**Model Paper "Chemistry-I"

مادل پپیر "کیمی استری-1"

تاریخ کار ہیں 1st نمبر 19th کالاس اسٹنٹن 2016 و ماحصد

کل نمبر: 12

**Objective** (Correct Option)

Note: You have four choices for each objective type question as A, B, C & D. Choose the correct answer and encircle it. Cutting, overwriting, encircling more than one option, use of lead pencil will result in zero mark in that question.

<table>
<thead>
<tr>
<th>(D)</th>
<th>(C)</th>
<th>(B)</th>
<th>(A)</th>
<th>QUESTIONS</th>
<th>S.No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.24</td>
<td>0.21</td>
<td>0.18</td>
<td>0.15</td>
<td>The number of moles in 8 grams of CO₂ is equivalent to:</td>
<td>1</td>
</tr>
<tr>
<td>C₂H₅OH</td>
<td>CH₃OH</td>
<td>C₁₂H₂₂O₄</td>
<td>C₆H₁₂O₆</td>
<td>CH₂O is the empirical formula of:</td>
<td>2</td>
</tr>
<tr>
<td>32</td>
<td>18</td>
<td>8</td>
<td>2</td>
<td>The maximum electrons in N-shell are:</td>
<td>3</td>
</tr>
<tr>
<td>Sr</td>
<td>Hg</td>
<td>Li</td>
<td>Zn</td>
<td>The lightest metal at room temperature is:</td>
<td>4</td>
</tr>
<tr>
<td>+3</td>
<td>+2</td>
<td>+1</td>
<td>Zero</td>
<td>The oxidation states of group 18 elements are</td>
<td>5</td>
</tr>
<tr>
<td>Five</td>
<td>Four</td>
<td>Three</td>
<td>Two</td>
<td>The number of covalent bonds in C₂H₆ molecule are:</td>
<td>6</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>Hydrogen</td>
<td>Boron</td>
<td>Fluorine</td>
<td>A dative bond is formed between ammonia and boron trifluorides, the donor atom is:</td>
<td>7</td>
</tr>
<tr>
<td>10.3 gcm⁻³</td>
<td>9.3 gcm⁻³</td>
<td>7.86 gcm⁻³</td>
<td>2.70 gcm⁻³</td>
<td>The density of gold is:</td>
<td>8</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>Water</td>
<td>Liquid Ammonia</td>
<td>CH₃COOH</td>
<td>The universal solvent in the following is:</td>
<td>9</td>
</tr>
<tr>
<td>+7</td>
<td>+5</td>
<td>+3</td>
<td>+1</td>
<td>The oxidation state of Nitrogen in HNO₃ is:</td>
<td>10</td>
</tr>
<tr>
<td>Fe³⁺ → Fe²⁺ + e⁻</td>
<td>Br⁺ + e⁻ → Br⁻</td>
<td>K → K⁺ + e⁻</td>
<td>Which of the following is reduction reaction?</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td>Potassium</td>
<td>Silver</td>
<td>Gold</td>
<td>The most reactive metal among the following is:</td>
<td>12</td>
</tr>
</tbody>
</table>
2. Answer briefly any FIVE parts from the following

(i) Define relative atomic mass based on C-12 scale.

(ii) Calculate the formula mass of Potassium Sulphate.

(iii) Differentiate between molecule and molecular ion.

(iv) State four uses of isotope.

(v) Differentiate between shell and sub shell.

(vi) Write the reaction of chlorine with hydrogen and water.

(vii) Compare two physical properties of metals and non-metals.

(viii) State two properties of positive rays

5x2=10

3. Answer briefly any FIVE parts from the following

(i) Define electron affinity with an example.

(ii) Distinguish between period and group in periodic table.

(iii) State the four salient features of Periodic Law.

(iv) Differentiate between lone pair and bond pair of electron.

(v) State the Octet and Duplet rules.

(vi) Define ionic bond with an example.

(vii) Describe melting and boiling point of solids.

(viii) State the Charles's law. Also write its mathematical representation.

5x2=10

4. Answer briefly any FIVE parts from the following

(i) Justify with an example that the solubility of salt increases with the increase in temperature.

(ii) Differentiate between true solution and colloidal solution.

(iii) Define aqueous solution with an example.

(iv) Calculate the oxidation number of chlorine in KOClO₃.

(v) Differentiate between electrolytic cell and galvanic cell.

(vi) Differentiate between valency and oxidation state.

(vii) Differentiate between oxidizing and reducing agents.

(viii) Define Saturated solution and give example

(i)

(ii) Collodial Solution vs True Solution

(iii) Aqueous Solution

(iv) KOClO₃

(v) Galvanic Cell vs Electrolytic Cell

(vi) Valency vs Oxidation State

(vii) Oxidizing vs Reducing Agents

(viii) Saturated Solution
5. (a) Define mole and molecule. Calculate number of moles, and number of molecules in 6 g of water. \[ 1+1+1 \]

(b) Describe Rutherford's atomic model. Also state the Observations made by Rutherford. \[ 1+1 \]

6. (a) Describe the formation of covalent bond. Explain single, double and triple covalent bond with example. \[ 2+1+1 \]

(b) Define the Boyle's law. Explain the experimental verification of Boyle's law. \[ 1+2 \]

(a) Define electron affinity. Why it increases in a period and decreases in a group in the Periodic Table. \[ 1+1.5+1.5 \]

(b) How much NaOH is required to prepare its 500 cm\(^3\) of 0.4 M solution. \[ 5 \]