VGR COACHING CENTER

Time Allowed : 2:30 hours Maximum Marks : 70

XII – CHEMISTRY (UNIT 1,2,6,11)

1. Wolframite ore is separated from tinstone by the process of
   a) Smelting b) Calcination c) Roasting d) Electromagnetic separation
2. Which of the metal is extracted by Hall-Heroult process ?
   a) Al b) Ni c) Cu d) Zn
3. Bauxite has the composition
   a) Al2O3 b) Al2O3.nH2O c) Fe2O3.2H2O d) None of these
4. The coordination number of an atom in fcc lattice is
   a) 4 b) 6 c) 8 d) 2
5. The crystal with a metal deficiency defect is
   a) NaCl b) FeO c) ZnO d) KCl
6. IUPAC name of C6H5OCH3 is
   a) Methylphenylether b) Phenylmethylether c) Anisole d) Methoxy benzene
7. Which one of the following is the strongest acid?
   a) 2 – nitrophenol b) 4 – chlorophenol c) 4 – nitrophenol d) 3 – nitrophenol
8. Which one of the following will react with phenol to give salicyladehyde after hydrolysis.
   a) Dichloro methane b) trichloroethane c) trichloro methane d) CO2
9. In diborane, the number of electrons that accounts for banana bonds is
   a) six b) two c) four d) three
10. An aqueous solution of borax is
    a) neutral b) acidic c) basic d) amphoteric

Answer any seven questions in which Question No.20 is Compulsory. 7X2=14

11. Give the basic requirement for vapour phase refining
12. Give the limitations of Ellingham diagram.
13. Classify the following solids. a. P4 b. Brass c. diamond d. Iodine
14. Write Schotten - Baumann reaction.
15. How is phenol converted into p-hydroxy azobenzene ?

16. Write Bragg's equation. Explain the terms
17. What is inert pair effect?
18. Give one example for each of the following (i) icosagens (ii) tetragens (iii) pnictogens (iv) chalcogens
19. CO is a reducing agent. Justify with an example
20. Give a reason to support that sulphuric acid is a dehydrating agent.

Answer any seven questions in which Question No.29 is Compulsory. 7X3=21

21. What are the differences between minerals and ores ?
22. How will you convert acetylene into n – butyl alcohol?
23. Write a note on Fisher tropsch synthesis
24. Using the Ellingham diagram, (a) Predict the conditions under which
    I. Aluminium might be expected to reduce magnesia.
    II Magnesium could reduce alumina.
25. Explain zone refining process with an example
26. Explain Metal excess defect
27. Write a short note on hydroboration
28. Calculate the percentage efficiency of packing in case of body centered cubic crystal.
29. How is phenolphthalein Prepared ?
30. Complete the following reactions
    (a) $Na_2B_4O_7 + H_2SO_4 + H_2O \rightarrow$
    (b) $HCOOH + H_2SO_4 \rightarrow$
    (c) $SiCl_4 + NH_3 \rightarrow$

Answer All questions 5X5=25

31. I. Explain the electrometallurgy of aluminium.(3)

    II. write the equation for the extraction of silver by leaching with sodium cyanide. .(2)

    OR

    I. Write a short note on anamalous properties of the first element of p-block. .(2)

    II Describe a method for refining nickel. .(3)

32. I. How will you identify borate radical? .(2)
II. Describe the structure of diborane.(3)

OR

I. Give the structure of CO and CO2. (2)
II. Write a note on zeolites. .(3)

33. (i) Explain Schottky defect. (ii) Explain Frenkel defect. .(4)
III. Write any two characterstics of ionic crystal.(1)

OR

I. Distinguish between hexagonal close packing and cubic close packing. .(2)
II. Differentiate crystalline solids and amorphous solids.(3)

34. I. Write Victor Meyer's test .(3)
II. Explain Kolbe's reaction. (2)

OR

I. How are the following conversions effected? i) benzylchloride to benzylalcohol ii) benzyl alcohol to benzoic acid .(2)
II. Predict the major product, when 2-methyl but – 2 – ene is converted into an alcohol in each of the following methods .(3)
I.

35. I. Write Riemer - Tiemann reaction. .(2)
II. How is phenol prepared from chloro benzene ? .(1)
III How is ethylene glycol prepared ? .(2)

OR

I. What is catenation? Describe briefly the catenation property of carbon. .(3)

II. How is potash alum prepared? .(2)

Write a note on covalent solids. Give an example

17.

How is glycerol converted into acrolein?

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W

28. a)

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13.

. (ii) Write a note on the most stable allotropic form of carbon