

RAVI MATHS TUITION CENTER , WHATSAPP - 8056206308

Carbon And Its Compounds T1

10th Standard

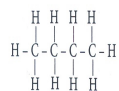
Science

20 x 1 = 20

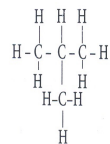
- 1) Ethane, with the molecular formula C_2H_6 has
(a) 6 covalent bonds (b) 7 covalent bonds (c) 8 covalent bonds (d) 9 covalent bonds
- 2) Butanone is a four-carbon compound with the functional group
(a) carboxylic acid (b) aldehyde (c) ketone (d) alcohol
- 3) While cooking, if the bottom of the vessel is getting blackened on the outside, it means that
(a) the food is not cooked completely. (b) the fuel is not burning completely. (c) the fuel is wet. (d) the fuel is burning completely.
- 4) Ethanol reacts with sodium and forms two products. These are
(a) sodium ethanoate and hydrogen (b) sodium ethanoate and oxygen (c) sodium ethoxide and hydrogen (d) UnAvailable Option
- 5) 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
- 6) 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)
- 7) $CH_3 - CH_2 - OH \xrightarrow{\text{Alkaline } KMnO_4 + \text{Heat}} CH_3 - COOH$
In the above given reaction, alkaline $KMnO_4$ acts as
(a) reducing agent (b) oxidising agent (c) catalyst (d) dehydrating agent
- 8) 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
- 9) Chlorine reacts with saturated hydrocarbons at room temperature in the
(a) absence of sunlight (b) presence of sunlight (c) presence of water (d) presence of hydrochloric acid
- 10) In the soap micelles
(a) the ionic end of soap is on the surface of the cluster while the carbon chain is in the interior of the cluster.
(b) ionic end of soap is in the interior of the cluster and the carbon chain is out of the cluster.
(c) both ionic end and carbon chain are in the interior of the cluster (d) both ionic end and carbon chain are on the exterior of the cluster
- 11) 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

12) Which of the following are correct structural isomers of butane?

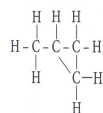
(i)



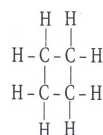
(ii)



(iii)



(iv)



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

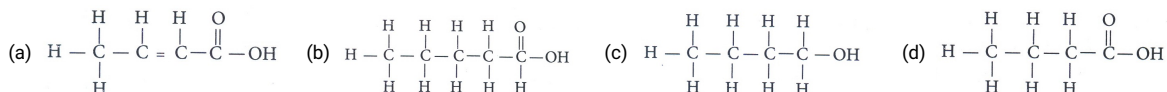
13) Which of the following does not belong to the same homologous series?

(a) CH_4 (b) C_2H_6 (c) C_3H_8 (d) C_4H_8

14) The first member of alkyne homologous series is

(a) Ethyne (b) Ethane (c) Propyne (d) Methane

15) The correct structural formula of butanoic acid is



16) The correct electron dot structure of a water molecule is



17) Which of the following is used to oxidise ethanol to ethanoic acid

(a) Alkaline KMnO_4 (b) Cone. H_2SO_4 (c) Acidified $\text{K}_2\text{Cr}_2\text{O}_7$ (d) All of above

18) The compound which gives a brisk effervescence with sodium metal and not with sodium hydrogen carbonate is

(a) ethanol (b) ethanoic acid (c) both ethanoic acid and ethanol (d) none of these

19) Tertiary butane gets oxidised with oxidising agents like alkaline KMnO_4 to

(a) Isobutane (b) Tert-butyl alcohol (c) Secondary-propyl alcohol (d) All of above

20) The substance not responsible for the hardness of water is

(a) sodium nitrate (b) calcium hydrogen carbonate (c) calcium carbonate (d) magnesium carbonate

5 x 1 = 5

21) **Assertion:** The earth's crust has only 0.02% carbon in the form of minerals.

Reason: The atmosphere has 0.03% of carbon dioxide.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
 (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
 (c) If assertion is true and reason is false.
 (d) If both assertion and reason are false

22) **Assertion:** It is not that easy to break the bond of nitrogen molecule.

Reason: Each nitrogen atom has three bonds due to three shared pairs of electrons.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false

23) **Assertion:** Methane is widely used as a fuel

Reason: It is a major component of bio-gas and Compressed Natural Gas (CNG).

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false

24) **Assertion:** Diamond and graphite are two isotopes of carbon.

Reason: Diamond is the hardest substance known while graphite is non conductor of electricity.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false

25) **Assertion:** The bonds formed by elements having larger atoms are much weaker.

Reason: This enables the nucleus to hold on to the shared pairs of electrons strongly.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

7 x 2 = 14

26) What are the two properties of carbon which lead to the huge number of carbon compounds we see around us?

27) A mixture of oxygen and ethyne is burnt for welding. Can you tell why a mixture of ethyne and air is not used?

28) What would be the formula and electron dot structure of cyclopentane?

29) What change will you observe if you test soap with litmus paper (red and blue)?