



Physical Chemistry Chpt_One_Properties of Gases

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Signature

No. 7

University of Mustansiriyah

1st Semester-2021

Department of Chemistry

1st Exam-Repeat_1

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

(50 points)

1: Calculate the weight of C₂H₄ gas (26 g mol⁻¹) in a 10000 Cm³ cylinder at 1520 mmHg and 90 °C.

Answer: a) 17.47 g¹ mol⁻¹ b) 17.47 g¹ c) 17.47 mol d) 17.47 g e) 17.47 mg

2: When V_{Real} > V_{Perfect}, this means that the gas is:

Answer: a) perfect b) noble c) real d) heavy

3: The difference between real and ideal gas equation, that the ideal gas equation is not interested in?

Answer: a) p_{gas} & n_{gas} b) V_{container} & P_{attraction} c) V_{gas} & P_{attraction} d) T_{gas} & p_{gas}

4: Calculate the density of C₂H₄ is placed in a 50000 Cm³ container at 760 torr and 273 K.

Answer: a) 1.16 g¹ L⁻¹ b) 1.16 g¹ L c) 1.16 g L⁻¹ d) 1.16 mg L⁻¹

5: Graham's law studies the ----- of the gas.

Answer: a) flow b) collision c) diffusion d) effusion

6: The right formula of the Dalton's law is?

Answer: a) p_i = χ_i Σ p_i b) p_i = χ_i Σ p_T c) p_T = χ_i Σ p_i d) p_i = χ_T p_T

7: The law of Corresponding states is an evidence that the gas is?

Answer: a) real b) ideal c) expanded d) compressed e) heavy

8: The total mol fractions of atmospheric pressure of air is equal to?

Answer: a) zero b) one c) two d) three

9: A gas occupies 30 × 10⁻³ m³ at 75 °C and 76 CmHg pressure. What would be its volume at STP?

Answer: a) 23.5 dm³ b) 23.5 m² c) 23.5 L⁻¹ d) 23.5 m⁻³

10: When the value of Z > 1 this means the dominated forces are:

Answer: a) attraction b) van der Waal c) repulsion d) compression

Q2: The following data have been observed for 5000 mg of unknown gas at 0 °C. Calculate the best value of the molar mass of this gas, and what is it?

p/10 ⁵ Pa	0.75	0.60	0.25	(25 points)
V/dm ³	9.33	11.60	27.50	

Q3: A perfect gas undergoes isothermal compression, which reduces its volume by 1.80 dm³. The p₁ and V₁ of the gas are 197 atm and 2.14 dm³, respectively. Calculate the p_{original} of the gas in (a) bar, (b) torr. (25 points)

Sun_28/11/2021

With best my wishes

Dr Abduljabbar I. R. Rushdi

Q3 0/25

NO ANSWER why?