Esha Summer Project 2023

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Grade- 12

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Chemistry:

Carbon and its compounds

1) The following chemical reaction shows the addition of chlorine gas to hydrocarbon in the presence of sunlight.

   $CHCl_3 + Cl_2 \rightarrow CCl_4 + HCl$

How does chlorine react to a hydrocarbon compound in the presence of sunlight?

(a) It adds hydrogen to the compound

(b) It adds an oxygen atom to the compound

(c) It substitutes hydrogen atom from the compound – correct answer

(d) It breaks double and triple bonds into a single bond

2) Which of the following is the molecular formula of cyclobutane?

(a) C_4H_8 – correct answer

(b) C_4H_6

(c) C_4H_{10}

(d) C_4H_4

3) Which of the following is the molecular formula of pentane?

(a) C_6H_{14}

(b) C_5H_{12} – correct answer

(c) CH_4

(d) C_3H_8

4) Which is denatured spirit?

(a) Ethanol only

(b) Ethanol and methanol – correct answer

(c) Propanol only

(d) Methanol only

5) Soaps are formed by saponification of

(a) Alcohols

(b) Glycosides

(c) Simple esters – correct answer

(d) Carboxylic acids

6) What helps the dirt to rise away?

(a) Suspension of the dirt in the micelles – correct answer

(b) A collection of water molecules in the centre of the micelle

(c) The attraction between the ionic end and the dirt to remove it.

(d) Mixing of the soap molecules along with the dirt to make it heavier.

7) How many single bonds are present in Ethane?

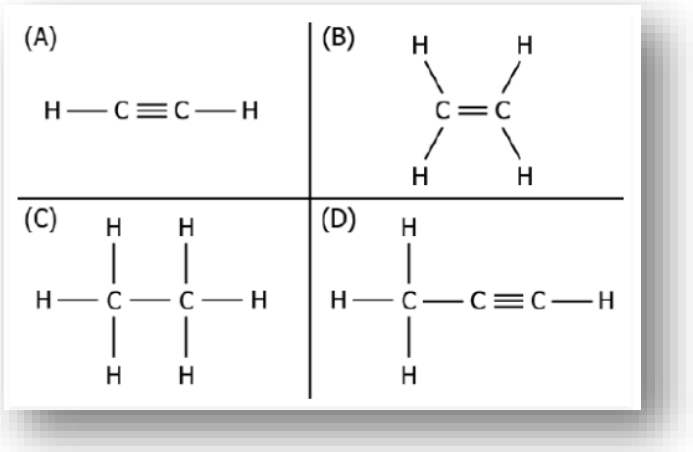
(a) 7, all carbon-carbon bonds

(b) 6, all carbon-carbon bonds

(c) 1 C-H bond and 6 C-C bonds

(d) 1 C-C bond and 6 C-H bonds – correct answer

8) Which of these compounds can be classified as alkynes?



(a) Only (A)

(b) Only (B)

(c) Both (A) and (D) – correct answer

(d) Both (B) and (C)

9) Which functional group is present in the compound?

(a) Alcohol

(b) Aldehyde – correct answer

(c) Carboxylic acid

(d) Ketone

10) A hydrocarbon should have a minimum of _____ carbon atoms to show isomerism.

(a) Three

(b) Four

(c) Five

(d) Six – correct answer

ANSWER KEY:

1) (c)
2) (a)
3) (b)
4) (b)
5) (c)
6) (a)
7) (d)
8) (c)
9) (d)
10) (b)