Quiz: Chemistry set 10

Q451: The de Broglie wavelength of a moving particle is directly proportional to its:

A) Mass
B) Velocity
C) Momentum
D) Planck’s constant

Q452: For a first order reaction, the plot of log(a-x) versus time is:

A) Straight line with positive slope
B) Straight line with negative slope
C) Parabolic
D) Hyperbolic

Q453: The maximum number of electrons in a shell with principal quantum number n = 7 is:

A) 14
B) 28
C) 49
D) 98

Q454: The pH of a 10^-8 M HCl solution is approximately:

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

Q455: Which colligative property is most affected by dissociation of solute?

A) Elevation of boiling point
B) Depression of freezing point
C) Osmotic pressure
D) All are equally affected

Q456: The correct order of increasing electronegativity is:

A) C < N < O < F
B) F < O < N < C
C) O < N < C < F
D) N < C < O < F

Q457: The hybridization of sulfur in SF6 is:

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

Q458: 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+

Q459: The SI unit of enthalpy change is:

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

Q460: Which reagent oxidizes aldehydes to carboxylic acids?

A) NaBH4
B) PCC
C) Tollen’s reagent
D) KMnO4

Q461: The total number of sigma bonds in propane is:

A) 8
B) 9
C) 10
D) 11

Q462: Which compound has maximum covalent character?

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

Q463: The oxidation state of chlorine in ClO3- is:

A) +3
B) +5
C) +6
D) +7

Q464: The bond angle in water molecule is less than tetrahedral angle because of:

A) Bond pair-bond pair repulsion
B) Lone pair-lone pair repulsion
C) Lone pair-bond pair repulsion
D) Low electronegativity

Q465: Which gas shows maximum deviation from ideal behavior at low temperature?

A) H2
B) He
C) CO2
D) Ne

Q466: The molarity of a solution containing 5.85 g NaCl in 1 L solution is:

A) 0.05 M
B) 0.1 M
C) 0.2 M
D) 0.5 M

Q467: Which amine is most basic in aqueous solution?

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

Q468: The coordination number of central metal in [Al(H2O)6]3+ is:

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

Q469: Which of the following is an intensive property?

A) Mass
B) Volume
C) Internal energy
D) Density

Q470: The rate constant of a reaction increases when:

A) Temperature decreases
B) Activation energy increases
C) Temperature increases
D) Concentration decreases

Q471: Which compound is used as antacid?

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

Q472: The total number of valence electrons in SO2 molecule is:

A) 16
B) 18
C) 20
D) 24

Q473: Which of the following is the strongest oxidizing agent?

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

Q474: The time required for 75% completion of a first order reaction is:

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

Q475: Which of the following is an example of heterogeneous catalysis?

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

Q476: 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

Q477: Which molecule has zero dipole moment?

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

Q478: A buffer solution shows maximum buffering capacity when:

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

Q479: Which of the following is a non-electrolyte?

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

Q480: The IUPAC name of H-COOH is:

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

Q481: Which halogen has maximum bond dissociation energy?

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

Q482: The geometry of XeF2 is:

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

Q483: Which of the following is a state function?

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

Q484: The number of pi bonds in benzene is:

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

Q485: Which compound shows geometrical isomerism?

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

Q486: The SI unit of molar conductivity is:

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

Q487: Which metal is extracted by electrolytic reduction?

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

Q488: 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]

Q489: Which acid is weakest in aqueous solution?

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

Q490: The oxidation state of carbon in CO2 is:

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

Q491: Which compound gives positive Tollens test?

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

Q492: The standard enthalpy of formation of I2(s) is:

A) 0
B) +30 kJ mol-1
C) -30 kJ mol-1
D) -393 kJ mol-1

Q493: Which ion has maximum hydration enthalpy?

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

Q494: The reagent used to convert alcohol into alkene is:

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

Q495: Which ion is diamagnetic?

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

Q496: 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

Q497: Which ligand is bidentate?

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

Q498: The value of gas constant R in L atm mol-1 K-1 is:

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

Q499: Which acid is strongest in aqueous solution?

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

Q500: The enthalpy change for condensation is:

A) Positive
B) Negative
C) Zero
D) Uncertain