



14. The magnetic moment of  $Mn^{+2}$  ion is  
 a) 5.92 BM                      b) 2.80 BM                      c) 8.95 BM                      d) 3.90 BM
15. Which one of the following is not produced by body?  
 a) DNA                              b) Enzymes                      c) Hormones                      d) Vitamins

**PART- II**

**Note : Answer any six questions . Question No.24 is compulsory. (6x2=12)**

16. What is acid leaching?  
 17. What is the hybridisation in  $XeOF_2$ ? Give its structure.  
 18. Give two examples of biologically important co-ordination compounds?  
 19. Define average rate and instantaneous rate.  
 20. Why does conductivity of solution decrease on dilution of the solution?  
 21. Arrange the following in the increasing order of their boiling point and give a reason for your ordering.  
     Butan-1-01, Butan-2-01, 2-Methylpropan-2-01  
 22.  $P^{Kb}$  of aniline is more than that of Methylamine reason out.  
 23. Give any two difference between DNA and RNA.  
 24. How will you prepare acetylchloride from Acetic acid?

**PART -III**

**Note: Answer any six questions. Question No.33 is compulsory. (6x3=18)**

25. Give the uses of Borax.  
 26. Write a note on Zeigler Natta catalyst.  
 27. What are the limitations of VB theory.  
 28. Calculate the number of atoms in a fcc unit cell.  
 29. What are Narcotic and Non-Narcotic drugs. Give examples.  
 30. What is the difference between a sol and a gel?  
 31. Convert: Phenulmethanal  $\rightarrow$  Benzoin.  
 32. Why carbohydrates are generally optically active?  
 33. Calculate the  $p^H$  of 0.04M  $HNO_3$  solution. [ $\log 4=0.6021$ ]

**PART -IV**

**Note: Answer all the questions. (5x5=25)**

34. a) Write about Ellingham diagram.(5)  
     (OR)  
 b) Describe the structure of Diborane.(5)
35. a) Complete the following reaction.  
     i)  $P_4 + NaOH + H_2O \rightarrow$  (3)      ii)  $Na_2 Cr_2 O_7 + KCl \rightarrow$  (2)  
     (OR)  
 b)  $[Ni(CN)_4]^{2-}$  is diamagnetic. Why? Explain using VB theory.
36. a) Calculate the percentage efficiency of packing in case of face centred cubic crystal. (5)  
     (OR)  
 b) i) A first order reaction is 40% complete in 50 minutes. Calculate the value of rate constant. [ $\log 6= 0.7781$ ] (3)  
     ii) Define:  $p^H$  (2)
37. a) Describe the electrolysis of molten NaCl using inert electrode.(5)  
     (OR)  
 b) Differentiate physisorption and chemisorption. (5)
38. a) i) Write short notes on "Riemer Tiemann Reaction". (3)  
     ii) Convert: Acetamide  $\rightarrow$  Ethylamine. (2)  
     (OR)  
 b) i) How is oil of mirbane prepared. (3)  
     ii) Define: Enzymes. (2)