Carbon and Its Compounds

Question 1.
Which amongst the following will conduct electricity?
(a) $C_6H_{12}O_6$
(b) KCl(s)
(c) C_2H_5OH
(d) NaCl (aq)

▼ Answer

(d) NaCl (aq)

Question 2.
Artificial flavour for orange is obtained from
(a) amyl acetate
(b) isoamyl valerate
(c) methyl butyrate
(d) octyl acetate

▼ Answer

(d) octyl acetate

Question 3.
Which of the following contains covalent bond?
(a) $MgCl_2$
(b) CaF_2
(c) Al_2O_3
(d) HCl

▼ Answer

(d) HCl

Question 4.
Assertion: Soaps are 100% biodegradable but do not work well with hard water.
Reason: Some detergents are not bio-degradable but work well with hard water.
(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.
(e) Both A and R are false.

▼ Answer

(b) Both A and R are true but R is not the correct explanation of A.

Question 5.
Ethanol reacts with Na metal to form
(a) $CH_3ONa + H_2$
(b) $C_2H_5ONa + H_2$
(c) $CH_3COONa + H_2$
(d) $CH_3C00H + H_2O$

▼ Answer

(b) $C_2H_5ONa + H_2$

Question 6.
Carbon exists in the atmosphere in the form of
(a) carbon monoxide only
(b) carbon monoxide in traces and carbon dioxide
(c) carbon dioxide only
(d) coal

▼ Answer

(b) carbon monoxide in traces and carbon dioxide

Question 7.
The number of covalent bonds in C_4H_{10} is
(a) 10
(b) 8
(c) 13
(d) 12

▼ Answer

(c) 13

Question 8.
Which of the following statements about graphite and diamond is true?
(a) They have the same crystal structure
(b) They have the same degree of hardness
(c) They have the same electrical conductivity
(d) They can undergo the same chemical reactions

▼ Answer

(d) They can undergo the same chemical reactions

Question 9.
Which of the following is ethanol?
(a) CH_3CHO
(b) CH_3COOH
(c) CH_3CH_2
(d) CH_3COOCH_3

▼ Answer

(c) CH_3CH_2

Question 10.
Solubility of alcohol in water is due to
(a) low density of alcohol
(b) volatile nature of alcohol
(c) ionisation
(d) hydrogen bonding

▼ Answer

(d) hydrogen bonding

Question 11.
Butanone is a four carbon compound with the functional group
(a) carboxylic acid
(b) aldehyde
(c) ketone
(d) alcohol

▼ Answer

(c) Ketone

Question 12.
Alcohols can be produced by the hydration of
(a) Alkenes
(b) alkynes
(c) alkanes
(d) acids

▼ Answer

(a) Alkenes

Question 13.
The odour of acetic acid resembles that of
(a) Rose
(b) Burning Plastic
(c) Vinegar
(d) Kerosene

▼ Answer

(c) Vinegar

Question 14.
Diamond is not a good conductor of electricity because
(a) It is very hard
(b) Its structure is very compact
(c) It is not soluble in water
(d) It has no free electrons to conduct electric current.

▼ Answer

(d) It has no free electrons to conduct electric current.

Question 15.
The number of C-H bonds in ethane C_2H_6 molecule are
(a) 4
(b) 6
(c) 8
(d) 10

▼ Answer

(b) 6

Question 16.
The by product in soap industry is
(a) Isoprene
(b) Ethylene glycol
(c) glycerol
(d) butane

▼ Answer

(c) glycerol

Question 17.
Why does carbon form compounds mainly by covalent bonding?
(a) There are four electrons in the outermost shell of carbon.
(b) It requires large amount of energy to form C_{4}^{+} or C_{4}^{-}
(c) It shares its valence electrons to complete its octet.
(d) All the above

▼ Answer

(d) All the above

Question 18.
Which of the following will undergo addition reactions?
(a) CH_4
(b) C_3H_8
(C) C_2H_6
(d) C_2H_4

▼ Answer

(d) C_2H_4

Question 19.
When ethanoic acid is treated with NaHCO the gas evolved is
(a) H_2
(b) CO_2
(c) CH_4
(d) CO

▼ Answer

(b) CO_2

Question 20.
Soaps are formed by the saponification of
(a) Alcohols
(b) simple ester
(c) carboxylic acids
(d) glycerides

▼ Answer

(d) glycerides

Question 21.
C_3H_8 belongs to the homologous series of
(a) Alkynes
(b) Alkenes
(c) Alkanes
(d) Cyclo alkanes

▼ Answer

(c) Alkanes

Question 22.
The first compound to be prepared in the laboratory was
(a) Methane
(b) Ethyl alcohol
(c) acetic acid
(d) Urea

▼ Answer

(d) Urea

Question 23.
The number of isomers of pentane is
(a) 2
(b) 3
(c) 4
(d) 5

▼ Answer

(b) 3

Question 24.
Enzyme which converts starch into glucose is
(a) Zymase
(b) Maltase
(c) Diastase
(d) Invertase

▼ Answer

(a) Zymase

Question 25.
Rectified spirit is
(a) 50% ethanol
(b) 80% ethanol
(c) 95% ethanol
(d) 40 to 50% ethanol

▼ Answer

(c) 95% ethanol

Question 26.
The IUPAC name of CH_3CHO is
(a) Acetaldehyde
(b) Formaldehyde
(c) Methyl formaldehyde
(d) Ethanal

▼ Answer

(d) Ethanal

Question 27.
Ethanol on complete oxidation gives
(a) acetic acid/ethanoic acid
(b) CO_2 and water
(c) ethanal
(d) acetone/ethanone

▼ Answer

(b) CO_2 and water

Question 28.
Addition reactions are undergone by
(a) saturated hydrocarbons (alkanes)
(b) only alkenes
(c) only alkynes
(d) both alkenes and alkynes

▼ Answer

(d) both alkenes and alkynes

Question 29.
Which of the following belongs to homologous series of alkynes?
C_6H_6, C_2H_6, C_2H_4, C_3H_4.
(a) C_6H_6
(b) C_2H_4
(C) C_2H_6
(d) C_3H_4

▼ Answer

(d) C_3H_4

Question 30.
The first member of the alkyne homologous series is
(a) propyne
(b) ethyne
(c) methane
(d) ethene

▼ Answer

(b) ethyne

Question 31.
A soap molecule has a
(a) hydrophobic head and hydrophobic tail
(b) hydrophobic head and hydrophilic tail
(c) hydrophilic head and hydrophilic tail
(d) hydrophilic head and hydrophobic tail

▼ Answer

(d) hydrophilic head and hydrophobic tail

Question 32.
In diamond, each carbon atom is bonded to four other carbon atoms to form
(a) a hexagonal array
(b) a rigid three-dimensional structure
(c) a structure in the shape of a football
(d) a structure of a ring

▼ Answer

(b) a rigid three-dimensional structure

Question 33.
IUPAC name of first member of homologous series of ketones is
(a) Ethanone
(b) methanone
(c) Propanone
(d) Butanone

▼ Answer

(c) Propanone

Question 34.
– CHO represents the functional group
(a) esters
(b) carboxylic acid
(c) alcohols
(d) aldehydes

▼ Answer

(d) aldehydes

Question 35.
While cooking, if the bottom of the vessels is getting blackened on the outside, it means that
(a) the fuel is not cooked completely.
(b) the fuel is not burning completely.
(c) the fuel is wet.
(d) the is burning completely.

▼ Answer

(b) the fuel is not burning completely.

Question 36.
The difference in the formula and molecular masses of CH_3OH and C_2H_5OH is

(a) CH_3 and 16u
(b) CH_2 and 14u
(c) CH_4 and 18u
(d) CH_3 and 16u

▼ Answer

(b) CH_2 and 14u

Question 37.
The self linkage property (catenation) is maximum in
(a) carbon
(b) silicon
(c) sulphur
(d) phosphorus

▼ Answer

(a) carbon

Question 38.
Oils on treating with hydrogen in the presence of palladium or nickel catalyst form fats. This is an example of
(a) Addition reaction
(b) Substitution reaction
(c) Displacement reaction
(d) Oxidation reaction

▼ Answer

(a) Addition reaction

Question 39.
Assertion: Ethanoic acid reacts with ethyl alcohol in presence of cone H_2SO_4 to form ethyl ethanoate.
Reason: Esters are used in ice creames and cold drinks.
(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.
(e) Both A and R are false.

▼ Answer

(b) Both A and R are true but R is not the correct explanation of A.

Question 40.
Ethane and ethene can be distinguished by
(a) $Br_2(l)$
(b) Br_2 (aq) water
(c) Cl_2
(d) I_2

▼ Answer

(b) Br_2 (aq) water