

QUIZ CHAPTER 1

STPM 2015(U)/2016 Question 1

- [illegible]

STPM 2015(U)/2016 Question 7

- 8 At temperature $T^{\circ}\text{C}$ and pressure P atm, 500 cm^3 of an unknown diatomic gas contains 7.50×10^{22} molecules and has a density of $8.00 \times 10^{-3}\text{ g cm}^{-3}$. Which statement is true about the gas?

[Avogadro constant = $6.02 \times 10^{23} \text{ mol}^{-1}$]

- A It is a polar molecule.
B It behaves as an ideal gas.
C It has two allotropes.
D Its relative atomic mass is 16.

STPM 2016(U)/2017 Question 1

- 9 A volume of $10 \text{ cm}^3 \text{ C}_2\text{H}_6$ has burned completely in $50 \text{ cm}^3 \text{ O}_2$. Which statement is true about the combustion at room temperature and atmospheric pressure?

- A The volume of liquid H_2O is 60 cm^3 .
B The volume of excess O_2 is 15 cm^3 .
C The volume of the remaining mixture is 65 cm^3 .
D The total volume of CO and CO_2 formed is 20 cm^3 .

STPM 2017(U)/2018 Question 7

- 10 In an experiment, 30 cm^3 of hydrocarbon X is completely combusted in 140 cm^3 oxygen gas. After it is cooled to room temperature, the volume of carbon dioxide gas and excess oxygen gas is 95 cm^3 . The volume of the gaseous mixture decreases by 60 cm^3 after passing into an aqueous solution of potassium hydroxide. The volume is measured at the same temperature and pressure. The molecular formula of X is

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|---|----------|
| A | C_2H_2 |
| B | C_2H_4 |
| C | C_2H_6 |
| D | C_3H_8 |

STPM 2018(U)/2019 Question 2

- 11 Which statement is **not** true when 12.6 g of a hydrocarbon, C_6H_y is burned in excess oxygen to produce 0.90 mol carbon dioxide gas?

- A The empirical formula of the hydrocarbon is CH_2 .
B The relative molecular mass of the hydrocarbon is 84.
C The number of moles of water vapour formed is 0.90 mol.
D The total number of moles of gases present after a complete combustion is 1.80 mol.