



JAIN COLLEGE

463/465, 18th Main Road, SS Royal, 80 Feet Road
Rajarajeshwari Nagar, Bangalore - 560 098

SUBJECT: CHEMISTRY

**II PUC
MOCK - II**

Timings Allowed: 3 Hrs 15 Minutes

Total Marks: 70

Instructions: i) The question paper has four Parts.

ii) Parts A, B, C and D are common to all candidates.

iii) Part A carries 10 marks. Each question carries one mark. Part B carries 20 marks. Each question carries two marks. Part C carries 40 marks. Each question carries five marks. In Part D-D₁ carries 10 marks and D₂ carries five marks.

iv) Write balanced chemical equations and draw diagrams wherever necessary.

PART A

I. Answer the following.

10X 1= 10

1. How specific conductivity varies with dilution?
2. Give an example of secondary alkyl halide.
3. Give an example of solution of gas in liquid.
4. Name the first compound of xenon prepared in laboratory.
5. Define vapour pressure.
6. Name the method used for concentration of Zns ore.
7. Name the product obtained when phenol reacts with acetic anhydride.
8. Give an example of aldehyde which does not contain alpha hydrogen.
9. Temperature coefficient of a reaction is 2. How many times rate increases when temperature increases from 240K to 260K.
10. How many particles are present per unit cell of bcc.

PART B

II. Answer any five of the following.

5 x 2= 10

11. Mention the characteristic properties of solution showing negative deviation.
12. d block elements form alloys and compounds. Give reason.
13. Mention four factors which influence electrolytic conductance.
14. How do you prepare phenol from BDC.
15. Write the reaction of anisole with HI.
16. What is Stephen reduction? Give example.
17. Represent Daniel cell symbolically.
18. What is Frankel defect? Give an example of crystal showing this defect.

PART C

III. Answer any five of the following

5x 3= 15

19. How is aluminum obtained from Bauxite by Hall and Heroult process?
20. Write the reactions involved in the manufacture of sulphuric acid by the contact process.
21. a) Calculate the magnetic moment of Mn²⁺ ion.
b) Which metal of the 3d-series exhibits only +2 oxidation state?
22. With the help of valence bond theory account for the geometry & magnetic property of [Co(F)₆]³⁻.

23 Explain linkage isomerism with example.

24 what is crystal field splitting? Represent crystal field splitting in octahedral field.

25a) Explain the action of water on PCl_5 b) Write the structure of ortho phosphoric acid.

26. How potassium permanganate is prepared from the MnO_2 ?

PART D

IV. Answer any THREE of the following.

3 x 5 = 15

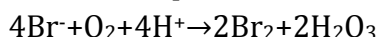
27 a). Calculate the packing efficiency in face centered cubic crystal (3)

What are paramagnetic and diamagnetic substance? Give example.

28. a). Vapour pressure of water at 293K is 17.535 mmHg. Calculate the vapour pressure of water at 293K when 25g of glucose is dissolved in water.

b). State Raoult's law for volatile liquids.

29. a) Calculate the equilibrium constant for the cell reaction



What are fuel cells? Write reactions at anode and cathode of H_2 - O_2 fuel cell. 2

30. a) Derive the integrated rate equation for a first order reaction 3

b) Write Arrhenius equation and explain the terms. 2

31. a) Explain a) Brownian movement b) Dialysis. 2

b) What are shape selective catalysis. Give uses of ZSM-5.

c) Mention two characters of enzyme catalysis.

V. Answer any FOUR of the following.

4 x 5 = 20

32 a) Explain mechanism of addition of HCN to carbonyl group.

b) What is Etard's reaction? Give equation.

33. a) How do you prepare ethanol from ethane.

b) Write the reaction of phenol with Br_2 in CCl_4

c) Between methyl amine and ammonia which is more basic give reason. 2

34. a). What is Cannizzaro's reaction? Give example (3)

b). Write the chemical equation for the reaction between NH_2OH and acetone.

35. a) How do you convert nitro benzene to aniline.

b) What is HVZ reaction? Give example.

36. a) Write the Haworth structure of α -D-glucose. 2

b) What is peptide? How many peptide bonds are present in tripeptide? 2

c) What are nucleotides? 1

37. a) Name the monomer of natural rubber

b) Write the partial structure of terylene.

c) What are elastomers? Give example 2
