



Physical Chemistry-Properties of Gases

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Wed
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Department of Chemistry

1st Exam-paper B

Q1: Circle the right answer for all of the following:

(50 degree)

1: Carbon dioxide is classified as a .

Answer: a) toxic gas ~~b) ideal gas~~ c) real gas d) heavy gas $\frac{0}{5}$

2: A 2 dm³ container contains a certain amount of gas at 0.5 atm pressure. The gas is transferred to another vessel of volume and the pressure is 0.25 bar. What should be it is Volume?

Answer: a) 0.40 atm b) 0.40 dm³ ~~c) 0.4 bar~~ d) 4 bar $\frac{0}{5}$

3: A gas occupies 400 dm³ at 130 °C and 76 cmHg pressure. What would be it is volume at STP?

Answer: a) 270 L b) 207 dm³ c) 207 m³ ~~d) 204 cm³~~ $\frac{0}{5}$

4: Calculate the weight of H₂ (2.00 g.mol⁻¹) in a 2 L cylinder at 2.5 atm and 27 °C.

Answer: a) 0.40 mol⁻¹ b) 0.40 g c) 0.40 mol g⁻¹ ~~d) 0.4 g mol⁻¹~~ $\frac{0}{5}$

5: Calculate the number of moles for CO₂ in a 10 L cylinder at 8 bar and 27 °C.

Answer: a) 3.25 mmol b) 3.00 mol c) 3.00 L ~~d) 2.99 mol~~ $\frac{0}{5}$

6: According to Graham's law the lightest gas is?

Answer: a) H₂ b) O₂ c) N₂ ~~d) CO₂~~ $\frac{0}{5}$

7: According to the Boyle's law the pressure of a gas is inversely proportional with?

Answer: a) mol b) T ~~c) R~~ d) V $\frac{0}{5}$

8: If a gas has $V_m \neq V^o_m$ then this means one of the following?

Answer: a) real b) noble c) ideal ~~d) heavy~~ $\frac{0}{5}$

9: If $RT > pV$ this means the forces dominated are?

Answer: a) attraction ~~b) repulsion~~ c) Van der Waal's d) no one of these $\frac{0}{5}$

10: According to Gay-Lussac's law the volume of the gas is?

Answer: a) constant b) variable c) equal to zero $\frac{5}{5}$ d) equal to 22.4 L

Q2: Under the same conditions of temperature and pressure, how many times faster will hydrogen effuse compare to carbon dioxide. NO ANSWER (25 degree)

Q3: Calculate the density of carbon dioxide (44 g mol⁻¹) at STP. 2.2 (25 degree)

NO ANSWER $\frac{0}{5}$