Program: SE Electrical Engineering

Curriculum Scheme: Revised 2016

Examination:

Course Code: EEC603 and Course Name: Electrical network

Time: 1hour Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

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| Q1.  | The Superposition Theorem is not applicable for \_\_\_\_\_\_\_\_\_ |
| Option A: | Power calculation |
| Option B: | Voltage calculation |
| Option C: | Current Calculation |
| Option D:  | Both Voltage and Current calculation |
|  |  |
| Q2. |  In superposition theorem when we consider one voltage source, all the other voltage sources are \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Shorted |
| Option B: | Removed |
| Option C: | Undisturbed |
| Option D: | Opened |
|  |  |
| Q3. | The current I in the circuit given below is \_\_\_\_\_\_\_\_https://www.sanfoundry.com/wp-content/uploads/2019/08/network-theory-questions-answers-advanced-problems-superposition-theorem-q2.png |
| Option A: |  1/4 A |
| Option B: | 5/4 A |
| Option C: | 3/4 A |
| Option D: | 1/2 A |
|  |  |
| Q4. | In Reciprocity Theorem, which of the following ratios is considered? |
| Option A: | Voltage to current |
| Option B: | Current to current |
| Option C: | Voltage to voltage |
| Option D: | No ratio is considered |
|  |  |
| Q5. | The Reciprocity Theorem is valid for \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Non-Linear Time Invariant circuits |
| Option B: | Linear Time Invariant circuits |
| Option C: | Non-Linear Time Variant circuits |
| Option D:  | Linear Time Variant circuits |
|  |  |
| Q6. | The Reciprocity Theorem is applicable for \_\_\_\_\_\_\_\_\_\_ |
| Option A: | Single-source networks |
| Option B: | Multi-source networks |
| Option C: | Both Single and Multi-source networks |
| Option D:  | Neither Single nor Multi-source networks |
|  |  |
| Q7.  | In the circuit given below, the maximum power absorbed by the load resistance RL is \_\_\_\_\_\_\_\_\_\_\_https://www.sanfoundry.com/wp-content/uploads/2019/08/network-theory-questions-answers-advanced-problems-reciprocity-theorem-q14.png |
| Option A: | 3 W |
| Option B: | 5.2 W |
| Option C: | 3.2 W |
| Option D:  | 4.2 W |
|  |  |
| Q8.  | If there are N nodes in a circuit, then the number of nodal equations that can be formed are? |
| Option A: | N+1 |
| Option B: | N |
| Option C: | N-1 |
| Option D:  | N-2 |
|  |  |
| Q9. | Superposition theorem states that the response in any element is the \_\_\_\_\_\_\_\_\_\_\_\_ of the responses that can be expected to flow if each source acts independently of other sources. |
| Option A: | algebraic sum |
| Option B: | vector sum |
| Option C: | multiplication |
| Option D:  | subtraction |
|  |  |
| Q10.  | Find the voltage across (2+j5) Ω impedance considering 50∠0⁰ voltage source. |
| Option A: | 30.16∠-9.28⁰ |
| Option B: | 30.16∠9.28⁰ |
| Option C: | 29.16∠-9.28⁰ |
| Option D:  | 29.16∠9.28⁰ |
|  |  |
| Q11.  | Determine the voltage across (2+j5) Ω impedance considering 20∠30⁰ voltage source. |
| Option A: |  45.69∠-110.72⁰ |
| Option B: | 45.69∠110.72⁰ |
| Option C: | 46.69∠-110.72⁰ |
| Option D:  | 46.69∠110.72⁰ |
|  |  |
| Q12.  |  Thevenin’s voltage is equal to the \_\_\_\_\_\_\_\_\_\_\_\_\_ voltage across the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ terminals. |
| Option A: | short circuit, input |
| Option B: | short circuit, output |
| Option C: | open circuit, output |
| Option D: | open circuit, input |
|  |  |
| Q13. | Determine the Thevenin’s voltage across ‘ab’ terminals in the circuit shown below. https://www.sanfoundry.com/wp-content/uploads/2017/06/network-theory-questions-answers-thevenins-theorem-ac-q6.png |
| Option A: | 41.86∠0⁰ |
| Option B: | 42.86∠0⁰ |
| Option C: | 43.86∠0⁰ |
| Option D:  | 44.86∠0⁰ |
|  |  |
| Q14.  |  Norton’s current is equal to the current passing through the \_\_\_\_\_\_\_\_\_\_\_ circuited \_\_\_\_\_\_\_\_\_\_\_ terminals. |
| Option A: | short, input |
| Option B: | short, output |
| Option C: | open, output |
| Option D:  | open, input |
|  |  |
| Q15. | The condition for maximum voltage to be transferred to the load is? |
| Option A: | Source resistance greater than load resistance |
| Option B: | Source resistance less than load resistance |
| Option C: | Source resistance equal to load resistance |
| Option D:  | Source resistance greater than or equal to load resistance |
|  |  |
| Q16.  | The condition for maximum current to be transferred to the load is? |
| Option A: | Source resistance greater than or equal to load resistance |
| Option B: | Source resistance equal to load resistance |
| Option C: | Source resistance less than load resistance |
| Option D:  | Source resistance greater than load resistance |
|  |  |
| Q17. | The condition for maximum power to be transferred to the load is? |
| Option A: | Source resistance equal to load resistance |
| Option B: | Source resistance greater than load resistance |
| Option C: | Source resistance greater than or equal to load resistance |
| Option D: | Source resistance less than load resistance |
|  |  |
| Q18. | If ZS=RS+jXS, ZL=RL, then condition for maximum power to be transferred is? |
| Option A: | RL=|ZS| |
| Option B: | RL=ZS |
| Option C: | RL=-|ZS| |
| Option D:  | RL=-ZS |
|  |  |
| Q19.  | A series RLC circuit has a resonance frequency of 1 kHz and a quality factor Q = 100. If each of R, L and C is doubled from its original value, the new Q of the circuit is \_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: |  25 |
| Option B: | 50 |
| Option C: | 100 |
| Option D:  | 200 |
|  |  |
| Q20. | .Consider the circuit shown below. Find the current I1 (A).https://www.sanfoundry.com/wp-content/uploads/2017/06/network-theory-questions-answers-supermesh-analysis-q1.png |
| Option A: | 1 |
| Option B: | 1.33 |
| Option C: | 1.66 |
| Option D: | 2 |
|  |  |
| Q21. |  In nodal analysis how many nodes are taken as reference nodes? |
| Option A: |  1 |
| Option B: | 2 |
| Option C: | 3 |
| Option D:  | 4 |
|  |  |
| Q22.  | Determine the equivalent thevenin’s voltage between terminals A and B in the circuit shown below. https://www.sanfoundry.com/wp-content/uploads/2017/06/network-theory-questions-answers-thevenins-theorem-q6.png |
| Option A: | 0.333 |
| Option B: | 3.33 |
| Option C: | 33.3 |
| Option D:  | 333 |
|  |  |
| Q23. | Determine the equivalent thevenin’s voltage between terminals A and B in the circuit shown below. |
| Option A: | 0.333 |
| Option B: | 3.33 |
| Option C: | 33.3 |
| Option D:  | 333 |
|  |  |
| Q24.  |  For ZL = ZS\*, the relation between XL and XS is? |
| Option A: | XL = XS |
| Option B: | XL = 0 |
| Option C: | XL = 1 |
| Option D:  | XL = -XS |
|  |  |
| Q25. | If ZL = ZS\*, then? |
| Option A: | RL = 1 |
| Option B: | RL = 0 |
| Option C: | RL = -RS |
| Option D:  | RL = RS |