Guna matric higher secondary school

Date : 24/09/2020 Mathur-2020 Time : 2.00h

XII-chemistry Mark : 70

I Choose the correct answer 15 x 1 = 15

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

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

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

a) PbO b) Al2O3 c) ZnO d) FeO

3. Wolframite ore is separated from tinstone by the process of

a) Smelting b) Calcination c)Roasting d) Electro magnetic separation

4. Electrochemical process is used to extract

a) Fe b) Pb c) Na d) Ag

5. Which one of the following ores is best concentrated by froth- floatation method?

a) Magnetite b) Haematite c) Galena d) Cassiterite

6. Extraction of gold and silver involves leaching with cyanide ion silver is later recovered by

a) Distillation b) Zone refinig c) Displacement with Zn d) Liquation

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

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

8. Oxidation state of carbon in its hydride?

a) +4 b) -4 c) +3 d) +2

9. An aqueous solution of borax is

a) Neutral b) Acidic c) Basic d) Amphoteric

10. Which among the following is not a borane?

a) B2H6 b) B3H6 c) B4H10 d) None of these

11. The element that does not show catention among the following P- block element is

a) Carbon b) Silicon c) Lead d) Germanium 12.Carbon atom in fullerene with formula C60 have

a) SP3 hybridized b) SP hybridized c) SP2 hybridized

d) Partially Sp2 and Sp3 hybridized

13. Duralumin is an alloy of?

a) Cu, Mn b) Cu, Al, Mg c) Al, Mn d) Al, Cu, Mn, Mg

14. The stability of +1 oxidation state increase in the sequence

a) Al<Ga<In<Tl b) Tl<In<Ga<Al c) In<Tl<Ga<Al d) Ga<In<Al<Tl

15. Which of the following is not Sp2 hybridized?

a) Graphite b) Graphene c) Fullerene d) Dry ice

II. Answer the following question any six 6 x 2 = 12

16. Give the uses of silicone any two point.

17. Complete the following equation.

i) HCOOH + H2SO4 --------> ?

ii) B + NaOH ----------> ?

18. Give one example for each i) Icosogen ii) Tetragen iii) Chalcogen

19. How will you convert boric acid to boron nitride?

20. Write the preparation of carbon monoxide?

21. What are the differences between minerals and ores?

22. Explain the following terms with suitable example

i) Gangue ii) Slag

23. Write the uses of copper any two point?

24. Write lead important ore with molecular formula?

III. Answer the following question any six 6 x 3 = 18

25. Describe the magnetic separation with example.

26. Write the following reduction of metal oxide

i) Reduction of carbon ii) Reduction of hydrogen iii) Reduction of metal.

27. Write notes on electrolytic refining process?

28. Give the uses of Zinc?

29. Give the basic requirement for vapour phase refining?

30. Write the preparation of borax?

31. Write the uses of boron any three point?

32. Write the preparation of boric acid?

33. Write any three properties of diborane?

IV. Answer the following question write any five 5 x 5 = 25

34. i) Give the structure of CO and CO2

, ii) write a short note on hydroboration

35. i nwrite a note on zeolites

ii) CO is a reducing agent justify with an example

36. i) A hydride of 2nd period alkali metal (A) on reaction with compound of boron (B) to give a reducing agent (C) identify A, B, and C

ii) A double salt which contains fourth period alkali metal (A) on heating at 500k gives (B) aqueous solution of (B) gives white precipitate with $BaCl_2$ and gives a red colour compound with alizarin.identify A and B

37. Complete the following reaction

i) $Na_2B_4O_7 + H_2SO_4 + H_2O$ ----------> ?

ii) $SiCl_4 + NH_3$ -------->?

iii) $BF_3 + 9H_2O$ --------> ?

iv) $B_2H_6 + CH_3OH$ ---------> ?

v) $B(OH)_3 + NH_3$ ----------> ?

38 i). What is catenation? Describe briefly the catenation property of carbon

ii) Write a note on fisher tropsch synthesis

39. Describe the role of the following in the process mentioned

i) Silica in the extraction of aluminium

ii) cryolite in the extraction of aluminium

iii) Iodine in the refining of zirconium

iv) Sodium cyanide in froth floatation

40. i) Give the limitations of Ellingham diagram.

ii) Explain zone refining process with an example.

----------All the best ----------