Quiz: Chemistry set 18

Q851: The de Broglie wavelength of a particle becomes half when its kinetic energy becomes:

A) Half
B) Double
C) Four times
D) One-fourth

Q852: For a first order reaction, the integrated rate equation is:

A) [A] = [A]0 - kt
B) ln[A] = -kt + ln[A]0
C) 1/[A] = kt + 1/[A]0
D) Rate = k[A]2

Q853: The maximum number of electrons that can be accommodated in the n = 5 shell is:

A) 25
B) 32
C) 50
D) 72

Q854: The pH of a solution having [OH-] = 1x10-4 M at 25 degC is:

A) 4
B) 10
C) 14
D) 8

Q855: Which colligative property is used in desalination by reverse osmosis?

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

Q856: The correct order of increasing first ionization enthalpy is:

A) B < Be < C
B) Be < B < C
C) C < B < Be
D) B < C < Be

Q857: The hybridization of the central atom in SF6 is:

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

Q858: Which of the following complexes is low spin?

A) [Fe(H2O)6]3+
B) [Fe(CN)6]3-
C) [MnF6]3-

D) [CoF6]3-

Q859: The SI unit of entropy change is:

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

Q860: Which reagent converts aldehydes selectively into alcohols?

A) KMnO4
B) NaBH4
C) PCC
D) HNO3

Q861: The total number of sigma bonds in benzene is:

A) 6
B) 9
C) 12
D) 15

Q862: Which compound has maximum ionic character?

A) LiF
B) NaCl
C) KBr
D) CsI

Q863: The oxidation state of nitrogen in N2O is:

A) 0
B) +1
C) +2
D) +3

Q864: The bond angle in NO3- ion is:

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

Q865: Which gas deviates most from ideal behavior at low temperature?

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

Q866: The molarity of a solution containing 5.85 g NaCl in 500 mL solution is:

A) 0.1 M
B) 0.2 M
C) 0.5 M
D) 1.0 M

Q867: Which amine is strongest base in aqueous solution?

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

Q868: The coordination number of Pt in [Pt(NH3)4]2+ is:

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

Q869: Which of the following is an extensive property?

A) Density
B) Temperature
C) Pressure
D) Enthalpy

Q870: The rate constant of a reaction increases with:

A) Decrease in temperature
B) Increase in activation energy
C) Increase in temperature
D) Decrease in concentration

Q871: Which compound is commonly used as an antacid?

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

Q872: The total number of valence electrons in SO3 molecule is:

A) 18
B) 24
C) 30
D) 32

Q873: Which of the following is the strongest oxidizing agent?

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

Q874: The time required for 99% completion of a first order reaction is approximately:

A) 5 t1/2
B) 6.6 t1/2
C) 10 t1/2
D) 3.3 t1/2

Q875: 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

Q876: 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

Q877: Which molecule has zero dipole moment?

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

Q878: A buffer solution shows maximum buffering capacity when:

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

Q879: Which of the following is a non-electrolyte?

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

Q880: The IUPAC name of CH3-CHO is:

A) Methanal
B) Ethanal
C) Propanal
D) Ethanol

Q881: Which halogen has maximum electron affinity?

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

Q882: The geometry of XeF2 is:

A) Bent
B) Linear
C) Trigonal planar
D) Tetrahedral

Q883: Which of the following is a state function?

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

Q884: The number of pi bonds in ethene is:

A) 0
B) 1
C) 2
D) 3

Q885: Which compound shows geometrical isomerism?

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

Q886: The SI unit of molar conductivity is:

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

Q887: Which metal is extracted by electrolytic reduction?

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

Q888: 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]

Q889: Which acid is weakest in aqueous solution?

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

Q890: The oxidation state of carbon in CO2 is:

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

Q891: Which compound gives positive Tollens test?

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

Q892: 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

Q893: Which ion has maximum hydration enthalpy?

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

Q894: The reagent used to convert alcohol into alkene is:

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

Q895: Which ion is diamagnetic?

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

Q896: The correct order of thermal stability of carbonates is:

A) Li2CO3 < Na2CO3 < K2CO3
B) K2CO3 < Na2CO3 < Li2CO3
C) Na2CO3 < K2CO3 < Li2CO3
D) Li2CO3 < K2CO3 < Na2CO3

Q897: Which ligand is ambidentate?

A) NH3
B) H2O
C) NO2-
D) en

Q898: The value of gas constant R in J mol-1 K-1 is:

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

Q899: Which acid is strongest in aqueous solution?

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

Q900: For an endothermic reaction, the sign of DeltaH is:

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