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