

4 Lecture - PHY301

Important Mcqs

Which of the following is a characteristic of an ideal voltage source?

- a) It has a non-zero internal resistance
- b) Its voltage output changes with time
- c) Its voltage output remains constant regardless of the load
- d) It can exist in reality

Answer: c) Its voltage output remains constant regardless of the load

What is the internal resistance of an ideal voltage source?

- a) Zero
- b) Infinite
- c) Non-zero but very small
- d) Non-zero but very large

Answer: a) Zero

Can an ideal voltage source exist in reality?

- a) Yes
- b) No

Answer: b) No

What is the practical application of an ideal voltage source?

- a) To supply power to a circuit
- b) To serve as a reference voltage for other circuits
- c) To measure the voltage of a circuit
- d) None of the above

Answer: b) To serve as a reference voltage for other circuits

What happens to the voltage output of an ideal voltage source when it is short-circuited?

- a) It decreases
- b) It increases
- c) It remains constant
- d) It becomes zero

Answer: c) It remains constant

What is the significance of an ideal voltage source in circuit analysis?

- a) It simplifies the analysis of complex circuits
- b) It makes the analysis of complex circuits more difficult
- c) It has no significance in circuit analysis
- d) None of the above

Answer: a) It simplifies the analysis of complex circuits

Can the voltage output of an ideal voltage source change with time?

- a) Yes
- b) No

Answer: b) No

What is the difference between an ideal voltage source and a real voltage source?

- a) An ideal voltage source has a non-zero internal resistance, while a real voltage source has zero internal resistance
- b) An ideal voltage source varies its output based on external conditions, while a real voltage source provides a constant voltage output
- c) There is no difference between an ideal voltage source and a real voltage source
- d) None of the above

Answer: b) An ideal voltage source varies its output based on external conditions, while a real voltage source provides a constant voltage output

What happens to the current flowing through an ideal voltage source when it is short-circuited?

- a) It remains the same
- b) It becomes zero
- c) It becomes infinite
- d) None of the above

Answer: c) It becomes infinite

What are the limitations of an ideal voltage source?

- a) It cannot exist in reality
- b) It cannot supply an infinite amount of current
- c) Both a and b
- d) None of the above

Answer: c) Both a and b