Quiz: Chemistry set 20

Q951: The de Broglie wavelength of an electron accelerated through a potential difference V is proportional to:

A) V
B) sqrtV
C) 1/V
D) 1/sqrtV

Q952: For a zero order reaction, the half-life t1/2 is given by:

A) 0.693/k
B) [A]0/2k
C) 1/k[A]0
D) 2[A]0/k

Q953: The maximum number of electrons with n = 2 is:

A) 2
B) 4
C) 6
D) 8

Q954: The pH of a solution having hydrogen ion concentration 1x10-8 M at 25 degC is approximately:

A) 6
B) 7
C) 8
D) 5

Q955: Which colligative property is used for determining molar mass of proteins?

A) Elevation of boiling point
B) Depression of freezing point
C) Osmotic pressure
D) Relative lowering of vapour pressure

Q956: The correct order of increasing electron affinity is:

A) I < Br < Cl < F
B) F < Cl < Br < I
C) Cl < F < Br < I
D) I < Br < F < Cl

Q957: The hybridization of central atom in XeF4 is:

A) sp3
B) sp3d
C) sp3d2
D) d2sp3

Q958: Which of the following complexes is paramagnetic?

A) [Zn(CN)4]2-
B) [Ni(CN)4]2-
C) [Fe(H2O)6]3+
D) [Pt(NH3)4]2+

Q959: The SI unit of entropy is:

A) J
B) J mol-1
C) J K-1
D) J mol-1 K-1

Q960: Which reagent selectively oxidizes primary alcohols to aldehydes?

A) KMnO4
B) K2Cr2O7
C) PCC
D) HNO3

Q961: The total number of sigma bonds in ethane is:

A) 6
B) 7
C) 8
D) 9

Q962: Which compound has maximum covalent character?

A) NaCl
B) MgCl2
C) AlCl3
D) CaCl2

Q963: The oxidation state of chromium in K2Cr2O7 is:

A) +3
B) +4
C) +5
D) +6

Q964: The bond angle in H2O molecule is approximately:

A) 109.5 deg
B) 107 deg
C) 104.5 deg
D) 120 deg

Q965: Which gas shows maximum deviation from ideal behavior?

A) H2
B) He
C) NH3
D) Ne

Q966: The molarity of a solution containing 2 g NaOH in 500 mL solution is:

A) 0.05 M
B) 0.1 M
C) 0.2 M
D) 0.4 M

Q967: Which amine is least basic in aqueous solution?

A) NH3
B) CH3NH2
C) (CH3)2NH
D) (CH3)3N

Q968: The coordination number of Fe in [Fe(CN)6]3- is:

A) 3
B) 4
C) 6
D) 8

Q969: Which of the following is an extensive property?

A) Temperature
B) Pressure
C) Density
D) Internal energy

Q970: The value of activation energy of a reaction can be determined from:

A) Rate law
B) Arrhenius plot
C) Equilibrium constant
D) Stoichiometry

Q971: Which compound is used as an antacid?

A) NaCl
B) Mg(OH)2
C) NH4Cl
D) HNO3

Q972: The total number of valence electrons in CO32- ion is:

A) 18
B) 22
C) 24
D) 26

Q973: Which of the following is the strongest oxidizing agent?

A) Cl2
B) KMnO4
C) O3
D) F2

Q974: The time required for 50% completion of a first order reaction is:

A) t1/2
B) 2t1/2
C) 3t1/2
D) 4t1/2

Q975: Which is an example of homogeneous catalysis?

A) Ni in hydrogenation
B) Fe in Haber process
C) H+ in ester hydrolysis
D) V2O5 in contact process

Q976: The correct order of bond strength is:

A) C-C < C=C < C===C
B) C===C < C=C < C-C
C) C=C < C-C < C===C
D) C-C < C===C < C=C

Q977: Which molecule has zero dipole moment?

A) NH3
B) H2O
C) CO2
D) SO2

Q978: A buffer solution resists change in pH when:

A) Strong acid is added
B) Strong base is added
C) Small amount of acid or base is added
D) Large amount of acid is added

Q979: Which of the following is a non-electrolyte?

A) NaCl
B) HCl
C) KOH
D) Sucrose

Q980: The IUPAC name of CH3-CO-CH2-CH3 is:

A) Butan-1-one
B) Butan-2-one
C) Propanone
D) Pentan-2-one

Q981: Which halogen has the highest bond dissociation energy?

A) F2
B) Cl2
C) Br2
D) I2

Q982: The geometry of SF6 is:

A) Trigonal bipyramidal
B) Octahedral
C) Square planar
D) Tetrahedral

Q983: Which of the following is a state function?

A) Work
B) Heat
C) Entropy
D) Path

Q984: The number of pi bonds in benzene is:

A) 2
B) 3
C) 4
D) 6

Q985: Which compound shows optical isomerism?

A) But-1-ene
B) But-2-ene
C) 2-Butanol
D) Ethane

Q986: The SI unit of specific conductivity is:

A) S m-1
B) S m2 mol-1
C) Ohm m
D) Ohm-1 m2

Q987: Which metal is extracted by electrolytic reduction?

A) Fe
B) Cu
C) Al
D) Zn

Q988: The rate law for a first order reaction is:

A) Rate = k
B) Rate = k[A]
C) Rate = k[A]2
D) Rate = k/[A]

Q989: Which acid is weakest in aqueous solution?

A) HF
B) HCl
C) HBr
D) HI

Q990: The oxidation state of nitrogen in NO_3^- ion is:

A) +3
B) +4
C) +5
D) +6

Q991: Which compound gives positive Fehling's test?

A) Acetone
B) Glucose
C) Benzaldehyde
D) Acetic acid

Q992: The standard enthalpy of formation of $N_2(g)$ is:

A) -286 kJ mol-1
B) 0
C) +286 kJ mol-1
D) -393 kJ mol-1

Q993: Which ion has the least hydration enthalpy?

A) Li^+
B) Na^+
C) K^+
D) Cs^+

Q994: The reagent used to convert alcohols into alkyl chlorides is:

A) $SOCl_2$
B) $NaBH_4$
C) PCC
D) $KMnO_4$

Q995: Which ion is diamagnetic?

A) Fe^{3+}
B) Mn^{2+}
C) Zn^{2+}
D) Cu^{2+}

Q996: The correct order of thermal stability of hydroxides is:

A) LiOH < NaOH < KOH
B) KOH < NaOH < LiOH
C) NaOH < KOH < LiOH
D) LiOH < KOH < NaOH

Q997: Which ligand is ambidentate?

A) NH_3
B) H_2O
C) NO_2^-
D) en

Q998: The value of gas constant R in atm L mol-1 K-1 is:

A) 8.314
B) 1.987
C) 0.0821
D) 2.303

Q999: Which acid is strongest in aqueous solution?

A) HNO3
B) H2SO4
C) HClO4
D) CH3COOH

Q1000: For an endothermic reaction, the sign of DeltaH is:

A) Positive
B) Negative
C) Zero
D) Depends on catalyst