

CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, ODISHA

Chemistry question- SET - 2

- 1 Which of the following has a zero bond order?
 - a) He_2
 - b) F_2
 - c) N_2
 - d) H-F
- 2 For a cyclic process, the change in internal energy of the system is
 - a) always +ve
 - b) always -ve
 - c) equal to zero
 - d) equal to infinity
- 3 In dsp^2 hybridization, the new orbitals have the following geometry
 - a) square planar
 - b) tetrahedral
 - c) trigonal
 - d) trigonal bipyramidal
- 4 Grignard reagent gives primary alcohol with
 - a) HCHO
 - b) CH_3CHO
 - c) ethylene oxide
 - d) hydrogen
- 5 Which of the following is not a buffer solution ?
 - a) $\text{NH}_4\text{Cl} + \text{NH}_4\text{OH}$
 - b) $\text{NaOH} + \text{HCl}$
 - c) $\text{CH}_3\text{COONa} + \text{CH}_3\text{COOH}$
 - d) $\text{HCOONa} + \text{HCOOH}$
- 6 $\text{A} + \text{B} + \text{C} \longrightarrow \text{Products}$ is
 - a) unimolecular
 - b) trimolecular
 - c) bimolecular
 - d) termolecular
- 7 The pH of a solution increases from 1 to 2. The concentration of H^+ ions
 - a) decreases
 - b) increases
 - c) remains the same
 - d) becomes zero
- 8 The compound that is not a Lewis acid is
 - a) BF_3
 - b) AlCl_3
 - c) BeCl_2
 - d) BaCl_2
- 9 The reaction of ${}_1\text{H}^3$ and ${}_1\text{H}^2$ to form ${}_2\text{He}^4$ and a neutron is an example of
 - a) a fission reaction
 - b) a fusion reaction
 - c) both fission and fusion reaction
 - d) neither a fission or fusion reaction
- 10 Which one of the following processes results in the formation of a new compound
 - a) dissolving common salt in water
 - b) heating water
 - c) heating platinum rod
 - d) heating iron rod

- 11 The element having no neutron in the nucleus of its atom is
 - a) hydrogen
 - b) nitrogen
 - c) boron
 - d) helium
- 12 Which of the following species have three unpaired electrons?
 - a) P^{3-}
 - b) Cr^{3+}
 - c) Cr^{2+}
 - d) Br
- 13 The empirical formula of alkyne is
 - a) C_nH_{2n+2}
 - b) C_nH_{2n}
 - c) C_nH_{2n-2}
 - d) C_nH_{2n+1}
- 14 Which of the following rate law is 3rd order overall?
 - a) $rate = k[A]^3[B]^1$
 - b) $rate = k[A]^3[B]^3$
 - c) $rate = k[A]^5[B]^2$
 - d) $rate = k[A]^1[B]^2$
- 15 Which compound is acidic in nature
 - a) CH_4
 - b) benzene
 - c) C_2H_2
 - d) aniline
- 16 Which oxidation states is not shown by carbon in its compounds?
 - a) +4
 - b) +1
 - c) 0
 - d) +2
- 17 At constant temperature, the pressure of the gas is reduced to one third, the volume
 - a) reduces to one third
 - b) increases by three times
 - c) remains the same
 - d) can not be predicted
- 18 The units of R, the gas constant are
 - a) $erg\ K^{-1}mol^{-1}$
 - b) $cal\ K^{-1}mol^{-1}$
 - c) $joule\ K^{-1}mol^{-1}$
 - d) all of these
- 19 An aqueous solution of NaCl in water has vapour pressure
 - a) equal to that of water
 - b) more than that of water
 - c) less than that of water
 - d) none of these
- 20 Which of the following reduces carboxylic acid directly to primary alcohols?
 - a) $LiAlH_4$
 - b) $Na + C_2H_5OH$
 - c) $NaBH_4$
 - d) H_2