

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) $CH_3COOH + H_2O$

▼ Answer

(b) $\text{C}_2\text{H}_5\text{ONa} + \text{H}_2$

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) $\text{CH}_3\text{COOCH}_3$

▼ 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 $\text{C}_2\text{H}_5\text{OH}$ 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 cream 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) $\text{Br}_2(\text{l})$
- (b) $\text{Br}_2(\text{aq})$ water
- (c) Cl_2
- (d) I_2

▼ [Answer](#)

- (b) $\text{Br}_2(\text{aq})$ water

