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Branch, Loop, and Node Analyses MCQ Test

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Below is the **Branch, Loop, and Node Analyses MCQ** test that checks your basic knowledge of Branch, Loop, and Node Analyses. This **Branch, Loop, and Node Analyses MCQ Test** contain 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 **Branch, Loop, and Node Analyses Quiz** Button.

Q1. The branch current method uses ____.

- **A. Kirchhoff's voltage and current laws**
- B. Thevenin's theorem and Ohm's law
- C. Kirchhoff's current law and Ohm's law
- D. the superposition theorem and Thevenin's theorem

Q2. An electric circuit based on three concepts, namely, ____, ____ and ____.

- **A. node, branch, loop**
- B. neutral, border, lists
- C. Both A and B
- D. All of the above

Q3. What is branch?

- **A. single circuit elements such as resistor, capacitor, inductor, voltage, or current source**
- B. a point in the circuit where two or more circuit elements (or branches) are connected
- C. any closed path in the circuit
- D. All of the above

Q4. What do you mean by loop?

- **A. single circuit elements such as resistor, capacitor, inductor, voltage, or current source**

- B. a point in the circuit where two or more circuit elements (or branches) are connected
- C. any closed path in the circuit
- D. None of the above

Q5. What do you know about node?

- A. single circuit elements such as resistor, capacitor, inductor, voltage, or current source
- B. closed path in the circuit
- C. a point in the circuit where two or more circuit elements (or branches) are connected
- D. All of the above

Q6. A node in a circuit is the place where circuit elements are connected together.

- A. True
- B. False

Q7. Kirchhoff current law states that the algebraic sum of all currents entering a node of a circuit is ____.

- A. always zero
- B. always constant
- C. infinite
- D. double

Q8. Nodal analysis on circuits is used to obtain multiple KCL equations that are useful to solve for voltage and current in a circuit.

- A. True
- B. False

Q9. In assigning the direction of branch currents, ____.

- A. the directions are critical
- B. the directions are not critical
- C. they must point into a node
- D. they must point out of a node

Q10. The expansion method for evaluating determinants is ____.

- A. good for only one determinant
- B. more flexible than the cofactor method
- **C. good for second-order and third-order determinants**
- D. better than any other method

Q11. Which one of the practical application of RLC circuit?

- **A. Automobile Ignition System**
- B. TV
- C. Both A and B
- D. None of the above

Q12. A branch is created when the sonar.branch.name parameter is passed during analysis.

- **A. True**
- B. False

Q13. Branches are the connections between nodes.

- **A. True**
- B. False

Q14. Which one of the following is not the example of branch?

- A. resistor
- B. capacitor
- C. source
- **D. node**

Q15. A mesh is defined as a loop which does not contain any other loops within it.

- **A. True**
- B. False

Q16. When B and N denotes branches and nodes respectively then How many number of mesh equations?

- **A. Number of mesh equations= $B-(N-1)$**
- B. Number of mesh equations= $B-(N+1)$
- C. Number of mesh equations= $B+(N-1)$
- D. None of the above

Q17. If there are 5 branches and 4 nodes in graph, then the number of mesh equations that can be formed are?

- **A. 2**
- B. 4
- C. 6
- D. 8

Q18. A Super Mesh analysis could be done when there is a common _____ between any two loops.

- A. Voltage source
- **B. Current source**
- C. Resistor
- D. Both voltage and current source

Q19. The Mesh-Current method is applicable only for ____.

- A. Non-linear networks
- B. Equivalent networks
- C. Non-planar networks
- **D. Planar networks**

Q20. Is Third-order determinants are evaluated by the expansion method or by the cofactor method?

- **A. Yes**
- B. No