

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. Crude oil is heated in the furnace up to:

- (A) 400°C (B) 450°C (C) 500°C (D) 525°C

2. Specific heat capacity of water is:

- (A) 4.2 KJg⁻¹K⁻¹ (B) 4.2 Jg⁻¹K⁻¹ (C) 2.4 KJg⁻¹K⁻¹ (D) 2.4 Jg⁻¹K⁻¹

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

- (A) hepatitis (B) cholera (C) fluorosis (D) jaundice

4. Rain water is weakly acidic because of:

- (A) SO₃ (B) CO₂ (C) SO₂ (D) NO₂

5. Which is fat soluble vitamin?

- (A) vitamin A (B) vitamin E (C) vitamin K (D) all these

6. Which is a triglyceride?

- (A) carbohydrates (B) proteins (C) lipids (D) vitamins

7. The end product of oxidation of acetylene is:

- (A) oxalic acid (B) glycol (C) glyoxal (D) ethane glycol

8. Coal having 90% carbon is called:

- (A) peat (B) lignite (C) anthracite (D) bituminous

9. Which is a double salt?

- (A) NaCl (B) CaO
(C) AlCl₃ (D) K₂SO₄·Al₂(SO₄)₃·24H₂O

10. Which acid is used for food preservation?

- (A) hydrochloric acid (B) benzoic acid (C) sulphuric acid (D) nitric acid

11. The colour of I₂ gas is:

- (A) blue (B) green (C) purple (D) red

12. The units of molar concentration are:

- (A) mol dm⁻³ (B) mol dm⁻² (C) mol dm³ (D) mol dm⁻³

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 a static equilibrium? Give an example.
- (ii) Give two characteristics of forward reaction.
- (iii) Why the amount of reactant and products do not change in a reversible reaction at equilibrium?
- (iv) How is active mass represented? Write its unit.
- (v) Why H^+ ion acts as Lewis acid?
- (vi) Define pH of a solution.
- (vii) Define acid rain.
- (viii) Give two uses of sodium chloride.

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

- (i) Define condensed formula of organic compounds.
- (ii) What is coal gas?
- (iii) How animals are sources of organic compounds?
- (iv) Define hydrocarbons.
- (v) Write two sources of alkenes.
- (vi) Write two characteristics of oligosaccharides.
- (vii) How amino acids are building blocks of proteins?
- (viii) Name two diseases caused by the deficiency of vitamin A.

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

- (i) What do you mean by atmosphere?
- (ii) Why CO_2 is called a green house gas?
- (iii) How is aquatic life affected by acid rain?
- (iv) Write any two properties of water.
- (v) What do you mean by boiler scales?
- (vi) What is blister copper?
- (vii) Write two uses of petroleum ether.
- (viii) What is froth flotation process?

(PART - II)

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

Q5. (a) Write five macroscopic characteristics of dynamic equilibrium. 5

(b) Explain Lewis concept of acids and bases. Also give examples. 4

Q6. (a) What types of reaction are given by alkanes? Explain with reference to halogenation of alkanes. 5

(b) Explain the uses and sources of proteins. 4

Q7. (a) Explain raw material and manufacturing process of urea along with flow sheet diagram. 5

(b) Write in detail any four water born infectious diseases. 4

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) How is dynamic equilibrium established?
- (ii) Write two characteristics of forward reaction.
- (iii) Who put forward law of mass action?
- (iv) How is active mass represented? Also write its unit.
- (v) How is mixed salts? Give an example.
- (vi) Write two uses of calcium chloride.
- (vii) Name two acids used in the preservation of food.
- (viii) Write two uses of pH.

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

- (i) What is coke? Write its two uses.
- (ii) What is meant by isomerism?
- (iii) Define petroleum.
- (iv) Define unsaturated hydrocarbons.
- (v) Write two uses of methane.
- (vi) What are proteins?
- (vii) Write the sources of vitamin D.
- (viii) Write the importance of vitamins.

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

- (i) Write two sources of oxides of carbon.
- (ii) Why CO₂ is called a green house gas?
- (iii) Write two effects of ozone depletion.
- (iv) How temporary hardness of water can be removed by boiling?
- (v) What is hepatitis?
- (vi) How slag is formed in smelting process?
- (vii) Write two uses of diesel oil.
- (viii) Name the various metallurgical operations.

(PART - II)

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

Q5. (a) Define equilibrium constant. How extent of reaction can be predicted? 5

(b) Write four characteristics/properties of salts. 4

Q6. (a) Give five uses of ethylene. 5

(b) Write four uses and sources of proteins. 4

Q7. (a) How crude oil is refined? Explain two important fractions of petroleum along with their usage. 5

(b) Define acid rain. Also write its any three effects. 4