

Gurudas College
Internal Assessment -2020
Chemistry (General)
Semester-I
Subject- CEMG
Paper- CC/GE-1

Time: 30 mins

Full marks: 10

Answer any **TEN** questions

Each question carries **Equal** marks

- Which of the following compound is an optically active compound?
(a) CHCl_3 (b) $\text{CH}_3\text{CH}_2\text{Br}$ (c) $\text{CH}_3\text{CH}(\text{OH})\text{Cl}$ (d) $\text{CH}_3\text{CHOHCH}_3$
- Which of the following is an electrophile?
(a) CH_3O^- (b) CH_3CH_2^+ (c) NH_3 and (d) CH_3CH_2^-
- Which of the following statement is false about enantiomers?
(a) rotate plane polarized light
(b) are superimposable mirror images
(c) are non-superimposable mirror images
(d) have same melting point
- Which of the following is applicable for S_N^2 reaction?
(a) One step reaction
(b) Two step reaction
(c) Forms an intermediate
(d) None of these
- The unit of vander Waals constant 'a' is
(a) $\text{atm L}^2 \text{ mol}^{-2}$ (b) $\text{atm}^2 \text{ L mol}^{-1}$ (c) $\text{atm L}^2 \text{ mol}^{-1}$ (d) $\text{atm L}^{-1} \text{ mol}^{-2}$
- For a given quantum number, what is the selection rule for fine structure of hydrogen spectra?
(a) $\Delta k = -1$ (b) $\Delta k = +1$ (c) $\Delta k = \pm 1$ (d) $\Delta k = 0$
- When the azimuthal quantum number, $l = 2$, the orbital is
(a) *s*-orbital (b) *p*-orbital (c) *d*-orbital (d) *f*-orbital
- What is the position of *s*-block elements in the modern periodic table?
(a) Group 1 and 2 (b) Group 3-12 (c) Group 13-18 (d) none of these
- What is the correct electron affinity trend for halogens?
(a) $\text{Cl} > \text{F} > \text{Br} > \text{I}$
(b) $\text{F} > \text{Cl} > \text{Br} > \text{I}$
(c) $\text{I} > \text{Br} > \text{Cl} > \text{F}$
(d) None of these
- What is the correct order of Lewis acidity of the following?
(a) $\text{BF}_3 < \text{BCl}_3 < \text{BBR}_3$

- (b) $\text{BCl}_3 < \text{BF}_3 < \text{BBr}_3$
(c) $\text{BF}_3 > \text{BCl}_3 > \text{BBr}_3$
(d) None of these
11. Which one is the stronger base among R_3N , R_2NH , RNH_2 in solution state?
(a) R_3N (b) R_2NH (c) RNH_2
12. With the rise in temperature surface tension of a liquid
(a) decreases (b) increases (c) remains constant (d) vanishes
13. Unit of viscosity is
(a) $\text{dyne}\cdot\text{sec}\cdot\text{cm}^{-2}$ (b) $\text{dyne}\cdot\text{sec}^{-1}\cdot\text{cm}^{-2}$ (c) $\text{dyne}\cdot\text{sec}\cdot\text{cm}^{-1}$ (d) none of these
14. When the rate constant of a reaction is independent of the concentration of reactants, the reaction is called
(a) Zero order (b) 1st order (c) 2nd order (d) none of these
15. From the plot of Arrhenius equation ($\ln k$ Vs $1/T$), we can obtain the slope of value
(a) $-E_a/R$ (b) E_a/R (c) E_a (d) $1/E_a$