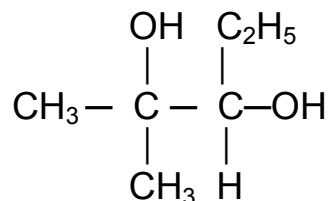


MOCK CET TEST PAPER-2 - 2012

- Conductivity of a solution is directly proportional to
 - dilution
 - number of ions
 - current density
 - volume of the solution
- Which of the following is a Lewis acid ?
 - NH₃
 - BF₃
 - OH⁻
 - CN⁻
- For the reaction $A + B \rightarrow C + D$, it is found that doubling the concentration of A increases rate 4 times and doubling the concentration of B doubles the reaction rate. What is the overall order of the reaction ?
 - 3
 - 1
 - 4
 - 1.5
- 15 moles of hydrogen were mixed with iodine and heated till equilibrium was reached. At equilibrium 10 mol. of HI was formed. What is the amount of iodine initially taken if 0.2 mol. of iodine is left over. Equilibrium constant for the synthesis of HI is 50.
 - 5.2 mol
 - 10.2 mol
 - 0.2 mol
 - 15 mol
- Identify the state function among the following :
 - q
 - q x w
 - $\frac{q}{w}$
 - q + w
- The equivalent mass of a trivalent element is 17. The molecular mass of its chloride is
 - 52.5
 - 157.5
 - 86.5
 - 123.5
- When activation energy of a reaction is zero, the rate constant of a reaction is
 - zero
 - 2.303
 - A
 - infinity
- In an equilibrium reaction for which $\Delta G^0 = 0$, the equilibrium constant K_p should be equal to
 - 0
 - 1
 - 2
 - 10
- Identify a reversible colloid
 - gold sol
 - ferric hydroxide sol
 - arsenious sulphide sol
 - solution of water soluble starch
- A 5% solution of cane sugar (molar mass = 342) is isotonic with 1% solution of a substance X. The molar mass of X is
 - 171.2
 - 68.4
 - 34.2
 - 136.2

- 11) Which of the following 0.1M aqueous solutions will have the lowest freezing point
- | | |
|-----------------------|--------------------|
| 1) potassium sulphate | 2) sodium chloride |
| 3) urea | 4) glucose |
- 12) An example of covalent crystalline solid is
- | | | | |
|---------|-----------|------------|-----------------|
| 1) NaCl | 2) Iodine | 3) silicon | 4) benzoic acid |
|---------|-----------|------------|-----------------|
- 13) Which will exhibit geometric isomerism
- | | |
|-------------------------|-------------------------|
| 1) 1,1- dichloroethane | 2) 4- phenyl pent-2-ene |
| 3) 2-phenyl but - 1-ene | 4) 2-methyl propene |
- 14) In presence of dil alkali, ethanal reacts giving 3-hydroxy ,butanal.
The reaction is
- | | |
|-------------------------|----------------------------|
| 1) Claisen condensation | 2) polymerization |
| 3) aldol condensation | 4) Reimer-Tiemann reaction |
- 15) The reactivity of the halogen atom is minimum in
- | | |
|-----------------------|----------------------|
| 1) propyl iodide | 2) propyl chloride |
| 3) isopropyl chloride | 4) isopropyl bromide |
- 16) The C-C bond distance is the longest in
- | | | | |
|----------------------------------|----------------------------------|----------------------------------|--|
| 1) C ₂ H ₂ | 2) C ₂ H ₄ | 3) C ₂ H ₆ | 4) C ₂ H ₂ Br ₂ |
|----------------------------------|----------------------------------|----------------------------------|--|
- 17) Which compound answer iodoform test?
- | | | | |
|-----------------------|-------------------------------------|--|--|
| 1) CH ₃ OH | 2) C ₆ H ₅ OH | 3) C ₆ H ₅ COCH ₃ | 4) C ₆ H ₅ CH ₃ |
|-----------------------|-------------------------------------|--|--|
- 18) A deactivating group
- 1) deactivates only ortho and para positions
 - 2) deactivates meta positions
 - 3) deactivates ortho and para more than meta
 - 4) deactivates meta more than ortho and para
- 19) Both methane and ethane may be obtained in single step reaction from
- | | | | |
|------------------------------------|----------------------|-----------------------|-------------------------------------|
| 1) C ₂ H ₅ I | 2) CH ₃ I | 3) CH ₃ OH | 4) C ₂ H ₅ OH |
|------------------------------------|----------------------|-----------------------|-------------------------------------|
- 20) On heating sodium propanoate with sodalime the gas evolved is
- | | | | |
|------------|-----------|-----------|-----------|
| 1) methane | 2) ethane | 3) ethene | 4) ethyne |
|------------|-----------|-----------|-----------|

21) The IUPAC name of the compound



- 1) 4-methyl 1,2-pentanediol 2) 2-methyl 2,3-pentanediol
3) 2-methyl 1,2-hexanediol 4) isohexaneglycol

22) Which of the following has lowest boiling point?

- 1) phenol 2) ortho- nitrophenol
3) meta- nitrophenol 4) para – nitrophenol

23) Galactose can not be classified as

- 1) a hexose 2) a carbohydrate
3) a ketose 4) an aldose

24) The test used for identifying peptide linkage in protein is

- 1) Molisch's test 2) Borsche's test
3) Biuret test 4) Ninhydrin test

25) The vitamin present in oil and fats are

- 1) B and C 2) A and B 3) A and C 4) A and D

26) The number of disulphide linkages present in insulin are

- 1) 1 2) 2 3) 3 4) 4

27) The bond length of H_2^+ , H_2^- and H_2 are in the order

- 1) $\text{H}_2^+ > \text{H}_2 > \text{H}_2^-$ 2) $\text{H}_2^- > \text{H}_2^+ > \text{H}_2$
3) $\text{H}_2 > \text{H}_2^+ > \text{H}_2^-$ 4) $\text{H}_2^- > \text{H}_2 > \text{H}_2^+$

28) Which of the following sulphide has yellow colour

- 1) CdS 2) CuS 3) ZnS 4) PbS

29) Sulphuric acid acts as a dehydrating agent in its reaction with

- 1) NaOH 2) $\text{Ba}(\text{OH})_2$ 3) $\text{H}_2\text{C}_2\text{O}_4$ 4) Zn

30) In Nessler's reagent the ion present is

- 1) Hg^{++} 2) Hg^+ 3) $[\text{Hg I}_4]^{2-}$ 4) $[\text{HgI}]^{2-}$

- 31) Silica is added to roasted copper ore during smelting in order to remove
 1) ferrous sulphide 2) ferrous oxide
 3) cuprous oxide 4) cuprous sulphide
- 32) One gram of silver gets distributed between 10ml of molten zinc and 100ml of molten lead at 800°C. The percentage of silver in the zinc is approximately
 1)97 2)94 3)91 4)89
- 33) Which is the most easily liquifiable gas
 1) Kr 2) Xe 3) Ne 4) Ar
- 34) A ligand can also be regarded as
 1) Lewis acid 2) Bronsted base 3) Lewis base 4) Bronsted acid
- 35) The calculated bond order of super oxide ion is
 1) 2 2) 2.5 3) 1 4) 1.5
- 36) Which of the following has the maximum number of unpaired 'd' electrons?
 1)Fe²⁺ 2) Zn²⁺ 3) Cu⁺ 4) Ni³⁺
- 37) An octahedral complex is formed when hybrid orbitals of the following type are involved
 1) dsp² 2) sp³ 3) sp²d² 4) d²sp³
- 38) Which of the following species does not exert a resonance effect ?
 1) C₆H₅NH₃⁺ 2) C₆H₅NH₂ 3) C₆H₅Cl 4) C₆H₅OH
- 39) Catalytic dehydrogenation of a secondary alcohol gives a
 1) aldehyde 2) primary alcohol 3) ester 4) ketone
- 40) The overlapping of orbitals in benzene is of the type
 1) p-p 2) sp-sp 3) sp³-sp³ 4) sp²-sp²
- 41) Using a piece of sodium, one can easily distinguish
 1) methanol and ethanol 2) ethanol and benzyl alcohol
 3) acetic acid and benzoic acid 4) ethanol and diethyl ether
- 42) A solution of bromine in carbon tetrachloride is not decolourised by
 1) propene 2) ethyne 3) benzene 4) ethene

- 43) What is the mass of oxalic acid required to prepare 500 cm³ of 0.2M solution
 1) 9g 2) 1.26g 3) 6.3g 4) 12.6g
- 44) At what temperature will the RMS velocity of sulphur dioxide be the same as that of oxygen at 298 K ?
 1) 298 K 2) 273 K 3) 596 K 4) 398 K
- 45) When KNO₃ crystals are dissolved in water at constant temperature
 1) enthalpy decreases 2) entropy increases
 3) enthalpy increases 4) both 2 and 3
- 46) Molar heat of vapourisation of a liquid is 5.968 kJ/ mol. If the entropy change is 16 J mol⁻¹K⁻¹, the boiling point of the liquid is
 1) 373⁰C 2) 373 K 3) 273 K 4) 27⁰C
- 47) Which has the least pK_a value ?
 1) CCl₃ – COOH 2) CHCl₂ – COOH
 3) CH₂Cl – COOH 4) CH₃ – COOH
- 48) Which of the following solutions will have pH close to 1.0
 1) 100 ml of 0.1 N HCl + 100 ml of 0.1 N NaOH
 2) 10 ml of 0.1 N HCl + 90 ml of 0.1 N NaOH
 3) 55 ml of 0.1 N HCl + 45 ml of 0.1 N NaOH
 4) 75 ml of M / 5 HCl + 25 ml of M / 5 NaOH
- 49) A precipitate of AgCl is formed when equal volumes following are mixed
 [K_s of AgCl = 10⁻¹⁰]
 1) 10⁻⁵ M AgNO₃ and 10⁻⁶ M HCl 2) 10⁻⁴ M AgNO₃ and 10⁻⁷ M HCl
 3) 10⁻⁶ M AgNO₃ and 10⁻⁶ M HCl 4) 10⁻⁵ M AgNO₃ and 10⁻⁴ M HCl
- 50) Normality of 0.2 M H₂SO₄ is _____
 1) 0.2 2) 0.4 3) 0.6 4) 0.1
- 51) Amongst the following, the compound that can most readily sulphonated is
 1) toluene 2) benzene 3) chlorobenzene 4) nitrobenzene
- 52) According to the electrochemical series, the best reducing agent is
 1) Li 2) Cs 3) K 4) F₂

- 53) Which the following exhibits both ionic and covalent bonding ?
1) CH_3Cl 2) H_2O 3) AlCl_3 4) NH_4Cl
- 54) The volume occupied by 16g of oxygen at STP is
1) 22.4 dm^3 2) 44.8 dm^3 3) 11.2 dm^3 4) 5.6 dm^3
- 55) Which of the following is monobasic
1) H_3PO_4 2) H_3PO_3 3) H_3PO_2 4) $\text{H}_2\text{C}_2\text{O}_4$
- 56) Which of the following type of the metals form the most efficient catalysts
1) alkali metals 2) alkaline earth metals
3) transition metals 4) all these
- 57) Foul smelling carbylamines test is answered by
1) secondary amines 2) only aromatic amines
3) only aliphatic amines 4) any primary amines
- 58) IUPAC name for anisole is
1) methoxyethane 2) methoxybenzene
3) ethoxybenzene 4) methoxymethane
- 59) A sol of As_2S_3 sol is negatively charged. The capacity to coagulate it is highest in
1) AlCl_3 2) Na_3PO_4 3) CaCl_2 4) K_2SO_4
- 60) Proteins which on hydrolysis give only amino acids are called
1) simple proteins 2) derived proteins
3) conjugate proteins 4) nucleoproteins