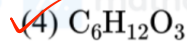
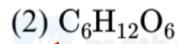


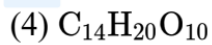
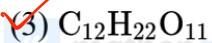
7. Quantitative analysis of an organic compound (X) shows following % composition. C : 14.5% Cl : 64.46% H : 1.8 % (Empirical formula mass of the compound (X) is 1655 $\times 10^{-1}$ (Given molar mass in g mol^{-1} of C : 12, H : 1, O : 16, Cl : 35.5)

8. The elemental composition of a compound is 54.2% C, 9.2% H and 36.6% O. If the molar mass of the compound is 132 g mol^{-1} , the molecular formula of the compound is : [Given : The relative atomic mass of C : H : O = 12 : 1 : 16]



9. 2024 (05 Apr Shift 1)

An organic compound has 42.1% carbon, 6.4% hydrogen and remainder is oxygen. If its molecular weight is 342, then its molecular formula is :



2023

10. - 25 January - Shift 2

Number of hydrogen atoms per molecule of a hydrocarbon A having 85.8% carbon is 12
(Given : Molar mass of A = 84 g mol^{-1})

11. A metal chloride contains 55.0% of chlorine by weight. 100 mL vapours of the metal chloride at STP weigh 0.57 g. The molecular formula of the metal chloride is
(Given: Atomic mass of chlorine is 35.5 u)

[2023 (12 Apr Shift 1)]



2022

12 - 27 June - Shift 2

116 g of a substance upon dissociation reaction, yields 7.5 g of hydrogen, 60g of oxygen and 48.5 g of carbon. Given that the atomic masses of H, O and C are 1, 16 and 12 respectively. The data agrees with how many formulae of the following?

- (A) CH_3COOH (B) HCHO
(C) CH_3OOCH_3 (D) CH_3CHO

14. JEE Main 2020 - 2 September (Evening)

The ratio of the mass percentages of 'C' & 'H' and 'C' & 'O' of a saturated acyclic organic compound 'X' are 4: 1 and 3: 4 respectively. Then, the moles of oxygen gas required for complete combustion of two moles of organic compound 'X' is 5.

13 - 28 June - Shift 2

Compound A contains 8.7% Hydrogen, 74% Carbon and 17.3% Nitrogen. The molecular formula of the compound is,

Given : Atomic masses of C, H and N are 12, 1 and 14 amu respectively.

The molar mass of the compound A is 162 g mol^{-1} .

- (A) $\text{C}_4\text{H}_6\text{N}_2$ (B) $\text{C}_2\text{H}_3\text{N}$
(C) $\text{C}_5\text{H}_7\text{N}$ (D) $\text{C}_{10}\text{H}_{14}\text{N}_2$