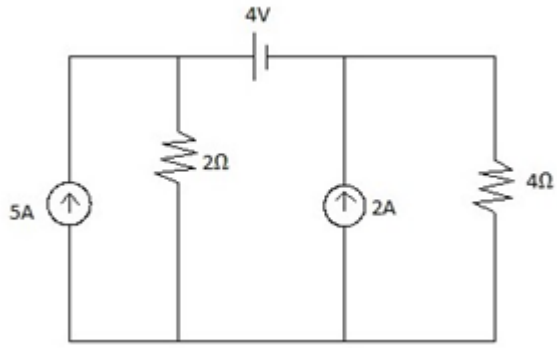
- Voltage source in series with a resistor
- Current source in parallel with a resistor
- Voltage source in parallel with a resistor
- Current source in series with a resistor

10. 7. Source transformation technique is mainly based on _____ law 1 point

Mark only one oval.

- Newton’s
- Kirchhoff’s
- Ohm’s
- Einstein’s
- Option 5

11. 8. Find the current flowing through 4Ω resistor shown in network below. 1 point



Mark only one oval.

- 1.33A
- 2.35A
- 1.66A
- 2.66A

12. 9. if the rating mention on a bulb is 220V, 100 W, what is 220 V represents here? 1 point

Mark only one oval.

- Peak Value
- RMS Value
- Average Value
- Peak to Peak Value

13. 10. If value of R= 6 Ohm and XL= 8 ohm, value of Z= ??? 1 point

Mark only one oval.

- 14 Ohm
- 12 Ohm
- 2 ohm
- 10 Ohm

14. 11. At the time of series resonance , power factor of circuit is 1 point

Mark only one oval.

- 0
- 1
- Infinite
- negative

15. 12. Form Factor is the ratio of 1 point

Mark only one oval.

- Average value/r.m.s. value
- Average value/peak value
- r.m.s. value/average value
- r.m.s. value/peak value

16. 13. In a series resonant circuit, the impedance of the circuit is 1 point

Mark only one oval.

- Minimum
- Maximum
- Zero
- None of the above

17. 14. The power factor of a D.C. circuit is always 1 point

Mark only one oval.

- Less than unity
- Unity
- Greater than unity
- Zero

18. 15. The apparent power drawn by an A.C. circuit is 10 kVA and active power is 8 kW. The reactive power in the circuit is 2 points

Mark only one oval.

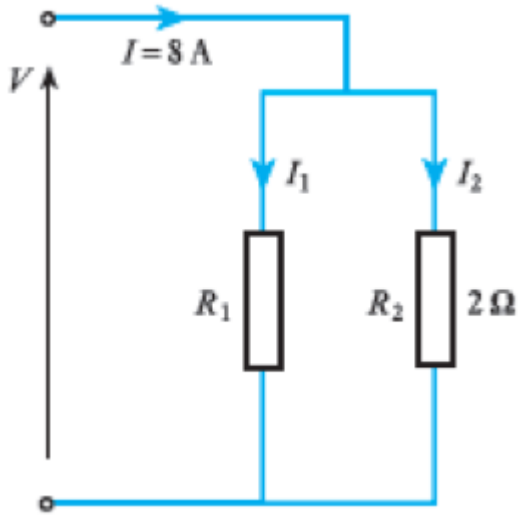
- 4 kVAR
- 6 kVAR
- 8 kVAR
- 16 kVAR

19. 16 . If a sinusoidal wave has frequency of 50 Hz with 30 A r.m.s. current which of the following equation represents this wave? 2 points

Mark only one oval.

- 42.42 sin 314 t
- 60 sin 25 t
- 30 sin 50 t
- 84.84 sin 25 t

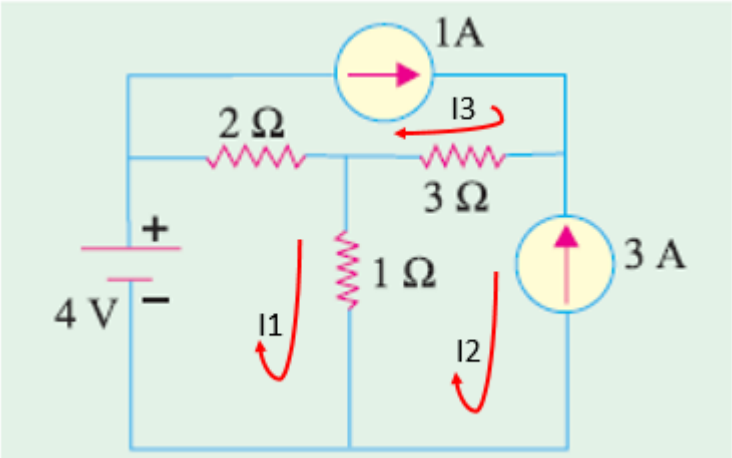
20. 16. A current of 8 A is shared between two resistors in the network shown in Fig. Calculate the current in the 2 Ω resistor, given that R1 = 4 Ω. 2 points



Mark only one oval.

- 4.3 A
- 5 A
- 5.3 A
- 4 A

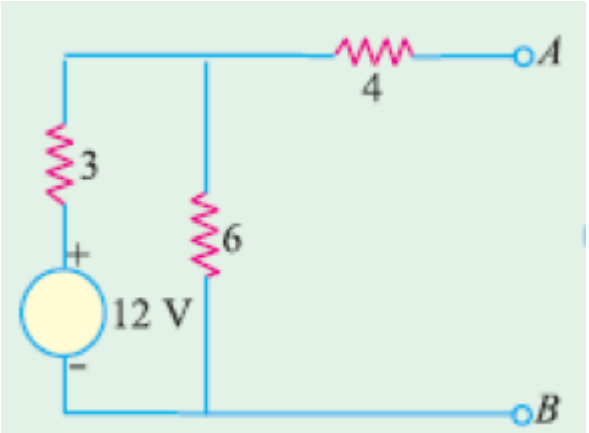
21. Q. 17 For the circuit shown in figure,, = -3 A, = 1 A, then current through 1-ohm resistor is 2 points



Mark only one oval.

- 4 A (Down)
- -2 A(Down)
- -4 A (Down)
- 2 A (Down)

22. Q.18 Calculate the Thevenins Voltage for the circuit shown in fig. 2 points



Mark only one oval.

- 8 V
- 2 V
- 4 V
- 1 V

23. 19. Why does Ohm's Law hold true only at a constant temperature? 1 point

Mark only one oval.

- ◯ As temperature increases electrical resistance in most materials increases as well
- ◯ As temperature increases the potential difference in most batteries decreases
- ◯ As temperature increases electrical resistance in most materials decreases
- ◯ As temperature increases the potential difference in most batteries increases as well

24. 20. Application of Norton's theorem to a circuit yields * 1 point

Mark only one oval.

- ◯ equivalent voltage source and the equivalent series resistance
- ◯ equivalent current source and the equivalent parallel resistance
- ◯ equivalent current source and the equivalent series resistance
- ◯ equivalent voltage source and the equivalent parallel resistance

25. 21. In three phase star connections, the voltage and current relations are * 1 point

Mark only one oval.

- ◯ Line voltage = phase voltage, Line current = √3 phase current
- ◯ Line voltage = √3 phase voltage, Line current= phase current
- ◯ Line voltage = √3 phase voltage, Line current = √3 phase current
- ◯ Line voltage = phase voltage, Line current= phase current

26. 22. An alternating current of frequency 60 Hz has a maximum value of 12 A. Find the time taken to reach 9.6 A for the first time * 1 point

Mark only one oval.

- 2.459 ms
- 140.93ms
- 0.02 s
- 2.459 s

27. 23. SFU means * 1 point

Mark only one oval.

- Switch fuse unit
- Salient fuse unit
- Safety fuse unit
- Switch fan unit

28. 24. Desired tripping of a circuit breaker is * 1 point

Mark only one oval.

- Manually
- Automatically
- That it should give warning
- None of these

29. 25. Which of the following methods is applicable to control the speed of the squirrel cage induction motor? * 2 points

Mark only one oval.

- By changing number of stator poles
- Rotor Rheostat control
- By operating two motors in cascade
- By injecting e.m.f. in the rotor circuit

30. 26. In case of induction motor the torque is _____ * 2 points

Mark only one oval.

- inversely proportional to (Vslip)
- directly proportional to (slip)2
- inversely proportional to slip
- directly proportional to slip

31. 27. Which part will surely tell that given motor is DC motor and not an AC type? * 2 points

Mark only one oval.

- Winding
- Shaft
- Commutator
- Stator

32. 28. D.C. shunt motors are commonly used in _____ 2 points

Mark only one oval.

- Cranes
- Electric traction
- Elevators
- Lathe machines

33.

Mark only one oval.

- Option 1