Liquids Conduct Electricity

A. Choose the correct answer:

1. Which of the following liquids can conduct electricity?

- (a) Pure water
- (b) Saltwater
- (c) Distilled water
- (d) Alcohol

2. What is the main reason that liquids conduct electricity?

- (a) Presence of ions or charged particles
- (b) High temperature
- (c) Low viscosity
- (d) High pressure

3. Which of these liquids is a poor conductor of electricity?

- (a) Sea water
- (b) Milk
- (c) Distilled water
- (d) Saltwater

B. Fill in the Blanks:

- 1. For a liquid to conduct electricity, it must contain _____ particles or ions.
- 2. Pure water is a _____ conductor of electricity.
- 3. _____ in water allows it to conduct electricity.

C. Case Study:

In a science experiment, students tested different liquids to see which ones could conduct electricity. They used a simple circuit with a light bulb and connected each liquid using two electrodes. Saltwater made the bulb glow brightly, while pure water did not make the bulb light up.

Case Study Questions:

- 1. Why did saltwater make the bulb glow brightly?
- 2. Why did pure water fail to conduct electricity?

3. What does this experiment demonstrate about the role of ions in conducting electricity?

4. What happens when a liquid contains dissolved ions or salts?

D. Short Answer Questions:

- 1. Why does saltwater conduct electricity better than pure water?
- 2. What role do ions play in the conduction of electricity in liquids?
- 3. Give an example of a liquid that can conduct electricity and explain why.

E. Long Answer Questions:

- 1. Explain why only certain liquids can conduct electricity and what makes a liquid a good conductor.
- 2. Describe an experiment that can demonstrate the conduction of electricity in liquids.
- 3. Discuss the importance of electrolytes in liquids and their role in electrical conductivity.