Chemistry Sample Paper - 2

Instruction : Attempt any 40 questions, out of 50
Duration : 45 Minutes

Q.1: The lattice points of a crystal of hydrogen iodide are occupied by
(a) HI molecules
(b) H atoms and I atoms
(c) H^+ cations and I^- anions
(d) H_2 molecules and I_2 molecules

Q.2: The number of octahedral void(s) per atom present at a cubic close packed structure is
(a) 1
(b) 3
(c) 2
(d) 4

Q.3: Which one is not a ferroelectric compound?
(a) KH_2PO_4
(b) $K_4[Fe(CN)_6]$
(c) Rochelle salt
(d) $BaTiO_3$

Q.4: What is the percentage of solute in the resultant solution, if it is obtained by mixing 300g of 30% and 200g of 20% solution by weight?
(a) 50%
(b) 26%
(c) 62%
(d) 32%

Q.5: The examples of minimum boiling azeotropes are
(a) aniline + acetone
(b) acetic acid + pyridine
(c) HCl + water
(d) cyclohexane + ethanol

Q.6: At 300 K two pure liquids A and B have 150 mm Hg and 100 mm Hg vapour pressures, respectively. In an equimolar liquid mixture of A and B, the mole fraction of B in the vapour mixture at this temperature is
(a) 0.6
(b) 0.5
(c) 0.8
(d) 0.4

Q.7: A 4.0 M aqueous solution of NaCl is prepared and 500 mL of this solution is electrolysed. This leads to evolution of chlorine gas at one of the electrodes. The total charge required for the complete electrolysis will be
(a) 96500 C
(b) 24125 C
(c) 48250 C
(d) 193000 C

Q.8: Galvanisation is
(a) zinc plating on aluminium sheet
(b) zinc plating on iron sheet
(c) iron plating on zinc sheet
(d) aluminium plating on zinc sheet

Q.9: $Zn(s) + Cu^{2+}(aq)$ $latex \rightarrow$ $Zn^{2+}(aq) + Cu(s)$
The above redox reaction is used in
(a) Galvanic cell
(b) Daniell cell
(c) Voltaic cell
(d) All of these

Q.10: Rate law cannot be determined from balanced chemical equation, if …… .
(a) reverse reaction is involved
(b) it is an elementary reaction
(c) it is a sequence of elementary reactions
(d) Both (a) and (c)

Q.11: A first order reaction has a rate constant of $2303 \times 10^{-3}\ S^{-1}$. The time required for 40 g of this reactant to reduce to 10 g will be [Given that $\log_{10} 2 = 0.3010$]
(a) 230.3 s
(b) 301 s
(c) 2000 s
(d) 602 s

Q12: 99% completion of a first order reaction takes place in 32 min. The time taken in 99.9% completion of the reaction will be
(a) 48 min
(b) 52 min
(c) 56 min
(d) 44 min

Q.13: In the cleansing action of soaps represented by the given figures,

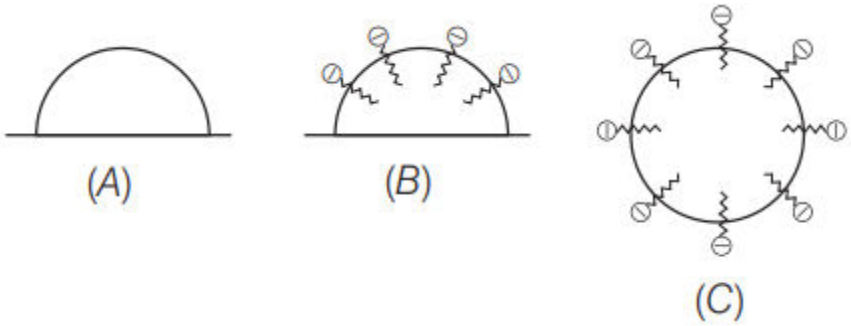

Figure 'C' show the structure of
(a) aggregated colloids
(b) macromolecular colloids
(c) Both (a) and (b)
(d) multimolecular colloids

Q.14: Smoke is precipitated by the
(a) Cottrell precipitator
(b) colloidal precipitator
(c) natural precipitator
(d) Planck's precipitator

Q.15: Butter and cream are the examples of
(a) w/o type emulsion
(b) o/w type emulsion
(c) Both (a) and (b)
(d) None of these

Q.16: Which one of the following is a mineral of iron?
(a) Malachite
(b) Cassiterite
(c) Pyrolusite
(d) Magnetite

Q.17: Sulphide ores are common for which of the following metals.
(a) Ag, Cu and Pb
(b) Ag, Cu and Sn
(c) Ag, Mg and Pb
(d) Al, Cu and Pb

Q.18: In electrolytic refining method,
(a) the impure metal is made to act as anode
(b) a strip of the pure metal is used as cathode
(c) anode and cathode are kept in a suitable electrolytic bath containing soluble salt of the same metal
(d) All the above are true

Q.19: Which of the following hydrides has the lowest boiling point?
(a) PH_3
(b) AsH_3
(c) SbH_3
(d) NH_3

Q.20: Which of the following oxides is amphoteric in nature?
(a) Cl_2O_7
(b) Na_2O
(c) N_2O
(d) Al_2O_3

Q.21: Which of the following are the applications of dinitrogen gas?
(a) Preservation of biological materials and food items
(b) Production of inert atmosphere in copper and steel industry
(c) In the preparation of explosives
(d) Etching of metals

Q.22: The third ionisation enthalpy is minimum form
(a) Mn
(b) Ni
(c) Co
(d) Fe

Q.23: The actinoids resemble the lanthanoids in having more compounds in
(a) +3 state
(b) +4 state
(c) +5 state
(d) +2 state

Q.24: Dichromates are generally prepared by the fusion of chromite ore with
(a) sodium carbonate
(b) potassium carbonate
(c) Both (a) and (b)
(d) Neither (a) nor (b)

Q.25: How many ions obtain after dissociation of this complex $[Co(NH_3)_6]Cl_3$?
(a) 3
(b) 2
(c) 5
(d) 4

Q.26: An example of a sigma bonded organometallic compound is
(a) ruthenocene
(b) Grignard's reagent
(c) ferrocene
(d) cobaltocene

Q.27: For lead-poisoning, the antidote used is
(a) white of an egg
(b) cis-platin
(c) nickel
(d) EDTA

Q.28: Which of the following is an example of vic-dihalide?
(a) Dichloromethane
(b) 1,2-dichloroethane
(c) Ethylidine chloride
(d) Allyl chloride

Q.29: What is the nature of KCN and AgCN compounds?
(a) Ionic and covalent
(b) Ionic and ionic
(c) Covalent and ionic
(d) Covalent and covalent

Q.30: Which of the following is used to prepare alkyl chloride in presence of alcohol?
(a) H_2SO_4
(b) HCl solution (dilute)
(c) dry HCl gas
(d) None of these

Q.31: Phenols show the cleavage of C— O bond with
(a) Na
(b) K
(c) Zn
(d) Ca

Q.32: The order of reactivity of hydrogen halides with ether is as follows :
(a) HBr > HI > HCl
(b) HCl > HBr > HI
(c) HI > HBr > HCl
(d) HCl > HI > HBr

Q.33: The action of zymase is inhibited during fermentation if the percentage of alcohol formed exceeds
(a) 5%
(b) 7%
(c) 10%
(d) 14%

Q.34: Carbonyl compounds are the constituents of
(a) fabrics
(b) flavouring
(c) plastics and drugs
(d) All of these

Q.35: Which of the following compounds produces an orange-red precipitate with 2, 4-DNP reagent?
(a) Acetamide
(b) Dimethyl ether
(c) Butanone
(d) Propylbutanoate

Q.36: Which of the following acid is used in rubber, textile, dyeing, leather and electroplating industries?
(a) Hexanedioic acid
(b) Ethanoic acid
(c) Methanoic acid
(d) Sodium benzoate

Q.37: Name the product(s) formed during the reaction of primary aliphatic amines with nitrous acid at room temperature?
(a) R NO2
(b) ROH
(c) Both (a) and (b)
(d) None of these

Q.38: Coupling reaction is an example of
(a) nucleophilic addition reaction.
(b) nucleophilic substitution reaction.
(c) electrophilic substitution reaction.
(d) electrophilic addition reaction.

Q.39: The chemical formula of Hinsberg's reagent is
(a) HNO_2
(b) NaOH+CaO
(c) $C_6H_5SO_2Cl$
(d) CH_3CONH_2

Q.40: Invert sugar is a mixture of
(a) D-glucose + D-fructose
(b) L-glucose + D-fructose
(c) L-glucose + D-glucose
(d) L-glucose + L-glucose

Q.41: Which of the following is not a hormone?
(a) Insulin
(b) Endorphins
(c) Norepinephrine
(d) Thymine

Q.42: Water soluble vitamin is
(a) vitamin C
(b) vitamin D
(c) vitamin E
(d) vitamin K

Q.43: Buna-S is a
(a) natural polymer
(b) synthetic polymer
(c) semi-synthetic polymer
(d) None of these

Q.44: Biodegradable polymer which can be produced from glycine and amino caproic acid is
(a) nylon-2-nylon-6
(b) PHBV
(c) buna-N
(d) nylon-6, 6

Q.45: The type of polythene which is chemically inert and more tough and hard is
(a) HDP
(b) LDP
(c) Both (a) and
(b) (d) None of these

Q.46: The receptor proteins are embedded in the
(a) DNA
(b) cell membrane
(c) cytoplasm
(d) RNA

Q.47: Food preservatives prevent spoilage of food due to microbial growth. The most commonly used preservative is
(a) C_6H_5COONa
(b) table salt
(c) vegetable oils
(d) All of the above

Q.48: Noradrenaline is a/an
(a) antidepressant
(b) antihistamine
(c) neurotransmitter
(d) antacid

Q.49: Which lanthanoid does not occur naturally?
(a) Eu
(b) Pm
(c) Gd
(d) Lu

Q.50: Which primitive unit cell has unequal edge lengths $latex (a\neq b \neq c)$ and all axial angles different from 90°?
(a) Hexagonal
(b) Monoclinic
(c) Tetragonal
(d) Triclinic

Answer Key : CUET (UG) Chemistry Sample Paper

1. (a)	2. (a)	3. (b)	4. (b)	5. (d)	6. (d)	7. (d)	8. (b)	9. (d)	10. (b)
11. (d)	12. (a)	13. (a)	14. (a)	15. (a)	16. (d)	17. (a)	18. (d)	19. (a)	20. (d)
21. (a)	22. (d)	23. (a)	24. (c)	25. (d)	26. (b)	27. (d)	28. (b)	29. (a)	30. (c)
31. (c)	32. (c)	33. (d)	34. (d)	35. (c)	36. (c)	37. (b)	38. (c)	39. (c)	40. (a)
41. (d)	42. (a)	43. (b)	44. (a)	45. (a)	46. (b)	47. (d)	48. (c)	49. (b)	50. (d)