

**CHEMISTRY MOCK TEST CET - 2020 KEY ANSWERS**

- The term homogeneous mixture refers to
 - Its composition is uniform throughout the mixture**
 - Its properties are uniform
 - Both composition and property are uniform
 - Neither composition nor property are uniform
- Which of the following is NOT a colligative property?
 - Elevation in Boiling point
 - Depression in freezing point
 - Osmotic pressure
 - Lowering of vapour pressure**
- The osmotic pressure of solution at 273K is 2.5atm. The osmotic pressure of the same solution at 273°C is:
 - 0.5atm
 - 4atm
 - 5atm**
 - 273atm
- The number of moles of NaCl in 2L of 3M NaCl solution is:
 - 0.667
 - 6**
 - 1.5
 - 1
- Which of the following is an example of covalent solid
 - Silicon carbide
 - BaSO₄
 - Solid CO₂
 - Iodine**
- The solid is made up of two elements A and B. Atoms of B are in CCP arrangement, while atoms A occupy all the tetrahedral sites. The formula of the compound is
 - AB₂
 - AB
 - AB₃
 - A₂B**

**MOCK TEST: CET-2020**

-
7. An element crystallizes as fcc lattice and edge length of unit cell is 400pm. if density of unit cell is 11.2g/cm^3 then atomic mass of the element is
- 215.6g/mol
 - 431.2g/mol
 - 107.8g/mol**
 - 98.6 g/mol
8. Which of the following is not good conductor of electricity?
- NaCl (Molten)
 - Silver metal
 - NaCl (s)**
 - NaCl (aq)
9. The product of specific resistance and specific conductance is equal to
- Conductance
 - Resistance
 - 1**
 - Zero.
10. The molar conductance of CH_3COONa , HCl , and NaCl at infinite dilution are 91, 426, 126 Scm^2/mol respectively at 25°C . The molar conductance at same dilution for CH_3COOH would be in Scm^2/mol
- 209
 - 391**
 - 461
 - None of these
- 11 For the reaction : $2\text{NO}_2 \rightarrow 2\text{NO} + \text{O}_2$
- Rate is expressed as:**
- $-\frac{1}{2} \frac{d[\text{NO}_2]}{dt} = -\frac{1}{2} \frac{d[\text{NO}]}{dt} = \frac{d[\text{O}_2]}{dt}$
 - $-\frac{2d[\text{NO}_2]}{dt} = \frac{2d[\text{NO}]}{dt} = \frac{d[\text{O}_2]}{dt}$
 - $-\frac{1}{2} \frac{d[\text{NO}_2]}{dt} = \frac{1}{2} \frac{d[\text{NO}]}{dt} = \frac{d[\text{O}_2]}{dt}$
 - $-\frac{d[\text{NO}_2]}{dt} = -\frac{1}{2} \frac{d[\text{NO}]}{dt} = \frac{d[\text{O}_2]}{dt}$
12. The rate constant of a reaction is $1.2 \times 10^{-5} \text{ mol}^{-2} \text{ litre}^2 \text{ s}^{-1}$, the order of the reaction is :
- Zero
 - 1
 - 2
 - 3**



13. Which one of the following statement for order of a reaction is not correct?
- Order can be determined experimentally
 - Order of a reaction is equal to the sum of powers of concentration terms in differential rate law.
 - It is not affected with the stoichiometric coefficient of the reactants
 - Oder cannot be fractional**
14. How many layers are adsorbed in chemical adsorption?
- One**
 - Two
 - Many
 - Zero
15. A biological catalyst is:
- An amino acid
 - A nitrogenous organic compound
 - An enzyme**
 - A carbohydrate
16. Which of the following is a lyophobic colloid?
- Starch
 - Sulphur sol**
 - Gelatin
 - Gum Arabic
17. The charge on the colloidal particle is due to:
- Presence of electrolyte
 - Very small size of particle
 - Adsorption of ions from the solution**
 - None of these
18. White phosphorous contains:
- P₂ molecules
 - P₄ molecules**
 - P₆ molecules
 - P-P bond



-
19. An oxy acid of phosphorous is a white deliquescent crystalline solid. It can be prepared by the hydrolysis of P_2O_3 or PCl_3 and its formula is
- H_3PO_4
 - H_3PO_3**
 - H_3PO_2
 - $H_4P_2O_7$
20. Which of the following compound of Xenon has pyramidal geometry
- XeO_3**
 - $XeOF_4$
 - XeF_4
 - XeF_2
21. An ionic bond/ electrovalent bond is formed between;
- Two electronegative atom.
 - Two metals.
 - Electropositive and electronegative atom.**
 - Two electropositive atoms.
22. The possible structure for dsp^2 hybridization is
- Octahedral
 - Pyramidal
 - Square planar**
 - All the above.
23. Which of the following molecule has highest bond order?
- O_2
 - O_2^+
 - O_2^-
 - N_2**
24. Oxidation state of chromium in CrO_5 is
- 6**
 - 5
 - 3
 - 10



25. Which of the following is paramagnetic as well as colored?

- a. Sc^{+3}
- b. Ti^{+4}
- c. **Cu^{+2}**
- d. Cu^{+}

26. Two constituent of german silver are:

- a. Ag – Cu
- b. Ag – Zn
- c. **Cu- Zn**
- d. Cu- Mg

27. Which of the following elements do not show variable oxidation state?

- a. Ni
- b. Cu
- c. Fe
- d. **Zn**

28. Vitamin B12 contains the metal

- a. Iron
- b. **Cobalt**
- c. Magnesium
- d. Nickel

29. The complex $[\text{Ni}(\text{CN})_4]^{-2}$ is diamagnetic and involves

- a. Sp^3 hybridization
- b. Sp^2 hybridization
- c. **dsp^2 hybridization**
- d. none of these

30. Which of the following option are correct $[\text{Fe}(\text{CN})_6]^{-3}$ complex

- i) Possess d^2sp^3 hybridization
 - ii) Possess sp^3d^2 hybridization
 - iii) It is paramagnetic
 - iv) It is diamagnetic
- a. **i and iii**
 - b. ii and iii
 - c. i and iv
 - d. ii and iv



-
31. Which of the following has a square planar geometry ?
- [PtCl₄]⁻²**
 - [CoCl₄]⁻²
 - [FeCl₄]⁻²
 - [NiCl₄]⁻²
32. Titanium can be obtained in the state of high purity by _____
- Van arkel method**
 - Poling
 - Cupellation
 - Electro refining
33. The method for the purification of impure metals which is based upon the phenomenon of electrolysis is called
- Electro refining**
 - Hydrometallurgy
 - Polling
 - Liquation
34. Hoopé's process is used for the purification of
- Al**
 - Pb
 - Ag
 - Zn
35. In SN¹ the order of reactivity of halide is:
- 3^o > 2^o > 1^o > methyl**
 - Methyl > 1^o > 2^o > 3^o
 - 3^o > 2^o > methyl > 1^o
 - 2^o > 1^o > methyl > 3^o
36. Which is the correct method for the preparation of 2- bromopropane?
- HBr is treated with 1- propanol
 - Propene is treated with HBr in the presence of peroxide
 - 1-propanol is treated with conc.H₂SO₄ followed by the reaction with HBr**
 - Ethylene is treated with Br₂ (in CCl₄) followed by the elimination of HBr



37. Alkyl halide on treatment with aqueous KOH give

- a. Acids
- b. Alcohols**
- c. Aldehydes
- d. Alkanes

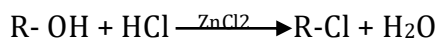
38. The reaction: $\text{CH}_3\text{Br} + \text{AgF} \rightarrow \text{CH}_3\text{F} + \text{AgBr}$ is called

- a. Swarts reaction**
- b. Finkelstein reaction
- c. Gattermann reaction
- d. Perkin reaction

39. B.H.C is used as pesticide in agriculture under the trade name as:

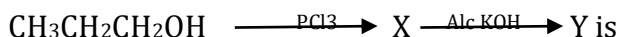
- a. Gammahexane**
- b. DDT
- c. Phosgene
- d. Westrol

40. What is the correct order of reactivity of alcohols in the below reaction?



- a. $1^\circ > 2^\circ > 3^\circ$
- b. $1^\circ < 2^\circ > 3^\circ$
- c. $3^\circ > 2^\circ > 1^\circ$**
- d. $3^\circ > 1^\circ > 2^\circ$

41. In the reaction :



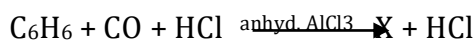
- a. Propyne
- b. Ethane
- c. Propene**
- d. Propanol

42. Cumene on oxidation in the presence of air followed by treatment with dil acid gives:

- a. Phenol and ethanol
- b. Benzaldehyde and phenol
- c. Phenol and acetone**
- d. Phenol and benzoic acid



43. In the reaction :



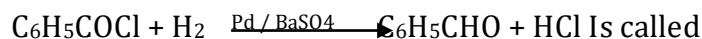
The compound X is:

- $\text{C}_6\text{H}_5\text{CH}_3$
- $\text{C}_6\text{H}_5\text{CH}_2\text{Cl}$
- $\text{C}_6\text{H}_5\text{CHO}$**
- $\text{C}_6\text{H}_5\text{COOH}$

44. Ketones are less reactive than aldehyde because :

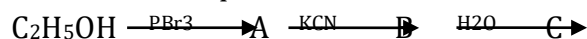
- C=O group is less polar in ketones
- Because of electromeric effect
- Steric hindrance to the attacking reagent**
- None of these

45. The reaction:



- Rosenmund's reduction**
- Sandmeyer's reaction
- HVZ reaction
- Cannizaro's reaction

46. In the reaction sequence



C is

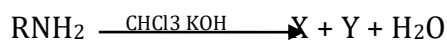
- Acetic acid
- Acetamide
- Propionic acid**
- Ethylamine

47. 1° and 2° amines are distinguished by:

- Br_2 / KOH
- HNO_2**
- NH_3
- $\text{HCl} + \text{HNO}_3$



48. In the reaction



X and Y are

- a. RCN and KCl
- b. RNC and KCl**
- c. ROH and KCl
- d. RCONH₂ and KCl

48. Which of the following is a polysaccharide?

- a. Cellulose**
- b. Sucrose
- c. Galactose
- d. Maltose

49. Which of the following has maximum sweetness?

- a. Glucose
- b. Fructose**
- c. Maltose
- d. Sucrose

50. Hydrolysis of sugar is called:

- a. Mutarotation
- b. Saponification
- c. Inversion**
- d. Deesterification

51. Proteins on complete hydrolysis gives

- a. Alpha amino acids**
- b. Lipids
- c. Peptides
- d. Nucleic acids

53. The gram molar volume of a gas is the volume occupied at STP by

- a. one gram of gas
- b. 6.023×10^{23} grams of the gas
- c. 22.4 gram of gas
- d. one gram mole of gas**



54. The volume occupied by 0.25 mol of an ideal gas at STP is:

- a. 89.6L
- b. 11.2 L
- c. **5.6L**
- d. 22.4L

55. The ($\Delta U - \Delta H$) for the formation of NH_3 from N_2 and H_2 is

- a. $-2RT$
- b. $2RT$
- c. **RT**
- d. $\frac{1}{2} RT$

56. The system absorbs 10KJ of heat at constant volume and its temperature rises from 27°C to 37°C the ΔU is:

- a. 100KJ
- b. **10KJ**
- c. 0
- d. 1KJ

57. Number of Dots around Ge in lewis structure are

- a. 2
- b. 5
- c. 8
- d. **4**

58. In the acid-base reaction.

$\text{HCl} + \text{CH}_3\text{COOH} \rightarrow \text{Cl}^- + \text{CH}_3\text{COOH}_2^+$ the conjugate acid of acetic acid is

- a. **$\text{CH}_3\text{COOH}_2^+$**
- b. HCl
- c. H_3O^+
- d. Cl^-

59. Which of the following is an example of non-typical transition elements?

- a. **Li, K, Na**
- b. Be, Al, Pb
- c. Zn, Cd, Hg
- d. Ba, Ga, Sr



60. Which of the following alloys does not contains copper?

- a. Delta metal
- b. German silver
- c. Alnico**
- d. Phosphorous bronze

FOR ANY CLARIFICATION YOU CAN CONTACT

| | |
|------------------------------|-------------------|
| Prof. Basavaraj Hugar | 9606547799 |
| Prof. Mahantesh Laddi | 9742912850 |