

# INTERMEDIATE-II YEAR CHEMISTRY

## Model Paper- 3

**Time: 3 hours**

**Maximum marks: 60**

### SECTION-A

**NOTE: Answer all questions.**

**(10x2=20M)**

1. Explain Paramagnetism with suitable example.
2. Calculate the mole fraction of  $H_2SO_4$  in a solution containing 98%  $H_2SO_4$  by mass.
3. What are primary and secondary batteries?
4. How do transition elements exhibit catalytic activity?
5. Give the composition of the following alloys.
  - i) German silver
  - ii) Bronze
6. How do you distinguish between Crystal lattice and unit cell?
7. What is PHBV? How is it useful to man?
8. What is Ziegler-Natta catalyst? Give its use?
9. Write the isomers of the compound having formula  $C_4H_9Br$ .
10. How is Toluene converted to benzyl alcohol?

### SECTION-B

**Note: Answer any Six of the following**

**(6x4=24marks)**

11. Define Osmotic pressure.

If the osmotic pressure of glucose solution is 1.52 bar at 300K, what would be its concentration if  $R=0.0831$  bar/mol/k.

12. What is catalysis? How is catalysis classified? Give two examples for each type of catalysis.

13. Explain the purification of sulphide by froth floatation method.
14. Explain the structures of a)  $XeF_6$  and b)  $XeOF_4$
15. Why do the transition metal ions exhibit characteristic colours in aqueous solution? give example.
16. What are hormones? Give one example for each.
- i) Steroid hormones ii) Poly peptide hormones and iii) Amino acid derivatives
17. Explain the following terms with suitable example.
- (i) Cationic detergents (ii) Anionic detergents
18. Write short notes on the following.
- (i) Carbylamine reaction (ii) Sandmeyer reaction

### SECTION-C

**Note: Answer any Two of the following questions. (8x2=16M)**

19. a) Give the applications of Kohlrausch's law of independent migration of ions.  
b) Explain the following terms with suitable examples  
i) activation energy of a reaction ii) order of reaction
20. a) How is ozone prepared? How does it react with the following?  
i) PbS ii) KI iii) Hg  
b) Write the names and formulae of the oxo acids of chlorine and give their structures.
21. a) Explain the acidic nature of phenol and Compare with that of alcohols.  
b) Describe the following.  
a. Cannizzaro reaction and b. Decarboxylation