

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 one of the following gas is used to destroy harmful bacteria in water?
(A) Iodine (B) Bromine (C) Chlorine (D) Fluorine
2. Maximum density of water at 4°C is:
(A) 1 gcm⁻³ (B) 3 gcm⁻³ (C) 2 gcm⁻³ (D) 4 gcm⁻³
3. Crude oil is heated in the furnace upto.
(A) 450°C (B) 400°C (C) 350°C (D) 300°C
4. K_C is always equal to.
(A) K_f / K_r (B) K_r / K_f (C) R_f / R_r (D) R_r / R_f
5. When the magnitude of K_C is very small it indicates.
(A) Equilibrium will never establish (B) All reactants will be converted to products
(C) Reaction will go to completion (D) The amount of products is negligible
6. Which one of the following salt will use to dry a gas.
(A) Na₂CO₃ (B) NaCl (C) CaO (D) Na₂SiO₃
7. KCl is an example of:
(A) Normal Salt (B) Double Salt (C) Mixed Salt (D) Complex Salt
8. Amount of carbon in lignite coal is:
(A) 70% (B) 60% (C) 80% (D) 90%
9. Incomplete combustion of alkanes produces:
(A) Carbon dioxide only (B) Carbon monoxide only
(C) Carbon monoxide and carbon black (D) Carbon dioxide and carbon black
10. Which one of the following is tasteless?
(A) Starch (B) Glucose (C) Fructose (D) Sucrose
11. Who proposed the name of vitamins?
(A) Lewis (B) J. Watson (C) F. Crick (D) Funk
12. Depending upon temperature variation, atmosphere is divided into how many regions?
(A) One (B) Two (C) Three (D) Four

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) Define reversible reaction and give one example.
- (ii) In which direction reaction will proceed if $Q_C < K_C$?
- (iii) Write two Macroscopic characteristics of forward reaction.
- (iv) Define "Chemical equilibrium state".
- (v) What is mixed salts? Give an example.
- (vi) Give Bronsted Lowry concept of Acids and Bases.
- (vii) Write two uses of calcium chloride.
- (viii) Which Salt is used to make "Plaster of Paris" Give formula.

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

- (i) What is meant by catenation? Give an example of a compound that displays catenation.
- (ii) Define functional group with an example.
- (iii) Write the structural formulae of each of the following.
(a) n-butane (b) iso butane
- (iv) Differentiate between saturated and unsaturated hydrocarbons.
- (v) Write one use of each of acetylene and chloroform.
- (vi) Write the structural formula of fructose.
- (vii) What are four fat soluble vitamins?
- (viii) Write a source and a use of vitamin A.

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

- (i) Write percentage composition of dry air by volume.
- (ii) Give two effects of ozone depletion.
- (iii) State the major sources of CO and CO₂ emission.
- (iv) Write four uses of water.
- (v) Define scum.
- (vi) Define Gravity Separation and Froth flotation Process.
- (vii) How are slag and mate removed from the blast furnace.
- (viii) Define Calcinations. Give equation.

(PART - II)

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

Q5. (a) State the Law of Mass action and derive equilibrium constant expression for a general reaction. 5

(b) Write down four uses of Bases. 4

Q6. (a) Write down four sources of Alkanes. 5

(b) Write down four uses of lipids. 4

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

(b) Explain four important waterborne diseases. 4

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Q1.

12

- For a reaction between PCl_3 and Cl_2 to form PCl_5 , the units of K_c is.
(A) mol dm^{-3} (B) $\text{mol}^{-1} \text{dm}^{-3}$ (C) $\text{mol}^{-1} \text{dm}^3$ (D) mol dm^3
- The value of K_c depends upon.
(A) Pressure (B) Volume (C) Temperature (D) Density
- Which one is the conjugate base of sulphuric acid?
(A) SO_4^{2-} (B) S^{2-} (C) HSO_3^- (D) HSO_4^-
- Lactic acid is found in:
(A) Sour milk (B) Apple (C) Grapes (D) Lemon
- Which one of the following is the hardest coal?
(A) Peat (B) Lignite (C) Bituminous (D) Anthracite
- Which one of these is a saturated hydrocarbon?
(A) C_2H_4 (B) C_3H_6 (C) C_4H_8 (D) C_5H_{12}
- Which one of the following is a triglyceride?
(A) Carbohydrates (B) Proteins (C) Lipids (D) Vitamins
- Night blindness is because of deficiency of:
(A) Vitamin A (B) Vitamin E (C) Vitamin C (D) Vitamin D
- Just above the Earth's Surface is:
(A) Stratosphere (B) Mesosphere (C) Troposphere (D) Thermosphere
- Temporary hardness is because of:
(A) $\text{Ca}(\text{HCO}_3)_2$ (B) CaCO_3 (C) MgCO_3 (D) MgSO_4
- At which temperature density of water is maximum?
(A) 0°C (B) 4°C (C) 100°C (D) 120°C
- Concentration is a:
(A) Mixing technique (B) Separating technique
(C) Boiling technique (D) Cooling technique

Sargodha Board 2019 (First Group)

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 macroscopic characteristics of reverse reaction.
- (ii) How dynamic equilibrium is established?
- (iii) Differentiate between reactants and products.
- (iv) How is active mass represented? Write its units.
- (v) Which kind of bond is formed between Lewis acid and base. Give example.;
- (vi) Write down formulas of the following.
(a) Nitric acid (b) Phosphoric acid (c) Calcium Hydroxide (d) Aluminum Hydroxide
- (vii) Describe Bronsted Lowry concept of acids and bases.
- (viii) Write down two uses of sodium chloride.

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

- (i) Write the general formulae of alkanes and alkyl radical.
- (ii) Write one use of each of bituminous and anthracite.
- (iii) Write percentage of carbon in peat and lignite.
- (iv) Write the structural formulae of the following. (a) Glyoxal (b) Oxalic acid
- (v) Write two uses of ethene.
- (vi) How margarine is prepared?
- (vii) Why rancid butter has a foul smell?
- (viii) Write formulae of Palmitic acid and stearic acid.

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

- (i) Write names of four natural systems of our earth.
- (ii) Write two sources of oxides of carbon.
- (iii) Define ozone and ozone layer.
- (iv) Define hardwater and softwater.
- (v) Mention the disadvantages of detergents.
- (vi) Give formulae of chalcopryrite and copper glance.
- (vii) Write Raw materials of Solvay's Process.
- (viii) How is "CO₂" prepared in the Solvay's Process.

(PART - II)

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

- Q5. (a) Write down Macroscopic characteristics of dynamic equilibrium.** 5
- (b) What is a salt. Give preparation of soluble salts in detail.** 4
- Q6. (a) Write down five uses of ethene.** 5
- (b) Write down sources and uses of protein.** 4
- Q7. (a) Write a note on fractional distillation of petroleum.** 5
- (b) Explain the methods of removing permanent hardness.** 4