

Gurudas College
Internal Assessment -2021
Chemistry (General)
Semester-II
Subject- CEMG
Paper- CC/GE-2

Time: 30 mins

Full marks: 10

Answer any **TEN** questions

Each question carries **Equal** marks

- The reaction $\text{CH}\equiv\text{CH} + \text{NaNH}_2 \rightarrow \text{CH}\equiv\text{C}-\text{Na}^+ + \text{NH}_3$ shows that the hydrogen atom of terminal acetylene are
(a) Acidic (b) Basic (c) Neutral (d) Amphoteric
- In which of the following reactions Markownikov's rule is not observed?
(a) $\text{CH}_3\text{CH}=\text{CH}_2 + \text{HCl} \xrightarrow{\text{organic peroxide}}$
(b) $\text{CH}_3\text{CH}=\text{CH}_2 + \text{HBr} \xrightarrow{\text{organic peroxide}}$
(c) $\text{CH}_3\text{CH}=\text{CH}_2 + \text{HI} \xrightarrow{\text{organic peroxide}}$
(d) $\text{CH}_3\text{CH}=\text{CH}_2 + \text{H}_2\text{SO}_4 \xrightarrow{\text{organic peroxide}}$
- During the chlorination of methane to methyl chloride the propagation step is represented by
(a) $\text{Cl}-\text{Cl} \xrightarrow{h\nu} \dot{\text{Cl}} + \dot{\text{Cl}}$
(b) $\dot{\text{C}}\text{H}_3 + \dot{\text{Cl}} \xrightarrow{h\nu} \text{CH}_3\text{Cl}$
(c) $\text{CH}_4 + \dot{\text{Cl}} \xrightarrow{h\nu} \dot{\text{C}}\text{H}_3 + \text{HCl}$
(d) $\dot{\text{Cl}} + \dot{\text{Cl}} \xrightarrow{h\nu} \text{Cl}_2$
- $\text{NH}_4\text{Cl}(\text{s}) \leftrightarrow \text{NH}_3(\text{g}) + \text{HCl}(\text{g})$ system in which $p_{\text{NH}_3} = p_{\text{HCl}}$; Degrees of freedom for the above equilibria is?
(a) 1
(b) 2
(c) 0
(d) 3
- The number of components for an aqueous solution of NaCl is
(a) 1 (b) 2 (c) 3 (d) 4
- For a given set of numbers 0.00200, 70.9, 800.0, what would be the significant figures, respectively?
(a) 1, 3, 1 (b) 3, 3, 4 (c) 3, 3, 1 (d) 2, 3, 1
- Decimal equivalent of the Binary number 1011 is
(a) 10 (b) 11 (c) 12 (d) 13

8. The nature of standard and equivalent weight of $K_2Cr_2O_7$ is
- (a) Primary, 49.03
 - (b) Primary, 294.18
 - (c) Secondary, 49.03
 - (d) Secondary, 294.18, respectively.
9. The percentage of efficient packing in FCC lattice is
- (a) 54
 - (b) 74
 - (c) 26
 - (d) 32
10. Among the crystal systems, $a \neq b \neq c$ and $\alpha = \beta = \gamma = 90^\circ$ defines which fundamental system?
- (a) Tetragonal (b) Orthorhombic (c) Monoclinic (d) Cubic
11. In H_2O –ethanol azeotrope, the mixture has the minimum boiling point and composition
- (a) 78.2 °C with 95.6 % alcohol
 - (b) 85.2 °C with 90.6 % alcohol
 - (c) 68.2 °C with 99.6 % alcohol
 - (d) none of these
12. For any irreversible process, the net entropy change is-
- (a) Zero (b) Positive (c) Negative (d) Unity
13. The processes or systems that do not involve heat are called-
- (a) Isothermal process (b) Equilibrium process (c) Adiabatic process (d) Steady process
14. 110 J of heat is added to a gaseous system, whose internal energy change is 40 J, the amount of external work is-
- (a) 150 J (b) 70 J (c) 110 J (d) 40 J
15. Which of the following is an intensive property?
- (a) Temperature (b) Surface tension (c) Viscosity (d) all of these