Chemistry Model Question Paper - 6

Question 1 :

Benzaldehyde and acetone can be best distinguished using _____.

(A) sodium hydroxide solution

(B) Fehling's solution

(C) Tollens' reagent

(D) 2, 4-DNPH

Answer: (C)

Question 2 : Benzene reacts with chlorine in sunlight to give a final product

(A) C6H5Cl

(B) C6Cl6

(C) C6H6Cl6

(D) CCl4

Answer: (C)

Question 3 :

By what factors does the average velocity of a gaseous molecule increase when the temperature (in Kelvin) is doubled?

(A) 1.4

(B) 2.0

(C) 2.8

(D) 4.0

Question 4 :

Carbon can reduce ferric oxide to iron at a temperature above 983 K because _____.

(A) carbon has a higher affinity towards oxidation than iron.

(B) carbon monoxide formed is thermodynamically less stable than ferric oxide.

(C) iron has a higher affinity towards oxygen than carbon.

(D) free energy change for the formation of carbon dioxide is less negative than that for ferric

oxide.

Answer: (A)

Question 5 : Carbon forms two oxides which have different compositions. The equivalent mass of which remains constant?

(A) carbon

(B) oxygen

(C) neither carbon nor oxygen

(D) both carbon and oxygen

Answer: (B)

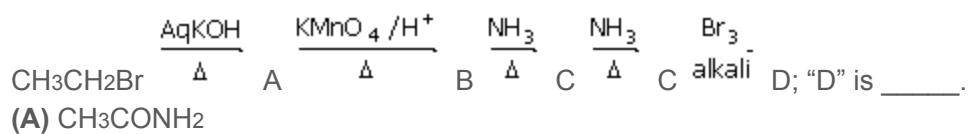Question 6 : Catalytic dehydrogenation of a primary alcohol gives a

(A) secondary alcohol

(B) aldehyde

(C) ketone

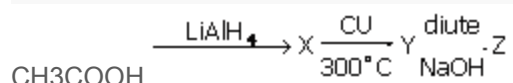(D) ester

Answer: (B)

Question 7 :

$$CH_3CH_2Br \xrightarrow[\Delta]{AqKOH} A \xrightarrow[\Delta]{KMnO_4/H^+} B \xrightarrow[\Delta]{NH_3} C \xrightarrow[\Delta]{NH_3} C \xrightarrow[alkali]{Br_3} D; \text{ "D" is \_\_\_\_\_.}$$

(A) CH3CONH2

(B) CH3Br

(C) CHBr3

(D) CH3NH2

Answer: (D)

Question 8 :

$$CH_3COOH \xrightarrow{LiAlH_4} X \xrightarrow[300°C]{CU} Y \xrightarrow[NaOH]{diute} Z$$

In the above reaction Z is

(A) Ketol

(B) Acetal

(C) Butanol

(D) Aldol

Answer: (D)

Question 9 :

Chloroacetic acid is a stronger acid than acetic acid. This can be explained using _____.
(A) – I effect
(B) – M effect

(C) +I effect

(D) + M effect

Answer: (A)

Question 10 : Clemmensen reduction of a ketone is carried out in the presence of which of the following?
(A) H_2 and Pt as catalyst

(B) Glycol with KOH

(C) Zn-Hg with HCl

(D) $LiAlH_4$

Answer: (C)

Question 11 :

0.023 g of sodium metal is reacted with 100 cm3 of water. The pH of the resulting solution is _____.
(A) 8

(B) 10

(C) 12

(D) 9

Answer: (C)

Question 12 :

2 gm of metal carbonate is neutralized completely by 100 ml of 0.1 (N) HCI. The equivalent weight of metal carbonate is
(A) 50

(B) 100

(C) 150

 (D) 200

Answer: (D)

Question 13 :

25 g of each of the following gasses are taken at 27$_o$C and 600 mm pressure. Which of these will

have the least volume?

(A) HCl

(B) HBr

(C) HI

(D) HF

Answer: (C)

Question 14 : 4 moles each of SO2 and O2 gases are allowed to react to form SO3 in a closed
vessel. At equilibrium 25% of O2 is used up. The total number of moles of all the gases present at
equilibrium is
(A) 6.5
(B) 7.0
(C) 8.0
(D) 2.0

Answer: (B)

Question 15 :

A distinctive and characteristic functional group of fats is
(A) a peptide group

(B) an ester group

(C) an alcoholic group

(D) a ketonic group

Answer: (B)