Quiz: Chemistry set 14

Q652: The de Broglie wavelength of a particle moving with velocity v becomes half when:

A) Velocity becomes half
B) Velocity becomes double
C) Mass becomes half
D) Momentum becomes half

Q653: For a second order reaction, the unit of rate constant k is:

A) s-1
B) L mol-1 s-1
C) mol L-1 s-1
D) dimensionless

Q654: The maximum number of electrons in the subshell with n = 4 and l = 1 is:

A) 2
B) 6
C) 10
D) 14

Q655: The pH of a solution with [H+] = 3.16 x 10-5 M is approximately:

A) 4.5
B) 5.0
C) 3.5
D) 6.5

Q656: Which colligative property is independent of temperature?

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

Q657: The correct order of increasing electron affinity is:

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

Q658: The hybridization of central atom in IF7 is:

A) sp3d2
B) sp3d3
C) d2sp3
D) sp3d

Q659: Which of the following complexes is diamagnetic?

A) [Fe(H2O)6]2+
B) [CoF6]3-
C) [Ni(CN)4]2-

D) [Mn(H2O)6]2+

Q660: The SI unit of Gibbs free energy is:

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

Q661: Which reagent converts carboxylic acids to primary alcohols?

A) NaBH4
B) PCC
C) LiAlH4
D) KMnO4

Q662: The total number of sigma bonds in ethyne is:

A) 2
B) 3
C) 4
D) 5

Q663: Which compound has maximum covalent character?

A) NaCl
B) MgO
C) AlCl3
D) CaF2

Q664: The oxidation state of chromium in K2CrO4 is:

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

Q665: The bond angle in SO3 molecule is:

A) 109.5 deg
B) 107 deg
C) 120 deg
D) 180 deg

Q666: Which gas deviates most from ideal behavior?

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

Q667: The molarity of a solution containing 5 g NaOH in 1 L solution is:

A) 0.125 M
B) 0.25 M
C) 0.5 M
D) 1.0 M

Q668: Which amine is most basic in aqueous solution?

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

Q669: The coordination number of Co in [Co(en)3]3+ is:

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

Q670: Which of the following is an intensive property?

A) Mass
B) Volume
C) Enthalpy
D) Density

Q671: The rate constant of a reaction depends on:

A) Initial concentration
B) Temperature
C) Time
D) Extent of reaction

Q672: Which compound is used as an antacid?

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

Q673: The total number of valence electrons in PO43- ion is:

A) 26
B) 30
C) 32
D) 34

Q674: Which of the following is the strongest oxidizing agent?

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

Q675: The time required for 93.75% completion of a first order reaction is:

A) 3t1/2
B) 4t1/2
C) 5t1/2
D) 6t1/2

Q676: Which of the following is an example of heterogeneous catalysis?

A) H+ in ester hydrolysis
B) I- in H2O2 decomposition
C) Ni in hydrogenation
D) NO in SO2 oxidation

Q677: The correct order of bond length 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

Q678: Which molecule has zero dipole moment?

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

Q679: A buffer solution is most effective when:

A) pH = 7
B) pH = pKa
C) Only salt present
D) Only acid present

Q680: Which of the following is a non-electrolyte?

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

Q681: The IUPAC name of CH3-CH2-COOH is:

A) Ethanoic acid
B) Propanoic acid
C) Butanoic acid
D) Methanoic acid

Q682: Which halogen has the highest bond dissociation energy?

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

Q683: The geometry of ClF3 is:

A) Trigonal planar
B) T-shaped
C) Linear
D) Tetrahedral

Q684: Which of the following is a state function?

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

Q685: The number of pi bonds in benzene is:

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

Q686: Which compound shows geometrical isomerism?

A) Ethene
B) Propene
C) But-2-ene
D) Methane

Q687: The SI unit of molar conductivity is:

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

Q688: Which metal is extracted by electrolytic reduction?

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

Q689: The rate law for a zero order reaction is:

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

Q690: Which acid is weakest in aqueous solution?

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

Q691: The oxidation state of carbon in CO is:

A) +2
B) -2
C) 0
D) +4

Q692: Which compound gives positive Tollens test?

A) Acetone
B) Formaldehyde
C) Benzophenone
D) Acetic acid

Q693: The standard enthalpy of formation of O2(g) is:

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

Q694: Which ion has the highest hydration enthalpy?

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

Q695: The reagent used to convert alcohol into alkene is:

A) NaBH4
B) PCC
C) Conc. H2SO4
D) KMnO4

Q696: Which ion is diamagnetic?

A) Fe3+
B) Mn2+
C) Zn2+
D) Cu2+

Q697: The correct order of thermal stability of nitrates is:

A) LiNO3 < NaNO3 < KNO3
B) KNO3 < NaNO3 < LiNO3
C) NaNO3 < KNO3 < LiNO3
D) LiNO3 < KNO3 < NaNO3

Q698: Which ligand is bidentate?

A) NH3
B) H2O
C) en
D) Cl-

Q699: The value of gas constant R in cal mol-1 K-1 is:

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

Q700: The enthalpy change for an exothermic reaction is:

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