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) MgCl₂
- (b) CaF₂
- (c) Al_2O_3
- (d) HCI

▼ 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.

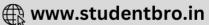
Question 5.

Ethanol reacts with Na metal to form

- (a) $CH_3ONa + H_2$
- (b) $C_2H_5ONa + H_2$
- (c) CH₃COONa + H₂
- (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) CH₃CHO
- (b) CH₃COOH
- (c) CH₃CH₂
- (d) CH_3COOCH_3

▼ Answer

(c) CH_3CH_2

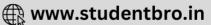
Question 10.

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 C₂H₆ 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) H₂
- (b) CO_2
- (c) CH_4
- (d) CO

▼ Answer

(b) CO₂

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 CH₃CHO 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) CO₂ and water
- (c) ethanal
- (d) acetone/ethanone

▼ Answer

(b) CO₂ 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.

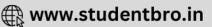
▼ Answer

(b) the fuel is not burning completely.

Question 36.

The difference in the formula and molecular masses of CH3OH and C2H5OH is





- (a) CH₃ and 16u
- (b) CH₂ and 14u
- (c) CH₄ and 18u
- (d) CH₃ and 16u

▼ Answer

(b) CH₂ 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) $Br_2(I)$
- (b) Br₂ (aq) water
- (c) Cl₂
- (d) I_2

▼ Answer

(b) Br₂ (aq) water

