

G-18-M

Roll No.....

Total No. of Questions : 21]

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HSE2PKM16

8818-M

CHEMISTRY

Time : 3 Hours]

[Maximum Marks : 70

(Long Answer Type Questions)

5 each

1. Explain the following terms :

(i) Molarity

(ii) Molality

(iii) Normality

(iv) Mole fraction

(v) Mass per cent

Or

Name various colligative properties. Derive a relationship between the relative lowering of vapour pressure and moles mass of solute.

2. What is Electrolysis ? State and explain the Faraday's laws of electrolysis.

Or

Give a brief account of corrosion and its mechanism.

3. Name the various allotropes of phosphorous. How does yellow phosphorous differ from red phosphorous ?

Or

How is sulphuric acid manufactured by contact process ? Why is sulphuric acid syrupy (viscous) ?

Turn Over

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4. Give five chemical properties of carbonylic acid.

Or

Write short notes on the following :

- (i) Aldol Condensations
- (ii) Cannizaro Reaction
- (iii) Rosenmund Reduction

(Short Answer Type Questions)

3 each

- 5. Explain Schotky defect.
- 6. Define order of reaction and give its types.
- 7. Explain Tyndall effect in colloids.
- 8. What are Interhalogens ? How are they prepared ?
- 9. Explain variable oxidation states of 3d-elements.
- 10. Write any *three* chemical properties of phenol.
- 11. Explain linkage isomerism in co-ordination compounds.
- 12. What are proteins ? State their important uses.

(Very Short Answer Type Questions)

2 each

- 13. Derive a relationship for half-life period of first order reaction.
- 14. Explain electrolytic method for refining of copper.
- 15. Write chemical equations of the reaction of $K_2Cr_2O_7$ with (i) KI
(ii) SO_2 .

16. What are Haloalkanes ? Give *two* examples of Haloalkanes.
17. Give uses of BHC.
18. What is Diazotisation ?
19. How Bakelite is synthesised ?
20. What are Antifertility Drugs ? Give *two* examples.

(Objective Type Questions)

1 each

21. (A) Fill in the blanks :

- (i) In F.C.C. unit cell the total number of atoms per unit cell is
- (ii) Scattering of light by colloidal dispersion is called
- (iii) —COOH is the functional group of acids.

(B) Tick mark the true/false statements given below :

- (i) High purity metals can be obtained by zone refining.
- (ii) In IUPAC system isocyanide are called carbylamines.
- (iii) Ethers readily dissolve in water.

(C) Give one word/short description of the following :

- (i) What is the functional group in Isocyanides ?
- (ii) What are Monosaccharides ?

(D) Choose the correct/most appropriate answer given below against each :

(i) Bakelite is obtained from Phenol by reacting it with :

- (a) Acetaldehyde
- (b) Acetal
- ☒ (c) Formaldehyde
- (d) Chlorobenzene

(ii) Which one of the following is not present in RNA ?

- (a) Uracil
- ☒ (b) Thymine
- (c) Ribose
- (d) Phosphate