Quiz: Chemistry set 12

Q551: The de Broglie wavelength of a particle increases when its:

A) Velocity increases
B) Mass increases
C) Momentum decreases
D) Kinetic energy increases

Q552: For a zero order reaction, the half-life is proportional to:

A) Initial concentration
B) Inverse of initial concentration
C) Rate constant only
D) Square of concentration

Q553: The maximum number of electrons that can have n = 5 is:

A) 25
B) 50
C) 10
D) 32

Q554: The pH of a 1x10-4 M HCl solution is:

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

Q555: Which colligative property is used to determine molar mass of proteins?

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

Q556: The correct order of increasing electronegativity is:

A) Si < P < S < Cl
B) Cl < S < P < Si
C) P < Si < S < Cl
D) Si < S < P < Cl

Q557: The hybridization of central atom in XeF6 is:

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

Q558: Which of the following complexes is paramagnetic?

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

D) [Pt(NH3)2Cl2]

Q559: The unit of entropy is:

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

Q560: Which reagent selectively oxidizes primary alcohol to aldehyde?

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

Q561: The total number of sigma bonds in ethane is:

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

Q562: Which compound has maximum covalent character?

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

Q563: The oxidation state of manganese in KMnO4 is:

A) +5
B) +6
C) +7
D) +4

Q564: The bond angle in NH4+ ion is:

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

Q565: Which gas shows minimum deviation from ideal behavior?

A) NH3
B) CO2
C) H2
D) SO2

Q566: The molarity of a solution containing 4 g NaOH in 500 mL solution is:

A) 0.1 M
B) 0.2 M
C) 0.4 M
D) 0.5 M

Q567: Which amine is least basic in aqueous solution?

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

Q568: The coordination number of Ni in [Ni(CO)4] is:

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

Q569: Which of the following is an intensive property?

A) Mass
B) Volume
C) Entropy
D) Temperature

Q570: The rate constant of a reaction depends on:

A) Initial concentration
B) Time
C) Temperature
D) Pressure only

Q571: Which compound is used as an antacid?

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

Q572: The total number of valence electrons in SO42- ion is:

A) 24
B) 30
C) 32
D) 34

Q573: Which of the following is the strongest oxidizing agent?

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

Q574: The time required for 75% completion of a first order reaction is:

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

Q575: 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

Q576: The correct increasing 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

Q577: Which molecule has zero dipole moment?

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

Q578: A buffer solution is most effective when:

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

Q579: Which of the following is a non-electrolyte?

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

Q580: The IUPAC name of CH3-CH2-OH is:

A) Methanol
B) Ethanol
C) Propanol
D) Ethanal

Q581: Which halogen has maximum bond dissociation energy?

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

Q582: The geometry of BrF3 is:

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

Q583: Which of the following is a state function?

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

Q584: The number of pi bonds in ethene is:

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

Q585: Which compound shows geometrical isomerism?

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

Q586: The SI unit of molar conductivity is:

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

Q587: Which metal is extracted by electrolytic reduction?

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

Q588: 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]

Q589: Which acid is weakest in aqueous solution?

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

Q590: The oxidation state of carbon in CH4 is:

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

Q591: Which compound gives positive Tollens test?

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

Q592: The standard enthalpy of formation of P4(s) is:

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

Q593: Which ion has maximum hydration enthalpy?

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

Q594: The reagent used to convert alcohol into alkene is:

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

Q595: Which ion is diamagnetic?

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

Q596: 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

Q597: Which ligand is bidentate?

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

Q598: 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

Q599: Which acid is strongest in aqueous solution?

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

Q600: The enthalpy change for an exothermic reaction is:

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