

CHEMISTRY STUDY MATERIALS FOR CLASS 10

(Multiple Choice Questions- Answers of Chapter-04)

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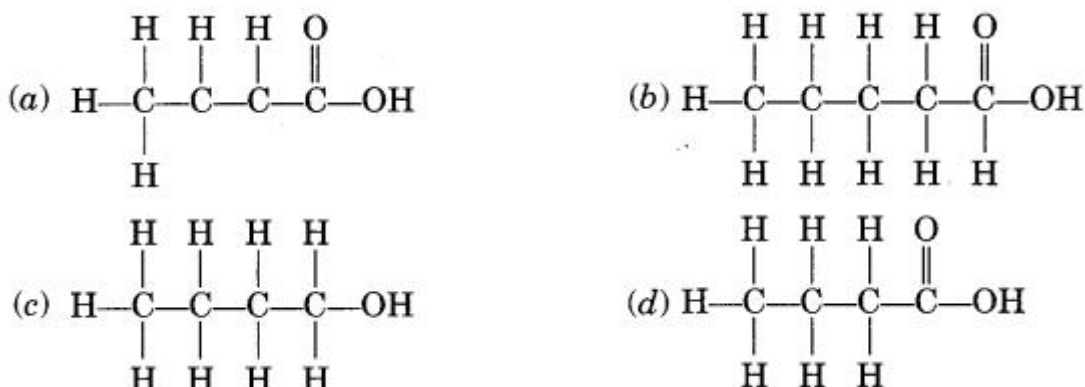
CARBON AND ITS COMPOUND

- Question 1. 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
- Question 2. Graphite is used as a lubricant in machines because
(a) it is a good conductor of electricity
(b) it has a high melting point and slippery layers
(c) its density ranges from 1.9 to 2.3 g/cm³
- Question 3. The allotrope of carbon which is a good conductor of heat and electricity is
(a) diamond **(b) graphite** (c) charcoal (d) none of these
- Question 4. Which of the following does not belong to the same homologous series?
(a) CH₄ (b) C₂H₆ (c) C₃H₈ **(d) C₄H₈**
- Question 5. Which of the following is not considered as crystalline allotrope of carbon?
(a) Coal (b) Diamond (c) Graphite (d) Fullerenes
- Question 6. Which form of carbon is found in Golkonda mines of Karnataka?
(a) Diamond (b) Graphite (c) Coal (d) Coke
- Question 7. Lead pencil contains
(a) graphite (b) diamond (c) lead (d) lead sulphate
- Question 8. Mineral acids are stronger acids than carboxylic acids because
(i) mineral acids are completely ionised (ii) carboxylic acids are completely ionised
(iii) mineral acids are partially ionised (iv) carboxylic acids are partially ionised
(a) (i) and (iv) (b) (ii) and (iii) (c) (i) and (ii) (d) (iii) and (iv)
- Question 9. When ethyl alcohol and acetic acid are mixed, the resulting ester has a chemical formula
(a) CH₃COOC₂H₅ (b) C₂H₅COOCH₃ (c) C₂H₅COOC₂H₅ (d) CH₃COOCH₃
- Question 10. A few drops of ethanoic acid were added to solid sodium carbonate. The observation made was that
(a) a hissing sound was produced (b) brown fumes evolved
(c) brisk effervescence occurred (d) a pungent smelling gas evolved

Question 11. A reagent which can help us to distinguish between alkenes and alkynes is:

- (a) Bromine water
(b) Carbon tetrachloride
(c) Alkaline KMnO_4
(d) **Ammoniacal cuprous chloride**

Question 12. The correct structural formula of butanoic acid is



Answer: (d)

Question 13. The soap molecule has a

- (a) **hydrophilic head and a hydrophobic tail**
(b) hydrophobic head and a hydrophilic tail
(c) hydrophobic head and a hydrophobic tail
(d) hydrophilic head and a hydrophilic tail

Question 14. Detergents can be used for washing of clothes

- (a) only in hard water
(b) only in soft water
(c) **both in soft and hard water**
(d) None of the above

Question 15. Which among the following are unsaturated hydrocarbons?

- (i) $\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{CH}_3$
(ii) $\text{H}_3\text{C}-\text{C}\equiv\text{C}-\text{CH}_3$
(iii) $\text{H}_3\text{C}-\underset{\text{CH}_3}{\text{CH}}-\text{CH}_3$
(iv) $\text{H}_3\text{C}-\underset{\text{CH}_3}{\text{C}}=\text{CH}_2$
- (a) (i) and (iii) (b) (ii) and (iii) (c) **(ii) and (iv)** (d) (iii) and (iv)

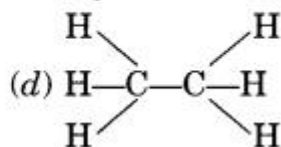
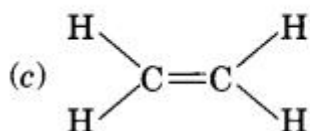
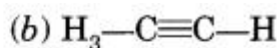
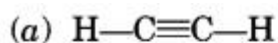
Question 16. Acetic acid was added to a solid X kept in a test tube. A colourless, odourless gas Y was evolved. The gas was passed through lime water, which turned milky. It was concluded that

- (a) solid X is sodium hydroxide and the gas Y is CO_2
(b) **solid X is sodium bicarbonate and the gas Y is CO_2**
(c) solid X is sodium acetate and the gas Y is CO_2
(d) solid X is sodium bicarbonate and the gas Y is SO_2 .

Question 17. A student while observing the properties of acetic acid would report that this smells like

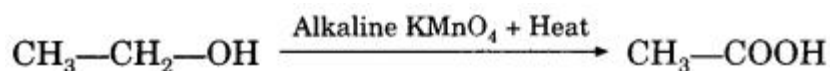
- (a) vinegar and turns red litmus blue (b) rotten egg and turns red litmus blue
(c) **vinegar and turns blue litmus red** (d) rotten egg and turns blue litmus red

Question 18. Structural formula of ethyne is



Answer: (a)

Question 19.



In the above given reaction, alkaline KMnO_4 acts as

- (a) reducing agent **(b) oxidising agent** (c) catalyst (d) dehydrating agent

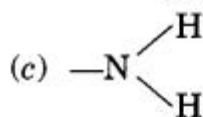
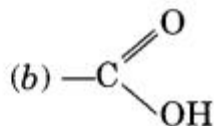
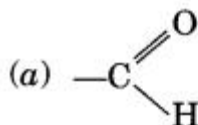
Question 20. Vinegar is a solution of

- (a) 50% – 60% acetic acid in alcohol (b) 5% – 8% acetic acid in alcohol
(c) 5% – 8% acetic acid in water (d) 50% – 60% acetic acid in water

Question 21. The portion left on dropping a hydrogen atom from an alkane is called

- (a) functional group (b) alkenyl group **(c) alkyl group** (d) phenyl group

Question 22. The functional group present in a carboxylic acid is

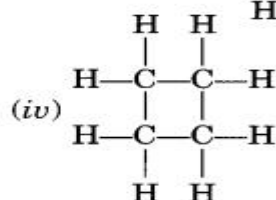
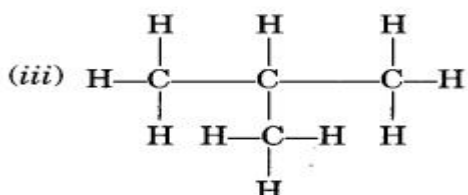
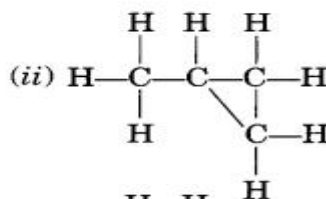
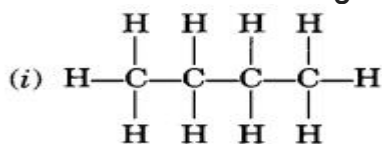


Answer: (b)

Question 23. Identify the unsaturated compounds from the following:

- (i) Propane (ii) Propene (iii) Propyne (iv) Chloropropane
(a) (i) and (ii) (b) (ii) and (iv) (c) (iii) and (iv) **(d) (ii) and (iii)**

Question 24. Which of the following are correct structural isomers of butane?



- (a) (i) and (iii) (b) (ii) and (iv) **(c) (i) and (ii)** (d) (iii) and (iv)

Question 25. Carbon forms four covalent bonds by sharing its four valence electrons with four univalent atoms, e.g., hydrogen. After the formation of four bonds, carbon attains the electronic configuration of

- (a) helium **(b) neon** (c) argon (d) krypton

Question 26. Which of the following statements are usually correct for carbon compounds?

These

- (i) are good conductors of electricity
(ii) are poor conductors of electricity
(iii) have strong forces of attraction between their molecules
(iv) do not have strong forces of attraction between their molecules
(a) (i) and (iii) (b) (ii) and (iii) (c) (i) and (iv) **(d) (ii) and (iv)**

Question 27. Pentane has the molecular formula C_5H_{12} . It has

- (a) 5 covalent bonds (b) 12 covalent bonds
(c) 16 covalent bonds (d) 17 covalent bonds

Question 28. How many electrons are there in the outermost orbit of carbon?

- (a) Two (b) Three (c) One **(d) Four**

Question 29. Which of these is true for most of the organic compounds?

- (a) High melting and boiling points **(b) Low melting point but high boiling point**
(c) Low melting and boiling points (d) High melting point but low boiling point

Question 30. Hydrocarbons are mainly composed of which of these?

- (a) Hydrogen, carbon and nitrogen **(b) Hydrogen and carbon**
(c) Hydrogen (d) Hydrogen, oxygen and carbon

Question 31. How many double bonds are there in a saturated hydrocarbon?

- (a) One (b) Two (c) Three **(d) Zero**

Question 32.

Successive members of a homologous series vary by how many atomic mass units?

- (a) Sixteen **(b) Fourteen** (c) One (d) Twelve

Question 33. Ethanol is also known as which of these?

- (a) Formic acid **(b) Ethyl alcohol** (c) Ethane (d) Acetaldehyde

