

SECTION - A

I. Answer all the following:

10 × 2 = 20

1. What is Gibb's energy?
2. Define Osmotic pressure.
3. What is Entropy?
4. Write the names of monomers present in Terylene.
5. How Aspirin is prepared? Give equation.
6. What are Hormones? Give two examples.
7. Define effective atomic number. Calculate the EAN of Fe in $K_4[Fe(CN)_6]$
8. 4gm of NaOH are dissolved in 4 litres of the solution. Find the molarity of the solution.
9. Define Antibiotics. Give two examples.
10. What are Lipids? Mention any two of its functions to biosystems.

SECTION - B

II. Answer any six of the following:

6 × 4 = 24

11. Explain the preparation of NH_3 by Cyanamide process.
12. Derive Bragg's equation.
13. Explain Froth Flootation process.
14. Mention the dispersed phase and dispersion medium of the following colloids.
(a) Milk
(b) Cloud
15. Explain the Cannizaro reaction and Wolff – Kishner reduction. Write equations.
16. What is Salt Hydrolysis? Explain the nature of aqueous solution of NH_4Cl . Give equation.
17. Define First law of Faraday's Electrolysis. A current of 0.965amp is passed through an aqueous solution of $AgNO_3$ for 10 minutes during electrolysis. Calculate the mass of Ag deposited at the cathode. (Atomic weight of Ag = 108)
18. Write the important postulates of Werner's theory of complex compounds.

SECTION - C

III. Answer any two of the following:

2 × 8 = 16

19. Define Le-Chatelier's principle and apply it to the following equilibrium.



20. a) Explain the preparation of Chlorine by Nelson Cell method.

b) Write any two oxidation and any two reduction properties of Ozone. Give equations.

21. How Nitro benzene is prepared? How does it reduce in presence of the following? Give equations.

(a) Zn + HCl

(b) Zn + KOH

(c) Zn + NH_4Cl

(d) $LiAlH_4$