

16 Lecture - PHY301

Important Mcqs

What is the Super Mesh technique used for in circuit analysis?

- a) Analyzing circuits with multiple voltage sources
- b) Analyzing circuits with multiple current sources
- c) Analyzing circuits with both voltage and current sources
- d) None of the above

Answer: b) Analyzing circuits with multiple current sources

What principle is the Super Mesh technique based on?

- a) Kirchhoff's Voltage Law
- b) Ohm's Law
- c) Faraday's Law
- d) Kirchhoff's Current Law

Answer: d) Kirchhoff's Current Law

What is the first step in using the Super Mesh technique to analyze a circuit?

- a) Assigning a voltage to each loop
- b) Assigning a current to each loop
- c) Assigning a resistance to each loop
- d) Assigning a power to each loop

Answer: b) Assigning a current to each loop

What is the Super Mesh created by?

- a) Combining the meshes that contain voltage sources into a single mesh
- b) Combining the meshes that contain current sources into a single mesh

- c) Combining the meshes that contain resistors into a single mesh
- d) Combining the meshes that contain capacitors into a single mesh

Answer: b) Combining the meshes that contain current sources into a single mesh

How is the current flowing in the Super Mesh expressed in terms of the other loop currents and the current sources?

- a) As the difference of the currents flowing in the individual loops
- b) As the sum of the currents flowing in the individual loops
- c) As the product of the currents flowing in the individual loops
- d) None of the above

Answer: b) As the sum of the currents flowing in the individual loops

What is the advantage of using the Super Mesh technique over other loop analysis techniques?

- a) It can be used to analyze circuits with multiple voltage sources
- b) It can be used to analyze circuits with multiple resistors
- c) It can be used to analyze circuits with multiple capacitors
- d) It can be used to analyze circuits with multiple current sources

Answer: d) It can be used to analyze circuits with multiple current sources

How are the equations for the individual loop currents and the Super Mesh current solved to find the values of the loop currents?

- a) Using algebraic techniques
- b) Using numerical techniques
- c) Using graphical techniques
- d) Using analytical techniques

Answer: a) Using algebraic techniques

Can the Super Mesh technique be used to analyze circuits with only one current source?

- a) Yes
- b) No

Answer: a) Yes

What is the Super Mesh technique particularly useful for?

- a) Analyzing circuits with multiple resistors
- b) Analyzing circuits with multiple capacitors
- c) Analyzing power electronics circuits with multiple current sources
- d) Analyzing circuits with multiple voltage sources**

Answer: c) Analyzing power electronics circuits with multiple current sources

What types of circuits are suitable for analysis using the Super Mesh technique?

- a) Circuits with only voltage sources
- b) Circuits with only resistors
- c) Circuits with only capacitors
- d) Circuits with multiple current sources**

Answer: d) Circuits with multiple current sources