Chemical Effects of Electric Current

A. Choose the correct answer:

- 1. Which of the following is an example of the chemical effect of electric current?
 - (a) Heating of a wire
 - (b) Electroplating
 - (c) Moving a fan
 - (d) Lighting a bulb
- 2. In the process of electroplating, a metal is deposited onto a surface. Which of the following is used as the electrode?
 - (a) Non-metal
 - (b) Metal
 - (c) Plastic
 - (d) Water

3. What happens to water when an electric current passes through it?

- (a) It freezes
- (b) It boils
- (c) It breaks into hydrogen and oxygen
- (d) It conducts electricity

B. Fill in the Blanks:

- 1. In the chemical effect of electric current, chemical reactions occur at the ______ and ______ of a conductor.
- The process of depositing a layer of metal on an object using electric current is called ______.
- 3. In electrolysis of water, electric current splits water into ______ and

C. Case Study:

A group of students was conducting an experiment on the electrolysis of water. They connected two electrodes to a battery and submerged them in water. After a while, they observed bubbles forming around the electrodes. The teacher explained that electric current was causing water to decompose into hydrogen and oxygen gases.

Case Study Questions:

- 1. What was the main observation in this experiment?
- 2. What does the electrolysis of water demonstrate about the chemical effects of electric current?
- 3. What gases were produced in the experiment?
- 4. How does this experiment show the chemical effect of electric current?

D. Short Answer Questions:

- 1. Define the chemical effect of electric current.
- 2. Explain the process of electroplating and give one example.
- 3. What is the role of electrodes in the chemical effect of electric current?

E. Long Answer Questions:

- 1. Discuss the process of electrolysis with the help of an example and explain its applications.
- 2. Explain how the chemical effect of electric current is used in industries (like electroplating or purification of metals).
- 3. Describe the process of electroplating, including the materials used and the principle behind it.