

Chemistry (New)**10th (Fresh/Reappear)**

۱۔ ہر سوال کے سامنے چار دائرے دیئے گئے ہیں، صرف صحیح جواب والا دائرہ بھر دیں۔

۲۔ دائروں کو شیڈ (بھرنے) کے لیے نیلے یا کالے رنگ کا مارکر استعمال کریں۔

۳۔ جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہوگا۔

Time: 20 Minutes**SECTION-A****Marks: 12****Q1: Choose the correct option i.e, A,B,C or D?**

- Chemical equilibrium is a
 - ☐ Static condition
 - ☐ Temporary condition
 - ☒ Dynamic condition
 - ☐ Physical change
- Which of the given is an Arrhenius base?
 - ☐ OH_2SO_4
 - ☐ HNO_3
 - ☒ $\text{Ca}(\text{OH})_2$
 - ☐ CO_2
- Why can carbon form single, double and triple bonds?
 - ☐ Due to variable oxidation states
 - ☐ Due to high atomic number
 - ☒ Due to its ability to share different numbers of electron
 - ☐ Due to presence of lone pairs
- The compound $4 \text{CH}_3\text{-CH}(\text{CH}_3)\text{-CH}_2\text{-CH}_3$ is classified as:
 - ☐ Straight chain compound
 - ☒ Branched chain compound
 - ☐ Cyclic compound
 - ☐ Aromatic compound
- The correct structural formula of propyne (CH) is:
 - ☐ $\text{C}_{1878}\text{H}_{4000}$
 - ☐ $\text{CH}_2=\text{CH-CH}_3$
 - ☒ $\text{CH}\equiv\text{C-CH}_3$
 - ☐ $\text{CH}_3\text{-CH=CH}_2$
- Which food group mainly provides animal proteins?
 - ☐ Fruits and vegetables
 - ☐ Cereals and grains
 - ☒ Meat eggs and milk
 - ☐ Oils and fats
- Temperature increases from -56°C to -2°C with height in the:
 - ☐ Thermosphere
 - ☐ Mesosphere
 - ☒ Stratosphere
 - ☐ Troposphere
- Acid rain lowers the pH of.
 - ☒ Soil and water bodies
 - ☐ Air only
 - ☐ Rocks only
 - ☐ Ice only
- Which of the given ions mainly responsible for permanent

hardness?

☐ HCO_3^-

☐ Na^+ and K^+

☒ Ca^{2+} and Mg^{2+} sulfates and chlorides

☐ Cl^- only

10. Which of the given methods is most suitable for softening water for domestic use?

☐ Distillation

☐ Filtration

☒ Boiling and adding washing soda

☐ Sedimentation

11. Which process converts oxide ore into metal?

☐ Concentration

☐ Refining

☐ Roasting

☒ Smelting

12. Which element contributes about 26.67% to the composition of urea?

☐ Carbon

☒ Oxygen

☐ Nitrogen

☐ Hydrogen

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Note: Time allowed for Section-B & Section-C is 2:40 hours.

SECTION-B

Marks: 32

Q2: Attempt any EIGHT parts. Each part carries FOUR marks.

1. Define dynamic equilibrium and mention two conditions for it.
2. Identify the following in the reaction: $\text{HCO}_3^- + \text{H}_2\text{O} \rightleftharpoons \text{CO}_3^{2-} + \text{H}_2\text{CO}_3$ according to Bronsted-Lowry theory:
(a) Acid (b) Base (c) Proton donor (d) Proton acceptor
3. Describe the behavior of saturated and unsaturated hydrocarbon towards bromine water
4. Differentiate between alkyl amines and alkyl halides on the basis of their functional groups and general formulas.
5. Write chemical equation showing preparation of:
(a) Ethene from ethanol (b) Ethane from bromoethane
6. How are lactose and maltose different in terms of:
(a) Nature of monosaccharides (b) Hydrolysis behaviour
7. What are vitamins? Write any four dietary sources of vitamin-A
8. Describe particulates as an air pollutant. Mention any two sources, types and harmful effects each.
9. Write the physical properties of pure water in terms of:
(a) Density (b) Heat capacity (c) Freezing point (d) Boiling point
10. Write name of any four fractions of petroleum along with one use each.
11. Who proposed inorganic origin theory of the formation of petroleum? Describe the main points of the theory. Did it gain popularity?

SECTION-C

Marks: 21

Note: Attempt any THREE questions. All questions carry equal marks.

Q3: (a) Write the following four formula of heptane:

(i) molecular (ii) condensed

(iii) structural (iv) dot-cross

(b) Write the equilibrium constant expression for:

$3\text{NHC}_{3(g)} + 5\text{O}_{2(g)} \rightleftharpoons 4\text{NO}_{(g)} + 6\text{H}_2\text{O}_{(g)}$. Identify reactants and products in the expression.

Q4: (a) Describe any four adverse effects of ozone depletion.

(b) What is Lewis acid and base? Classify BCl_3 as a Lewis acid or base.

Q5: (a) Highlight the importance of water in:

(i) Automobiles (ii) Agriculture

(iii) Industry (iv) Transportation

(b) What is dehalogenation reaction? Is it elimination or substitution reaction? Give example with reference to formation of ethyne.

Q6: (a) Describe the carbonation of ammonical brine with balanced chemical equations and explain why sodium bicarbonate precipitates at low temperature.

(b) What are fats? Differentiate between fats and oils on the basis of degree of unsaturation and hydrogenation.