

Chemistry
Answer All The Questions

Reg.No. :

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Time : 00:50:00 Hrs

Total Marks : 50

10 x 5 = 50

- 1) i) Where the types of H-bonding with one example each.
ii) Explain the molecular orbital diagram of N_2 molecule.
- 2) i) How ionic radii varies along the group and period.
ii) Calculate the effective nuclear charge experienced by the 4s electron in potassium atom.
- 3) How silver is extracted from its chief ore?
- 4) i) What are the differences between nuclear reaction and chemical reaction?(any three)
ii) What is mean by Q-value of a nuclear reaction.
- 5) i) When does entropy increase in a process?
ii) Write any three characteristics of free energy-G.
- 6) i) How will you distinguish weak and strong electrolytes by measuring conductance?
ii) Calculate the pH of $1 \times 10^{-2}M$ HCl solution.
- 7) i) How can the following conversion be effected?
A) Glycol \rightarrow dioxan
B) Glycerol \rightarrow acrolein
ii) Which member of the following pair would you expect to be more water soluble? CH_3CH_2OH or $CH_3CH_2OCH_3$
- 8) i) Write and name all possible ether isomers with the molecular formula $C_4H_{10}O$.
ii) How does diethyl ether react with excess of HI? What is the use of this reaction?
- 9) i) Write notes on: A) Coupling reactions B) Carbyl amine reaction
ii) Write the ascending order of the following amines in terms of their boiling point CH_3NH_2
$$CH_3 - \overset{\overset{CH_3}{|}}{N} - CH_3 \quad CH_3 - \overset{\overset{CH_3}{|}}{NH}$$
- 10) Explain briefly on characteristics of rocket propellants.
