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Network Theorems MCQ Test

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Below is the **Network Theorems MCQ** test that checks your basic knowledge of Network Theorems. This **Network Theorems MCQ Test** contains 20 Multiple Choice Questions. You have to select the right answer to the question. Finally, you can also take the Online Quiz from the Take **Network Theorems Quiz** Button.

Q1. To which of the following is the superposition theorem applicable?

- A. Voltage
- B. Current
- C. Power
- **D. All of the above**

Q2. Which among the following is also regarded as 'Dual of Thevenin's Theorem'?

- A. Millman's Theorem
- B. Superposition Theorem
- **C. Norton's Theorem**
- D. Maximum Power Transfer Theorem

Q3. Which of the following theorems can be applied to any network linear or non-linear, active or passive, time variant or time-invariant?

- **A. Tellegen Theorem**
- B. Norton Theorem
- C. Thevenin Theorem
- D. Superposition Theorem

Q4. In nodal analysis, if there are N nodes in the circuit then how many equations will be written to solve the network ?

- **A. N - 1**
- B. N + 1
- C. N
- D. N - 2

Q5. Two ideal voltage sources of unequal output voltages cannot be placed in.....

- A. Series
- **B. Parallel**
- C. Both series and parallel
- D. None of them

Q6. Which one is the network theorem in electrical engineering?

- A. Newton's Law
- **B. Norton's Theorem**
- C. Water Fall Modal
- D. Kircheff Law

Q7. Kirchhoff s current law states that:

- A. net current flow at the junction is positive
- **B. Hebraic sum of the currents meeting at the junction is zero**
- C. no curreht can leave the junction without some current entering it.
- D. total sum of currents meeting at the junction is zero

Q8. According to Kirchhoffs voltage law, the algebraic sum of all IR drops and e.m.fs. in anyclosed loop of a network is always _____.

- A. negative
- B. positive
- C. determined by battery e.m.fs.
- **D. Zero**

Q9. Kirchhoffs current law is applicable to only _____.

- **A. junction in a network**
- B. closed loops in a network

- C. electric circuits
- D. electronic circuits

Q10. Kirchhoffs voltage law is related to ____.

- A. junction currents
- B. battery e.m.fs.
- C. IR drops
- D. both B and C

Q11. What does Thevenin's Theorem states?

- A. Thevenin's Theorem states that “Any linear circuit containing several voltages and resistances can be replaced by just one single voltage in series with a single resistance connected across the load“.
- B. “Any linear circuit containing several energy sources and resistances can be replaced by a single Constant Current generator in parallel with a Single Resistor“.
- C. Both A and B
- D. None of the above

Q12. What do you mean by maximum power transfer theorem?

- A. Thevenin's Theorem states that “Any linear circuit containing several voltages and resistances can be replaced by just one single voltage in series with a single resistance connected across the load“.
- B. to obtain maximum external power from a source with a finite internal resistance, the resistance of the load must equal the resistance of the source as viewed from its output terminals.
- C. "Any linear circuit containing several energy sources and resistances can be replaced by a single Constant Current generator in parallel with a Single Resistor“.
- D. None of the above

Q13. Which one is the limitations for Thevenin's theorem:are:

- A. This theorem is applicable only for linear, bilateral networks.
- B. It reduce complex circuit to a simple circuit viz a single source of emf in series with a single resistance.
- C. It greatly simplifies the portion of the circuit of lesser importance and enable us to view the action of output part directly.
- D. None of the above

Q14. What are the advantages of thevenin's theorem?

- **A.** It reduce complex circuit to a simple circuit viz a single source of emf in series with a single resistance.
- **B.** This theorem is valid only for a certain range, because it is applicable for linear circuits only
- **C.** It greatly simplifies the portion of the circuit of lesser importance and enable us to view the action of output part directly.
- **D. Both A and C**

Q15. Which one is the limitation of Norton's Theorem?

- **A. It's not for such modules which are not linear like diodes, the transistor.**
- **B.** The value of direct current which produces the same heating effect in a given resistor as is produced by the given alternating current when passed for the same time.
- **C.** Voltage
- **D.** None of the above

Q16. What is the difference between Thevenin and Norton theorems?

- **A.** Norton's theorem uses a voltage source, whereas Thevenin's theorem uses a current source.
- **B. Norton's theorem uses a current source, whereas Thevenin's theorem uses a voltage source.**
- **C.** Both A and B
- **D.** None of the above

Q17. What does Tellegen's Theorem states?

- **A. The summation of power delivered is zero for each branch of any electrical network at any instant of time.**
- **B.** Any linear circuit containing several voltages and resistances can be replaced by just one single voltage in series with a single resistance connected across the load“.
- **C.** Any linear circuit containing several energy sources and resistances can be replaced by a single Constant Current generator in parallel with a Single Resistor“
- **D.** None of the above

Q18. What doyou mean by Milliman's theorem?

- **A. it determines the voltage across the parallel branches of the circuit, which have more than one voltage sources, i.e., reduces the complexity of the electrical circuit.**
- **B.** The summation of power delivered is zero for each branch of any electrical network at any instant of time.
- **C.** Any linear circuit containing several voltages and resistances can be replaced by just one single voltage in series with a single resistance connected across the load“.

- **D. None of the above**

Q19. Which of the following theorems is applicable for both linear and nonlinear circuits?

A. Superposition B. Thevenin's C. Norton's D. None of these

- A. Superposition
- B. Thevenin's
- C. Norton's
- **D. None of the above**

Q20. Two ideal voltage sources of unequal output voltages cannot be placed in.....

- A. Series
- **B. Parallel**
- C. Both series and parallel
- D. None of the above

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