

NOTE: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen Ink. Cutting or filling two or more circles will result in zero mark in that question.

Q1.

12

1. Which is tasteless?

- (A) Sucrose (B) Glucose (C) Fructose (D) Starch

2. Vitamin B complex includes _____ vitamins.

- (A) 8 (B) 9 (C) 10 (D) 11

3. How much percent of solid mass is reduced by the process of incineration?

- (A) 80-85 (B) 88-90 (C) 91-92 (D) 95-97

4. A disease that causes bone and tooth damage is:

- (A) Hepatitis (B) Fluorosis (C) Jaundice (D) Cholera

5. Potable water on earth is only _____ of total water.

- (A) 0.01% (B) 0.1% (C) 0.2% (D) 0.3%

6. Matte is a mixture of:

- (A) Cu_2S , FeS (B) FeS, CuS (C) Cu_2O , FeO (D) CuS, FeO

7. The colour of iodine is:

- (A) Blue (B) Red (C) Green (D) Purple

8. How many possibilities are there in chemical equilibrium state?

- (A) 1 (B) 2 (C) 3 (D) 4

9. Acetic acid is used for:

- (A) Flavoring food (B) Making explosive (C) Etching designs (D) Cleaning metals

10. KCl is example of:

- (A) Double salt (B) Mixed salt (C) Normal salt (D) Complex salt

11. Formula of acetaldehyde is:

- (A) $\text{CH}_3 - \text{CH}_2\text{OH}$ (B) $\text{CH}_3 - \overset{\text{O}}{\parallel} \text{C} - \text{OH}$ (C) $\text{H} - \overset{\text{O}}{\parallel} \text{C} - \text{OH}$ (D) $\text{CH}_3 - \overset{\text{O}}{\parallel} \text{C} - \text{H}$

12. Which is used as dry cleaning?

- (A) CCl_4 (B) CHCl_3 (C) CH_4 (D) CH_2Cl_2

Roll No.(In Figures): (In Words):

Maximum Marks: 48

SUBJECTIVE TYPE

Time Allowed :1.45 Hours

(PART - I)

Q2. Write short answers to any FIVE (5) questions. 5×2=10

- (i) Write two differences between forward and reverse reaction.
- (ii) Write the equilibrium constant expression for the reaction: $N_2(g)+O_2(g) \rightleftharpoons 2NO(g)$
- (iii) When and why K_C has no units?
- (iv) Write two macroscopic characteristics of reverse reaction.
- (v) Write two uses of pH.
- (vi) Write the names of any two naturally occurring acids.
- (vii) what is meant by the term auto ionization? Give an equation.
- (viii) Write two uses of calcium sulphate ($CaSO_4 \cdot 2H_2O$)

Q3. Write short answers to any FIVE (5) questions. 5×2=10

- (i) What is vital force theory?
- (ii) What is meant by carbonization?
- (iii) Define functional group and give an example.
- (iv) Why are the alkanes called paraffins?
- (v) Write two uses of methane.
- (vi) Write two characteristics of poly saccharides.
- (vii) What is meant by genetic code of life?
- (viii) Differentiate between oil and fats.

Q4. Write short answers to any FIVE (5) questions. 5×2=10

- (i) Write the composition of dry air.
- (ii) What do you mean by atmosphere?
- (iii) Write two effects of ozone depletion.
- (iv) Why the water molecule is polar?
- (v) How does sodium zeolite soften water?
- (vi) Define blister copper.
- (vii) List the raw materials used in Solvay's process.
- (viii) Write the names of residual oil fractions.

(PART - II)

Note: Attempt any TWO questions. 2×9=18

- Q5. (a) Define reversible and irreversible reactions and give examples. 5
- (b) Define salt and write three important characteristics of salts. 4
- Q6. (a) Write any five physical properties of alkanes. 5
- (b) Write any four commercial uses of enzymes. 4
- Q7. (a) How sodium carbonate is manufactured by Solvay's process. 5
- (b) Give four properties of water. 4

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Q1.

12

1. **Formula of palmitic acid is:**
(A) $C_{14}H_{29}COOH$ (B) $C_{14}H_{31}COOH$ (C) $C_{15}H_{31}COOH$ (D) $C_{15}H_{29}COOH$
2. **Thousands of amino acids polymerize to form:**
(A) Carbohydrates (B) Proteins (C) Lipids (D) Vitamins
3. **About 99% atmosphere's mass lies within:**
(A) 30km (B) 35km (C) 15km (D) 11km
4. **Percentage portion of ground water is:**
(A) 2.1% (B) 0.6% (C) 0.2% (D) 97%
5. **Specific heat capacity of water is:**
(A) $4.2 \text{ KJg}^{-1}\text{K}^{-1}$ (B) $4.2 \text{ Jg}^{-1}\text{K}^{-1}$ (C) $2.4 \text{ KJg}^{-1}\text{K}^{-1}$ (D) $2.4 \text{ Jg}^{-1}\text{K}^{-1}$
6. **When NaHCO_3 is heated it forms:**
(A) CO_2 (B) Ca(OH)_2 (C) CaCO_3 (D) CaO
7. **Active mass is generally expressed as:**
(A) () (B) { } (C) [] (D) ϕ
8. **A reverse reaction is one:**
(A) Which proceeds from left to right (B) In which reactants react to form products
(C) Slow down gradually (D) Speed up gradually
9. **The colour of Ca(OH)_2 is:**
(A) Blue (B) Green (C) White (D) Red
10. **A reaction between an acid and a base produces:**
(A) Salt and gas (B) Salt and base (C) Salt and acid (D) Salt and water
11. **The functional group – COOH is found in:**
(A) Carboxylic acid (B) Aldehydes (C) Alcohols (D) Esters
12. **Substitution reaction is the characteristic of:**
(A) Alkanes (B) Alkenes (C) Alkynes (D) Ethene

Roll No.(in Figures): (in Words):

Maximum Marks: 48

SUBJECTIVE TYPE

Time Allowed :1.45 Hours

(PART - I)

Q2. Write short answers to any FIVE (5) questions. 5×2=10

- (i) What is meant by irreversible reaction??
- (ii) Write one difference between forward and reverse reaction.
- (iii) How is dynamic equilibrium established?
- (iv) How direction of reaction can be predicted?
- (v) What is the purpose of pH meter?
- (vi) State Lowry Bronsted acid base concept.
- (vii) Write two uses of sulphuric acid.
- (viii) What are mixed salts? Give an example.

Q3. Write short answers to any FIVE (5) questions. 5×2=10

- (i) How is coal formed?
- (ii) Define condensed formula with an example.
- (iii) Write two uses of organic compound.
- (iv) Why are the alkanes called paraffins?
- (v) What is combustion? Give chemical equation.
- (vi) What is the difference between glucose and fructose?
- (vii) What is the function of DNA?
- (viii) What are disadvantages of fat soluble vitamins?

Q4. Write short answers to any FIVE (5) questions. 5×2=10

- (i) How acid rain is formed?
- (ii) Write two effects of ozone depletion.
- (iii) Define global warming.
- (iv) Write the causes and effects of fluorosis.
- (v) How temporary hardness of water can be removed?
- (vi) Write two uses of petroleum ether.
- (vii) How granulation of liquid urea can be done?
- (viii) What is froth flotation process?

(PART - II)

Note: Attempt any TWO questions. 2×9=18

- Q5. (a) Write five macroscopic properties of a dynamic equilibrium.** 5
- (b) Find out the pH and pOH of 0.001M solution of KOH.** 4
- Q6. (a) Write five uses of ethylene.** 5
- (b) What are nucleic acids? Write note on deoxyribo nucleic acid.** 4
- Q7. (a) Explain the importance and status of urea.** 5
- (b) Explain four important water borne diseases. How can these be prevented?** 4