

Section-A (MCQ's)

Q.1: Choose the correct answer for each from the given options:

- (i) Which one Carbonium ion is least stable:
(a) (b) (c) (d)
- (ii) The Alicyclic hydrocarbon is:
(a) Hexane (b) Hexene (c) Benzene (d) Cyclohexane
- (iii) The essential amino acid is:
(a) Glycine (b) Alanine (c) Lysine (d) Tyrosine
- (iv) Which one element is Diamagnetic:
(a) Sc (b) Ti (c) Ne (d) Fe
- (v) The down cell is to prepare:
(a) NaOH (b) Sodium metal (c) Sodium carbonate
(d) Sodium bicarbonate
- (vi) Which one of the following element is not transition metal:
(a) Cu (b) Cr (c) Co (d) Ca
- (vii) King of compound is:
(a) HCl (b) H₂SO₄ (c) HNO₃ (d) CH₃COOH
- (viii) About 60-80% of the total calories intake is furnished by:
(a) Fats (b) Amino acids (c) Minerals (d) Carbohydrates
- (ix) The water requirement of the human body per day is about:

- (a) 1.5 to 2 liters (b) 2.5 to 3 liters (c) 3.5 to 4 liters
(d) 4.5 to 5 liters

- (x) Which one from the following is anucleophile.
(a) (b) OH (c) (d) SO₃H
- (xi) Which of the following is meta director:
(a) -NO₂ (b) (c) -COOH (d) -CHO
- (xii) Fat soluble vitamins are:
(a) A and B (b) B-Complex (c) A, D, E and K (d) A and D
- (xiii) Which of the following is a lipid:
(a) Glycine (b) Toluene (c) Cholesterol (d) Ascorbic acid
- (xiv) The formula of Diaspore is:
(a) Al₂O₃ (b) B₂O₃ (c) Al₂O₃·H₂O (d) Na₂AlF₆
- (xv) Which metal corrode slowly:
(a) Sodium (b) Calcium (c) Iron (d) Copper
- (xvi) The ortho, Para-directing and deactivating group is:
(a) NH₂ (b) -COOH (c) Br (d) NHCOR
- (xvii) Which one contain 93.6% carbon:
(a) Methane (b) Ethene (c) Ethyne (d) Benzene

Section-B,
Short Answer

Note: Answer any EIGHT of the following questions. Each question carries 05 marks.

Q.2: What different steps are involved in the preparation of washing soda?

Q.3: Complete the following reactions:

- (i) $\text{CaO} + \text{H}_2\text{SO}_4 \longrightarrow$ (ii) $\text{NaOH} + \text{NH}_4\text{Cl} \longrightarrow$
(iii) $\text{K} + \text{O}_2 \longrightarrow$ (iv) $\text{FeS} + 2\text{HCl} \longrightarrow$
(v) $\text{H}_2\text{S} + \text{Cl}_2 \longrightarrow$

Q.4: How ethyl alcohol and ethyl chloride is converted into diethyl ether by chemical reaction?

Q.5: What happens when:

- (i) Al reacts with dil. H₂SO₄. (ii) H₂S burns in air
(iii) Acetylene is treated with Aq. cold KMnO₄.
(iv) Sodium benzoate is heated with NaOH
(v) H₂SO₄ is treated with hot solution of borax.

Q.6: What is subaga? Give its method of preparation and properties.

Q.7: What is Grignard's reagent? Discuss its five applications.

Q.8: Give structure of the following compounds:

- (i) Benzene (ii) Toluene (iii) Resorcinol
(iv) Aldotriose (v) Cysteine

Q.9: Differentiate between E1 and E2 reactions.

Q.10: Explain with chemical reactions.

- (i) Hydroforming process (ii) Fermentation of Starch

Q.11: Explain protein and peptide bond.

Section-C Descriptive Answer

Note: Answer any TWO of the following questions.

Q.12: (a) What is form aldehyde? How it is prepared?

(b) Convert the following:

(i) Methyl iodide to ethane (ii) Phenol to benzene

(iii) Ethyl acetate to sodium acetate

(iv) Phenol to 2, 4, 6-tri bromo phenol

(v) Acetylene to ethanol (vi) Ethylene to oxalic acid

(vii) Toluene to benzene

Q.13 (a) What is water gas? How it is prepared?

(b) Write short notes on any two of the following:

(i) Position of hydrogen in periodic table (ii) Phosphatic fertilizers

(iii) Polymerization

Q.14 (a) Write the structure of the following:

(i) Acetic anhydride (ii) Phynyl Hydrazone (iii) Ethylene glycol

(iv) Calcium formate (v) Ter-butyl iodide (vi) Isobutyl alcohol

(vii) Resorcinol

(b) Name the following by I.U.P.A.C system:

