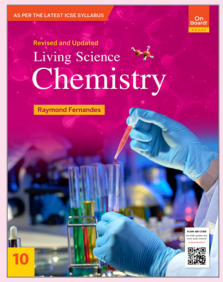
ICSE Living Science CHEMISTRY

Class 10



Multiple-Choice Questions

CHAPTER 6: ELECTROLYSIS

1. Which of the following are non-electrolytes?

   (i) Carbonic acid (ii) Hydrochloric acid (iii) Alcohol
   (iv) Sodium hydroxide (v) Carbon disulphide (CS_2)
   (a) (i) and (ii) (b) (ii) and (iii) (c) (iii) and (v) (d) (ii) and (iv)

   Ans: c

2. Which of the following are inert electrodes?

   (i) Platinum (ii) Copper (iii) Zinc
   (iv) Carbon (v) Silver
   (a) (i) and (ii) (b) (ii) and (iii) (c) (iii) and (v) (d) (i) and (iv)

   Ans: d

3. Which of the following pairs of differences between conductors and electrolytes is incorrect?

	Conductors	*Electrolytes*
(a)	The flow of electricity takes place due to the movement of electrons.	The flow of electricity takes place due to the movement of ions.
(b)	Conductors conduct electricity in their solid (or liquid) state.	An electrolyte conducts electricity in its aqueous or molten state.
(c)	A conductor does not decompose when electric current is passed through it.	An electrolyte decomposes when electric current is passed through it.
(d)	New products are formed as it undergoes a chemical change.	No new products are formed as a physical change takes place during electrolysis.

   Ans: d

4. Cations are positively charged ions because

   (a) they gain electrons. (b) they lose electrons.
   (c) they share electrons. (d) they do not take part in the electrolysis process.

   Ans: c

5. During electrolysis, the amount of electricity passed through an electrode is directly proportional to the mass of substance deposited at that electrode. This theory of electrolysis is called

   (a) Arrhenius' theory. (b) Faraday's Law of electrolysis.
   (c) William Nicholson's theory. (d) Avogadro's principle.

   Ans: b

6. Match the Columns.

Column A	*Column B*
(i) Electrolytic refining	(A) Improving appearance
(ii) Silver plating	(B) Halides and Na, K and Al
(iii) Electrometallurgy	(C) Sodium argentocyanide
(iv) Electroplating	(D) Anode mud

Choose the correct option.

(a) (i)–(B), (ii)–(C), (iii)–(A), (iv)–(D)
(b) (i)–(A), (ii)–(D), (iii)–(C), (iv)–(B)
(c) (i)–(D), (ii)–(C), (iii)–(B), (iv)–(A),
(d) (i)–(C), (ii)–(A), (iii)–(D), (iv)–(B)

Ans: c

7. During ionisation metals lose electrons, this change can be called

(a) oxidation. (b) reduction. (c) redox. (d) displacement.

Ans: a

8. Which of the following elements loses electrons with difficulty during the electrolysis process?

(a) Potassium (b) Zinc (c) Mercury (d) Lead

Ans: c

9. What happens during the electrolysis of molten lead bromide?

(a) Bromine is released at the cathode.
(b) Lead is deposited at the anode.
(c) Bromine ions gain electrons.
(d) Lead is deposited at the cathode.

Ans: b

10. During the electrolysis of acidified water, the electrodes are made up of

(a) lead. (b) carbon. (c) graphite. (d) platinum.

Ans: d

11. The aqueous solution of the compound which contains both ions and molecules is

(a) HNO_3 (b) CH_3COOH (c) HCl (d) H_2SO_4

Ans: b

12. On electrolysis of dilute sulphuric acid using platinum electrodes, the product obtained at the anode will be

(a) hydrogen. (b) oxygen. (c) hydrogen sulphide. (d) sulphur dioxide.

Ans: b

13. The article to be electroplated should be made the

(a) cathode.
(b) anode.
(c) either cathode or anode.
(d) none of these.

Ans: a

14. With which of the metals iron equipment are electroplated to prevent them from corrosion as they get corroded easily in the presence of humid atmosphere?

(i) Zinc (ii) Chromium (iii) Nickel (iv) Platinum

(a) (ii) and (iii) (b) (i) and (iii) (c) (iii) and (iv) (d) (i), (ii) and (iii)

Ans: d

15. The process by which metals containing impurities are purified electrically to give pure metal is called

(a) electroplating. (b) electro-refining. (c) electrometallurgy. (d) galvanising.

Ans: b

16. In the process of extraction of metals by electrolysis, the electrodes are made of

(a) platinum and lead. (b) carbon and iron. (c) graphite and iron. (d) zinc and copper.

Ans: c

17. Which metal is used in electroplating cans for storing food?

(a) Ni (b) Sn (c) Cr (d) Ag

Ans: b

18. Lead bromide conducts electricity in the

(a) solid state. (b) aqueous state. (c) molten state. (d) gaseous state.

Ans: c

19. Which of the following is not a factor that influences the selective discharge of ions?

(a) Position of the ions in electrochemical series (b) Concentration of the ions

(c) Nature of the electrodes (d) Nature of electrolyte

Ans: c

20. A statement of assertion followed by a statement of reason is given below. Mark the correct choice.

Assertion: Although copper is a good conductor of electricity, it is a non-electrolyte.

Reason: Copper contains free electrons. The movement of free electrons conducts electricity. But copper does not dissociate into ions.

(a) Both assertion and reason are true and reason is the correct explanation of assertion.

(b) Both assertion and reason are true but reason is not the correct explanation of assertion.

(c) Assertion is true but reason is false.

(d) Both assertion and reason are false.

Ans: a