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. **Potable water on earth is only _____ of total water.**
   (A) 0.6% (B) 0.2% (C) 4.0% (D) 2.1%
2. **The boiling range of petroleum ether is:**
   (A) 170-250°C (B) 30-80°C (C) 20-170°C (D) 80-170°C
3. **K_c is always equal to:**
   (A) K_f/K_r (B) K_r/K_f (C) R_f/R_r (D) R_f/R_f
4. **The given reaction goes to completion because of $CaCO_3 \xrightarrow{\Delta} CaO + CO_2$.**
   (A) high temperature (B) CaO is more stable than $CaCO_3$
   (C) CO_2 escapes continuously (D) CaO is not dissociated
5. **KCl is an example of:**
   (A) double salt (B) normal salt (C) mixed salt (D) complex salt
6. **pH of neutral solution is:**
   (A) 6 (B) 7 (C) 8 (D) 14
7. **Amount of carbon in antheracite coal is:**
   (A) 60% (B) 70% (C) 80% (D) 90%
8. **Which one of the following is an unsaturated hydrocarbons?**
   (A) CH_4 (B) C_2H_6 (C) C_2H_4 (D) C_3H_8
9. **Water soluble vitamin is:**
   (A) vitamin B (B) vitamin A (C) vitamin D (D) vitamin E
10. **The formula of stearic acid is:**
    (A) $C_{17}H_{35}COOH$ (B) $C_{17}H_{33}COOH$ (C) $C_{17}H_{37}COOH$ (D) $C_{15}H_{31}COOH$
11. **Which gas protects the earth's surface from ultraviolet radiations?**
    (A) CO_2 (B) CO (C) N_2 (D) O_3
12. **Which disease causes severe diarrhea and can be fatal.**
    (A) jaundice (B) cholera (C) typhoid (D) hepatitis

Sargodha Board 2018 (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) Define reversible reaction and give an example.
(ii) What is relationship between active mass and rate of reaction?
(iii) How can we predict the direction of a reversible reaction?
(iv) Differentiate between reactants and products.
(v) Define pH. What is the pH of pure water?
(vi) Write down two uses of sodium chloride.
(vii) Write the chemical formula of Mohr's salt.
(viii) Describe Bronsted Lowry concept of acids and bases.

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

(i) Define aromatic compounds, give example.
(ii) Give two uses of coke.
(iii) How are alkyl radicals formed? Give example.
(iv) What are addition reactions? Give example.
(v) Write down the formula of oxalic acid.
(vi) Define carbohydrates.
(vii) Give the general formula of amino acids.
(viii) Write down the sources of vitamin A.

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

(i) Write two effects of SO_2.
(ii) Define pollutants. Give two examples of air pollutants.
(iii) Define ozone and ozone hole.
(iv) Write the cause and effect of fluorosis.
(v) How temporary hardness is removed by boiling?
(vi) Write two uses of petroleum ether.
(vii) How granulation of liquid urea is done?
(viii) Define minerals and gangue.

(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) What is salt? Explain with examples the following salts. (i) Double salts (ii) Complex salts 4

Q6. (a) Write five sources of alkanes. 5

(b) Write note on oligosaccharides and polysaccharides. 4

Q7. (a) Write down the procedure for manufacturing of sodium carbonate by Solvay's process. 5

(b) Write two methods for removal of temporary hardness of water. 4

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. **Temporary hardness is because of:**

   (A) $MgSO_4$ (B) $MgCO_3$ (C) $CaCO_3$ (D) $Ca(HCO_3)_2$

2. **Crude oil is heated in the furnace upto:**

   (A) 350°C (B) 300°C (C) 450°C (D) 400°C

3. **The colour of I_2 gas is:**

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

4. **If $Q_c < K_c$ what will be the direction of reaction?**

   (A) forward (B) reverse (C) equilibrium state (D) speed up gradually

5. **Which acid is found in apple?**

   (A) uric acid (B) formic acid (C) citric acid (D) malic acid

6. **The conjugate base of sulphuric acid is:**

   (A) SO_3^{2-} (B) SO_4^{2-} (C) HSO_4^- (D) HSO_3^-

7. **In laboratory urea was prepared by:**

   (A) Wholer (B) Rutherford (C) Berzellius (D) Dalton

8. **Oxidation of alkenes produces:**

   (A) glyoxal (B) glycol (C) oxalic acid (D) formic acid

9. **Which one of the following is tastless?**

   (A) sucrose (B) fructose (C) starch (D) glucose

10. **Night blindness is because of deficiency of:**

    (A) vitamin A (B) vitamin C (C) vitamin D (D) vitamin E

11. **Just above the earth's surface is:**

    (A) mesosphere (B) stratosphere (C) thermosphere (D) troposphere

12. **Specific heat capacity of water is:**

    (A) 4.2 $KJg^{-1}K^{-1}$ (B) 4.2 $Jg^{-1}K^{-1}$ (C) 2.4 $KJg^{-1}K^{-1}$ (D) 2.4 $Jg^{-1}K^{-1}$

Sargodha Board 2018 (Second 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) Why reversible reactions never complete?

(ii) What do you mean by equilibrium constant?

(iii) What represent the very small value of K_c for a reaction?

(iv) What is static equilibrium? Explain with an example.

(v) Write two limitations of Arrhenious concept.

(vi) Write two physical properties of acids.

(vii) Write two uses of pH.

(viii) What are mixed salts?

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

(i) Define isomerism.

(ii) How carban completes its octet?

(iii) What is destructive distillation?

(iv) Write down two uses of methane.

(v) Write two physical properties of alkynes.

(vi) Write down the general formula of amino acid.

(vii) What are advantages of fats soluble vitamins?

(viii) How is gelatin obtained?

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

(i) Name the different spheres of atmosphere.

(ii) What is green house effect?

(iii) Define acid rain.

(iv) What do you mean by fluorosis?

(v) Why non-polar compounds are insoluble in water?

(vi) What are minerals?

(vii) Write the two uses of kerosene oil.

(viii) What is fractional distillation?

(PART - II)

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

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

(b) Describe two methods for measuring pH of solution. 4

Q6. (a) Write five physical properties of alkenes. 5

(b) Define amino acids, amino acids are building blocks of proteins, explain. 4

Q7. (a) Write a detailed note on ammonia Solvay's process. 5

(b) Give four effects of water pollution. 4