**Question:** 1 C3H9Ncannotrepresent

**Choice**  a) 1o amine

 b) 2o amine

 c) 3o amine

 d) quaternary salt

**Correct Answer :** d

**Question: 2**

 In the above reaction , X stands for

**Choice**  a) SnCl2

b) Cl

 c) NH2

d) NH3+Cl−

**Correct Answer :** d

**Hints :**



**Question: 3** Reduction of H3C−NC with hydrogen in the presence of NiPt catalyst gives

**Choice**  a) CH3NH2

 b) CH3NHCH3

 c) CH3CH2NH2

d) (CH3)3N

**Correct Answer :** b

**Question: 4** Which of the following reagent can be used to convert benzene diazonium chloride into benzene

**Choice**  a) CH3OH

b) H3PO2

c) Br2−H2O

d) LiAlH4

**Correct Answer :** b

**Hints :**  Benzene diazonium salts are prepared in aqueous solutions and LiAlH4 reacts violently with water. Hence it cannot be used to reduce benzene diazonium salts to benzene. H3PO2

**Question: 5** The indicator that is obtained by coupling the dragonium salt of sulphanilic acid with N, N-dimethyl aniline is

**Choice**  a) Indigo

 b) Methyl orange

 c) Methyl red

 d) Phenolphthalein

**Correct Answer :** b

**Question: 6** Which of the following is not a Lewis acid ?

**Choice** a) BF3

 b) AlCl3

 c) SnCl4

 d) CCl4

**Correct Answer :** d

**Hints :** CCl4cannot accept a pair of electrons as C has no vacant orbital in its valence shell in CCl4

**Question: 7** An acidic buffer solution can be prepared by mixing solution

**Choice**  a) ammonium chloride and HCl

 b) H2SO4 and Na2SO4

 c) acetic acid and sullphuric acid

 d) Sodium acetate and acetic acid

**Correct Answer :** d

**Hints :** A mixture of acetic acid and acetate ions acts as a buffer(weak acid + its conjugate base).

**Question: 8**  Hl was heated in a sealed tube at 440oC till the equilibrium was reached. Hl was found to be 22% decomposed. The equilibrium constant for dissociation is

**Choice**  a) 0.282

 b) 1.99

 c) 0.0199

 d) 0.0796

**Correct Answer :** c

**Hints :** 2HI⇌H2+I2100−−781111

K = [H2][I2][HI]2=11×1178×78

**Question: 9** In the reaction 2SO2+O2⇌2SO3,Ke=100 if the concentration of SO2 is same as that of SO3, then

**Choice**  a) conc.of O2 is equal to that of SO2

 b) [O2]=0.01M

 c) conc.of O2 is equal to that of SO3

 d) [O2]=0.1M

**Correct Answer :** b

**Hints :** K = [so3]2[SO2]2[O2]

100 =1[O2] or [O2]=1100M

**Question:10** For the chemical equilibrium : A(g) + B(g)⇌4000C1atmC(g) - Qcal

**Choice**  a) Kp>Ke

 b) Kp=Ke

 c) Kp<Ke

 d) Ke is independent of temperature

**Correct Answer :** c

**Question: 11** A solution was prepared by mixing 50ml of 0.2 M HCl and 50 ml of 0.10 M NaOH. The Hp of the solution is

**Choice**  a) 7.0

 b) 2.0

 c) 3.0

 d) 1.3

**Correct Answer :** d

**Question: 12**  If H+ ion concentration of a solution is increased by 10 times then its Hp

**Choice**  a) increases by one

 b) remains unchanged

 c) decreases by one

 d) increases by 10

**Correct Answer :** a

**Question: 13**  When equal volume of the following solutions are mixed, precipitation of AgCl(Ksp=1.8×10−10) will occur only with

**Choice** a) 10−4M{Ag+} and 10−4M{Cl−}

 b) 10−5M{Ag+}and 10−5M{Cl−}

 c) 10−5M{Ag+}and 10−6M{Cl−}

 d) 10−10M{Ag+}and 10−10M{Cl−}

**Correct Answer :** a

**Hints :** I.P. = [Ag+][Cl−]=(10−4)(10−4)=10−8

In this case I.P. is greater than Ksp