Chemistry Paper – XI (01) (18)

Name

Roll No

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

2۔ دائروں کو شیڈ (بھرنے) کے لئے نیلے یا کالے رنگ کا مار کر استعمال کریں۔

3۔ جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہو گا۔

Time Allowed: 20 Minutes

SECTION – A

Marks : 18

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|---|---|---|---|---|---|
| 1 | HCl when added to $H_2S$ solution..... | ● Suppresses the solubility | ○ Enhances the solubility | ○ Solution becomes coloured | ○ Does not effect |
| 2 | All those acids whose $P^{ka}$ is ..... to/than zero show leveling effect. | ○ Greater | ● Smaller | ○ Equal | ○ None of these |
| 3 | An anion is a/an..... | ○ Acid | ● Base | ○ Amphoteric | ○ None of these |
| 4 | Gum in water is an example of..... | ○ Coarse mixture | ○ Suspension | ○ True solution | ● Colloidal dispersion |
| 5 | If heat of solution is negative, then the temperature of solution..... | ● Increases | ○ Decreases | ○ May increase or decrease | ○ Remains constant |
| 6 | For solids and liquids..... | ● $\Delta H = \Delta E$ | ○ $\Delta H > \Delta E$ | ○ $\Delta H < \Delta E$ | ○ $\Delta E = 0$ |
| 7 | To prevent spoilage, manufacturers of food itmes add preservatives which act as..... | ● Oxidizing agents | ○ Reducing agents | ○ Catalytic agents | ○ Precipitating agents |
| 8 | The oxidation number of Cl in $HClO_4$ is ..... | ○ – 1 | ● +7 ($HClO_4$) (+1+7–8) | ○ +3 | ○ +5 |
| 9 | The unit of $K_c$ for the given system is $PCl_5 \rightleftharpoons PCl_3 + Cl_2$ | ○ $mol^2/dm^6$ | ○ $dm^3/mol$ | ○ $mol/dm^6$ | ● $mol/dm^3$ |
| 10 | One gram-atom of an element always contains.....atom(s). | ○ One | ○ One mole of | ○ Avogadro's number of | ● Both B & C |
| 11 | Which one is different from the others? | ● Theoretical | ○ Actual | ○ Experimental | ○ Practical |
| 12 | $1.6 \times 10^{-19}C$ is the magnitude of.....unit charge. | ○ Positive | ○ Negative | ● Both positive & negative | ○ None of these |
| 13 | How many of the four quantum numbers were obtained from the solution of Schrödinger's wave equation for hydrogen atom? | ○ 1 | ○ 2 | ● 3 | ○ All the four |
| 14 | The bond energy of a polar covalent bond is.....to/than that of a non-polar covalent bond. | ● Greater | ○ Smaller | ○ Equal | ○ My be greater or smaller |
| 15 | Physical properties of compound depend on the strength of ..... | ○ Vander Waal's forces | ○ Intramolecular attractive forces | ○ Intermolecular attractive forces | ● Both A & C |
| 16 | Joule-Thomson effect is a..... effect. | ● Cooling | ○ Heating | ○ Cooling as well as heating | ○ None of these |
| 17 | Poise is a unit of ..... | ○ Surface Tension | ● Viscosity | ○ Pressure | ○ Dipole moment |
| 18 | An appreciable amount of products and reactants is present in a reaction if its $K_c$ value is..... | ○ Negative and large | ○ Negative and small | ○ Zero | ● Unity |

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# CHEMISTRY (New)
## Inter Part-I
## (Fresh/Reappear)

**Note: Time allowed for Section – B and Section – C is 2 Hours and 40 minutes.**

## Section – B

**Marks:** 40

Q-II Answer any TEN parts. Each part carries FOUR marks.

1. Calculate the percentage composition of each element in glucose, $C_6H_{12}O_6$
2. Write electronic configuration for N, Na, O and Cl.
3. Why covalent bonds are directional? Explain.
4. Explain Avogadro's Law by giving example.
5. Why HF is a liquid while HCl is a gas at ordinary temperature?
6. Explain Transition temperature in crystals. Give an example.
7. Explain the internal energy of a system.
8. Write a note on leveling effect of acids.
9. Explain why a solution of $Na_2CO_3$ is alkaline and that of NaCl is neutral.
10. Give any four methods for the prevention of corrosion.
11. Derive the relation between $K_p$ and $K_x$.
12. Write down impacts of osmosis on daily life.
13. Give the assumptions of collision theory of reaction rate.

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## Section – C

**Marks:** 27

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

Q-III (a) Sulphur burns in oxygen according to the given equation. $S + O_2 \rightarrow SO_4$ if 15 g of sulphur are burnt, what volume of $SO_2$ is produced at STP? **(4)**

(b) Give any five properties of X–rays. **(5)**

Q-IV (a) Decribe the shape of $NH_3$ on the basis of VSEPR theory. **(4)**

(b) Explain the Manometric method for measuring vapour pressure of a liquid. **(5)**

Q-V (a) Show that $\Delta H = q_p$ **(3)**

(b) Balance the following Redox equation by the Half Reaction Method. **(6)**

i. $Zn + Cr_2O_7^{2-} + H^+ \rightarrow Z_n^{2+} + C_r^{3+} + H_2O$

ii. $H_2O_2 + M_nO_4^- + H^+ \rightarrow M_n^{2+} + O_2 + H_2O$

Q-VI (a) Give experimental verification of Graham's Law of diffusion of gases. **(5)**

(b) If 3.60 g of glucose is dissolved in 100g of water, the freeing point depression is found to be 0.372 K. Calculate the molar mass of glucose $K_f$ for water is 1.80. **(4)**