

Note You have four choices for each objective type question as A B C and D. The choice which you think is correct fill that circle in front of that question number in your answer book. Use marker or pen to fill the circles. Cutting or filling up two or more circles will result no mark.

## SECTION-A سوال

| Q 1 | Questions / سوالات                                                                          | A                      | B                      | C                    | D                           |
|-----|---------------------------------------------------------------------------------------------|------------------------|------------------------|----------------------|-----------------------------|
| 1   | At equilibrium state $K_c$ is equal to                                                      | $K$                    | $\frac{K}{K}$          | $\frac{K}{R}$        | $\frac{R}{K}$               |
| 2   | Reactions which have comparable amounts of reactants and products at equilibrium state have | very small $K_c$ value | very large $K_c$ value | moderate $K_c$ value | very very small $K_c$ value |
| 3   | Which ion is the conjugate base of sulphuric acid?                                          | $SO_4^{2-}$            | $S^{2-}$               | $HSO_4^-$            | $HSO_3^-$                   |
| 4   | The sum of pH and pOH of a solution at 25°C is                                              | 7                      | 14                     | 18                   | 20                          |
| 5   | Which one of the given compounds is an aldehyde?                                            | $CH_3COOH$             | $CH_3COOH$             | $CH_3CHO$            | $CH_3COCH_3$                |
| 6   | The end product of oxidation of acetylene is                                                | Oxalic acid            | Glycol                 | Glyoxal              | Glucose                     |
| 7   | Which one of the given is tasteless?                                                        | Glucose                | Starch                 | Sucrose              | Fructose                    |
| 8   | Thousands of amino acids polymerize to form                                                 | Proteins               | Carbohydrates          | Lipids               | Vitamins                    |
| 9   | Iron and steel structures are damaged by                                                    | $CO$                   | $SO_2$                 | $CH_4$               | $CO_2$                      |
| 10  | Which one of the given ions does not cause hardness in water?                               | $Ca^{2+}$              | $Mg^{2+}$              | $SO_4^{2-}$          | $Na^+$                      |
| 11  | Which one of the given diseases causes diarrhea?                                            | Cholera                | Jaundice               | Typhoid              | Hepatitis                   |
| 12  | The formula of copper glance is                                                             | $Cu_2O$                | $Cu_2S$                | $CuSO_4$             | $CuS$                       |

Note Section B is compulsory Attempt any TWO questions from Section C

نوٹ حصہ دوم لازمی ہے۔ حصہ سوم میں سے کوئی سے دو سوالات لکھیں

### SECTION-B حصہ دوم

- 2 Write short answers to any FIVE parts (5x2=10) کوئی سے پانچ اجزاء کے مختصر جوابات تحریر کیجئے۔
- Why do reversible reactions never complete? ۱
  - Write equilibrium constant expression for the reaction  $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$  ۱۱
  - Write two characteristics of dynamic equilibrium ۱۱۱
  - What is basic salt? Give an example ۱۱۱
  - Why  $BF_3$  ion acts as a Lewis acid? ۱۱
  - Write two uses of sulphuric acid ۱۱
  - What are addition reactions? Give an example ۱۱۱
  - Give two physical properties of alkanes ۱۱۱
- 3 Write short answers to any FIVE parts (5x2=10) کوئی سے پانچ اجزاء کے مختصر جوابات تحریر کیجئے۔
- Define petroleum ۱
  - What is the importance of natural gas? ۱۱
  - Why benzene and its other homologous compounds are called aromatic compounds? ۱۱۱
  - What are amino acids? ۱۱
  - Justify that water soluble vitamins are not injurious to health ۱۱
  - What do you mean by atmosphere? ۱۱
  - How is acid rain produced? ۱۱۱
  - What do you mean by ozone hole? ۱۱۱
- (PTO) (قی لکھیں)

(2)

- 4 Write short answers to any FIVE parts (5x2=10) کوئی سے پانچ اجزاء کے مختصر جوابات تحریر کیجئے۔
- Describe two properties of water that make it an excellent solvent ۱
  - What is leaching process? ۱۱
  - What do you mean by fluorosis? ۱۱۱
  - How does addition of  $Na_2CO_3$  remove permanent hardness of water? ۱۱
  - What is the principle of fractional distillation? ۱۱
  - Write the names of raw materials used in manufacturing of urea ۱۱
  - What is gasoline? ۱۱۱
  - What is blister copper? ۱۱۱

### SECTION - C حصہ سوم

Note Attempt any TWO questions Each question carries NINE (09) marks

نوٹ کون سے دو سوالات کے جوابات تحریر کیجئے۔ ہر سوال کے نوٹس ہیں۔

- 5 (a) Give uses of any five bases (5) ۵
- (b) Define catenation Write its two basic conditions to exhibit catenation (4) ۴
- 6 (a) Describe five uses of ethene (ethylene) (5) ۵
- (b) Explain fat soluble and water soluble vitamins (4) ۴
- 7 (a) How is bassemmerization process helpful for the separation of copper from its ores? Discuss (5) ۵
- (b) Write the four effects of global warming (4) ۴