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தொகுப்பு: ந. சண்முகசுந்தரம் (மருதம் ஆசிரியர்), அ.எண்: 96598 38789

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HIGHER SECONDARY SECOND YEAR

12th – CHEMISTRY / UNIT 1 - METALLURGY

I. Choose the correct answer: 10 X 1 = 10

1. Roasting of sulphide ore gives the gas (A). (A) is a colourless gas. Aqueous solution of (A) is acidic. The gas (A) is

a) CO_2 b) SO_3 c) SO_2 d) H_2S

2. Which of the metal is extracted by Hall-Heroult process?

a) Al b) Ni c) Cu d) Zn

3. Electrochemical process is used to extract

a) Iron b) Lead c) Sodium d) silver

4. Flux is a substance which is used to convert

a) Mineral into silicate b) Infusible impurities to soluble impurities

c) Soluble impurities to infusible impurities d) All of these

5. Zinc is obtained from ZnO by

a) Carbon reduction b) Reduction using silver

c) Electrochemical process d) acid leaching

6. Considering Ellingham diagram, which of the following metals can be used to reduce alumina?

a) Fe b) Cu c) Mg d) Zn

7. Which of the following is used for concentrating ore in metallurgy?

a) Leaching b) Roasting c) Froth floatation d) Both (a) and (c)

8. In the electrolytic refining of copper, which one of the following is used as anode?

a) Pure copper b) Impure copper c) Carbon rod d) Platinum electrode

9. Which one of the following reaction represents calcinations?

a) $2Zn + O_2 \dashrightarrow 2ZnO$ b) $2ZnS + 3O_2 \dashrightarrow ZnO + 2SO2$

c) $MgCO_3 \dashrightarrow MgO + CO2$ d)Both (a) and (c)

10. The metal oxide which cannot be reduced to metal by carbon is

a) PbO b) Al_2O_3 c) ZnO d) FeO

II Answer any eight questions: 8 X 2 = 16

11. What is Liquation?

12. What is Ellingham Diagram?

13. Why Ag_2O and HgO is Unstable?

14. Give the Uses of Gold?

15. Write the Uses of Copper?

16. Write the Uses of Gold?

17. What is Auto reduction?

18. What is Gravity separation (or) Hydraulic wash?

19. What is Acid leaching?

20. What is Calcination?

III Answer any eight questions: 8 X 3 = 24

21. What are the difference between minerals and ores?

22. What is the role Limestone in the extraction of Iron from its Oxide Fe_2O_3?

23. Suitable Examples: i) Gangue ii) Slag

24. Write a note on alkali Leaching with an example.

25. Give the Limitation of Ellingham diagram?

26. Explain Mond's process.

27. Describe the role of Iodine in the refining of Zirconium?

28. Explain the principle of electrolytic refining with an example

29. Write a short note on electrochemical principles of metallurgy.

30. Give the basic requirement for vapour phase refining.