EXERCISE-I

Properties of gases

1. Which one of the following statements is not correct about the three states of matter *i.e.* solid, liquid and gaseous
(A) Molecules of a solid possess least energy whereas those of a gas possess highest energy
(B) The density of solid is highest whereas that of gases is lowest
(C) Gases like liquids possess definite volumes
(D) Molecules of a solid possess vibratory motion

2. The temperature and pressure at which ice, liquid water and water vapour can exist together are
(A) $0^o C, 1\,atm$ (B) $2^o C, 4.7\,atm$
(C) $0^o C, 4.7\,mm$ (D) $-2^o C, 4.7\,mm$

3. Which of the following is true about gaseous state
(A) Thermal energy = Molecular attraction
(B) Thermal energy >> Molecular attraction
(C) Thermal energy << Molecular attraction
(D) Molecular forces >> Those in liquids

4. Kinetic energy of molecules is highest in
(A) Gases (B) Solids
(C) Liquids (D) Solutions

5. Which of the following statement is correct
(A) In all the three states the molecules possess random translational motion
(B) Gases cannot be converted into solids without passing through liquid state
(C) One of the common property of liquids and gases is viscosity
(D) According to Boyle's law V/P is constant at constant T

6. $2gm$ of O_2 at $27^o C$ and $760mm$ of Hg pressure has volume
(A) 1.5 *lit.* (B) 2.8 *lit.*
(C) 11.2 *lit.* (D) 22.4 *lit.*

7. Pressure of a gas in a vessel can be measured by
(A) Barometer (B) Manometer
(C) Stalgometer (D) All the baove

8. Volume occupied by a gas at one atmospheric pressure and $0^o C$ is $V\,mL$. Its volume at 273 K will be
(A) $V\,ml$ (B) $V/2\,ml$
(C) $2\,V$ (D) None of these

9. Which one of the following statements is wrong for gases
(A) Gases do not have a definite shape and volume
(B) Volume of the gas is equal to the volume of the container confining the gas
(C) Confined gas exerts uniform pressure on the walls of its container in all directions
(D) Mass of the gas cannot be determined by weighing a container in which it is enclosed

10. Which of the following exhibits the weakest intermolecular forces
(A) NH_3 (B) HCl
(C) He (D) H_2O

Ideal gas equation and laws

11. A 10 g of a gas at atmospheric pressure is cooled from $273^o C$ to $0^o C$ keeping the volume constant, its pressure would become
(A) 1/2 *atm* (B) 1/273 *atm*
(C) 2 *atm* (D) 273 *atm*

12. Pressure remaining the same, the volume of a given mass of an ideal gas increases for every degree centigrade rise in temperature by definite fraction of its volume at
(A) $0^o C$
(B) Its critical temperature
(C) Absolute zero
(D) Its Boyle temperature

13. A certain sample of gas has a volume of 0.2 *litre* measured at 1 *atm*. pressure and 0^oC. At the same pressure but at 273^oC, its volume will be

(A) 0.4 *litres* (B) 0.8 *litres*

(C) 27.8 *litres* (D) 55.6 *litres*

14. 400 cm^3 of oxygen at 27^oC were cooled to -3^oC without change in pressure. The contraction in volume will be

(A) 40 cm^3 (B) 30 cm^3

(C) 44.4 cm^3 (D) 360 cm^3

15. The pressure p of a gas is plotted against its absolute temperature T for two different constant volumes, V_1 and V_2. When $V_1 > V_2$, the

(A) Curves have the same slope and do not intersect

(B) Curves must intersect at some point other than $T = 0$

(C) Curve for V_2 has a greater slope than that for V_1

(D) Curve for V_1 has a greater slope than that for V_2

16. Two closed vessels of equal volume containing air at pressure P_1 and temperature T_1 are connected to each other through a narrow tube. If the temperature in one of the vessels is now maintained at T_1 and that in the other at T_2, what will be the pressure in the vessels

(A) $\frac{2P_1T_1}{T_1+T_2}$ (B) $\frac{T_1}{2P_1T_2}$

(C) $\frac{2P_1T_2}{T_1+T_2}$ (D) $\frac{2p_1}{T_1+T_2}$

17. "One gram molecule of a gas at N.T.P. occupies 22.4 *litres*." This fact was derived from

(A) Dalton's theory

(B) Avogadro's hypothesis

(C) Berzelius hypothesis

(D) Law of gaseous volume

18. In a closed flask of 5 *litres*, 1.0 g of H_2 is heated from 300 to 600 K. which statement is not correct

(A) Pressure of the gas increases

(B) The rate of collision increases

(C) The number of moles of gas increases

(D) The energy of gaseous molecules increases

19. Which one of the following statements is false

(A) Avogadro number $= 6.02 \times 10^{21}$

(B) The relationship between average velocity $(\bar{v})$ and root mean square velocity (u) is $\bar{v} = 0.9213\,u$

(C) The mean kinetic energy of an ideal gas is independent of the pressure of the gas

(D) The root mean square velocity of the gas can be calculated by the formula $(3RT/M)^{1/2}$

20. The compressibility of a gas is less than unity at STP. Therefore

(A) $V_m > 22.4$ *litres* (B) $V_m < 22.4$ *litres*

(C) $V_m = 22.4$ *litres* (D) $V_m = 44.8$ *litres*

21. Select one correct statement. In the gas equation, $PV = nRT$

(A) n is the number of molecules of a gas

(B) V denotes volume of one mole of the gas

(C) n moles of the gas have a volume V

(D) P is the pressure of the gas when only one mole of gas is present

22. The correct value of the gas constant R is close to

(A) 0.082 *litre-atmopshere K*

(B) 0.082 *litre-atmosphere* K^{-1} mol^{-1}

(C) 0.082 *litre-atmosphere*$^{-1}$ *K mole*$^{-1}$

(D) 0.082 *litre*$^{-1}$ *atmosphere*$^{-1}$ *K mol*

23. S.I. unit of gas constant R is

(A) 0.0821 *litre atm* K^{-1} *mole*$^{-1}$

(B) 2 *calories* K^{-1} *mole*$^{-1}$

(C) 8.31 *joule* K^{-1} *mole*$^{-1}$

(D) None

24. Gas equation $PV = nRT$ is obeyed by
(A) Only isothermal process
(B) Only adiabatic process
(C) Both (A) and (B)
(D) None of these

25. For an ideal gas number of moles per litre in terms of its pressure P, gas constant R and temperature T is
(A) PT/R (B) PRT
(C) P/RT (D) RT/P

26. Two separate bulbs contain ideal gases A and B. The density of gas A is twice that of gas B. The molecular mass of A is half that of gas B. The two gases are at the same temperature. The ratio of the pressure of A to that of gas B is
(A) 2 (B) 1/2
(C) 4 (D) 1/4

27. 16 g of oxygen and 3 g of hydrogen are mixed and kept at 760 mm pressure and 0^oC. The total volume occupied by the mixture will be nearly
(A) 22.4 *litres* (B) 33.6 *litres*
(C) 448 *litres* (D) 44800 ml

28. Pure hydrogen sulphide is stored in a tank of 100 *litre* capacity at 20^oC and 2 *atm* pressure. The mass of the gas will be
(A) 34 g (B) 340 g
(C) 282.4 g (D) 28.24 g

29. At N.T.P. the volume of a gas is found to be 273 ml. What will be the volume of this gas at 600 *mm Hg* and 273^oC
(A) 391.8 mL (B) 380 ml
(C) 691.6 ml (D) 750 ml

30. One *litre* of a gas weighs 2 g at 300 K and 1 *atm* pressure. If the pressure is made 0.75 *atm*, at which of the following temperatures will one *litre* of the same gas weigh one *gram*
(A) 450 K (B) 600 K
(C) 800 K (D) 900 K

31. If three unreactive gases having partial pressures P_A, P_B and P_C and their moles are 1, 2 and 3 respectively then their total pressure will be
(A) $P = P_A + P_B + P_C$ (B) $P = \frac{P_A + P_B + P_C}{6}$
(C) $P = \frac{\sqrt{P_A + P_B + P_C}}{3}$ (D) None

32. Dalton's law of partial pressure will not apply to which of the following mixture of gases
(A) H_2 and SO_2 (B) H_2 and Cl_2
(C) H_2 and CO_2 (D) H_2 and SO_2

33. Which of the following mixtures of gases does not obey Dalton's law of partial pressure
(A) O_2 and CO_2 (B) N_2 and O_2
(C) Cl_2 and O_2 (D) NH_3 and HCl

34. To which of the following gaseous mixtures is Dalton's law not applicable
(A) $Ne + He + SO_2$ (B) $NH_3 + HCl + HBr$
(C) $O_2 + N_2 + CO_2$ (D) $N_2 + H_2 + O_2$

35. Equal amounts of two gases of molecular weight 4 and 40 are mixed. The pressure of the mixture is 1.1 *atm.* The partial pressure of the light gas in this mixture is
(A) 0.55 *atm* (B) 0.11 *atm*
(C) 1 *atm* (D) 0.12 *atm*

36. A gas diffuse 1/5 times as fast as hydrogen. Its molecular weight is
(A) 50 (B) 25
(C) $25\sqrt{2}$ (D) $50\sqrt{2}$

37. The molecular weight of a gas which diffuses through a porous plug at 1/6th of the speed of hydrogen under identical conditions is
(A) 27 (B) 72
(C) 36 (D) 48

38. Molecular weight of a gas that diffuses twice as rapidly as the gas with molecular weight 64 is
(A) 16 (B) 8
(C) 64 (D) 6.4

39. The densities of hydrogen and oxygen are 0.09 and 1.44 $g\ L^{-1}$. If the rate of diffusion of hydrogen is 1 then that of oxygen in the same units will be

(A) 4 (B) 1/4

(C) 16 (D) 1/16

40. If rate of diffusion of A is 5 times that of B, what will be the density ratio of A and B

(A) 1/25 (B) 1/5

(C) 25 (D) 4

41. If 4 g of oxygen diffuse through a very narrow hole, how much hydrogen would have diffused under identical conditions

(A) 16 g (B) 1 g

(C) 1/4 g (D) 64 g

42. A gas diffuse at a rate which is twice that of another gas B. The ratio of molecular weights of A to B is

(A) 1.0 (B) 0.75

(C) 0.50 (D) 0.25

43. Two grams of hydrogen diffuse from a container in 10 *minutes*. How many *grams* of oxygen would diffuse through the same container in the same time under similar conditions

(A) 0.5 g (B) 4 g

(C) 6 g (D) 8 g

44. The rate of diffusion of methane at a given temperature is twice that of X. The molecular weight of X is

(A) 64.0 (B) 32.0

(C) 40.0 (D) 80.0

45. X *ml* of H_2 gas effuses through a hole in a container in 5 *seconds*. The time taken for the effusion of the same volume of the gas specified below under identical condition is

(A) 10 *seconds* : *He* (B) 20 *seconds* : O_2

(C) 25 *seconds* : *CO* (D) 55 *seconds* : CO_2

46. Volume of 4.4 g of CO_2 at NTP is

(A) 22.4 L (B) 44.8 L

(C) 2.24 L (D) 4.48 L

47. The energy of an ideal gas depends only on its

(A) Pressure (B) Volume

(C) Number of moles (D) Temperature

48. A bottle of cold drink contains 200 *ml* liquid in which CO_2 is 0.1 molar. Suppose CO_2 behaves like an ideal gas, the volume of the dissolved CO_2 at STP is

(A) 0.224 *litre* (B) 0.448 *litre*

(C) 22.4 *litre* (D) 2.24 *litre*

49. The vapour density of a gas is 11.2. The volume occupied by 11.2 g of this gas at N.T.P. is

(A) 1 L (B) 11.2 L

(C) 22.4 L (D) 20 L

50. A pre-weighed vessel was filled with oxygen at N.T.P. and weighted. It was then evacuated, filled with SO_2 at the same temperature and pressure, and again weighted. The weight of oxygen will be

(A) The same as that of SO_2

(B) $\frac{1}{2}$ that of SO_2

(C) Twice that of SO_2

(D) One fourth that of SO_2

51. At what pressure a quantity of gas will occupy a volume of $60\,ml$, if it occupies a volume of $100ml$ at a pressure of $720mm$? (while temperature is constant) :

(A) $700\,mm$ (B) $800\,mm$

(C) $100\,mm$ (D) $1200\,mm$

52. At constant temperature and pressure which gas will diffuse first H_2 or O_2?

(A) Hydrogen

(B) Oxygen

(C) Both will diffuse in same time

(D) None of the above

53. When a jar containing gaseous mixture of equal volumes of CO_2 and H_2 is placed in a solution of sodium hydroxide, the solution level will

(A) Rise (B) Fall

(C) Remain constant (D) Become zero

54. At S.T.P. 1g $CaCO_3$ on decomposition gives CO_2

(A) 22.4 litre (B) 2.24 litre
(C) 0.224 litre (D) 11.2 litre

55. At NTP, the density of a gas, whose molecular weight is 45 is

(A) 44.8 gm/litre (B) 11.4 gm/litre
(C) 2 gm/ litre (D) 3 gm/litre

56. What is the ratio of diffusion rate of oxygen and hydrogen

(A) 1 : 4 (B) 4 : 1
(C) 1 : 8 (D) 8 : 1

57. The maximum number of molecules is present in

(A) 0.5 g of H_2 gas

(B) 10 g of O_2 gas

(C) 15 L of H_2 gas at STP

(D) 5 L of N_2 gas at STP

58. One litre oxygen gas at STP will weigh

(A) 1.43 g (B) 2.24 g
(C) 11.2 g (D) 22.4 g

59. How will you separate mixture of two gases

(A) Fractional distillation technique
(B) Grahams law of diffusion technique
(C) Osmosis
(D) Chromatography

60. The rate of diffusion of hydrogen gas is

(A) 1.4 times to He gas (B) Same as He gas
(C) 5 times to He gas (D) 2 times to He gas

Molecular theory of gases and collisions

61. According to kinetic theory of gases, the energy per mole of a gas is equal to

(A) 1.5 RT (B) RT
(C) 0.5 RT (D) 2.5 RT

62. Internal energy and pressure of a gas per unit volume are related as

(A) $P = \frac{2}{3}E$ (B) $P = \frac{3}{2}E$

(C) $P = \frac{1}{2}E$ (D) $P = 2E$

63. The translational kinetic energy of an ideal gas depends only on its

(A) Pressure (B) Force
(C) Temperature (D) Molar mass

64. Helium atom is two times heavier than a hydrogen molecule at 298 K, the average kinetic energy of helium is

(A) Two times that of a hydrogen molecule
(B) Same as that of a hydrogen molecule
(C) Four times that of a hydrogen molecule
(D) Half that of a hydrogen molecule

65. Which of the following is valid at absolute zero

(A) Kinetic energy of the gas becomes zero but the molecular motion does not become zero
(B) Kinetic energy of the gas becomes zero and molecular motion also becomes zero
(C) Kinetic energy of the gas decreases but does not become zero
(D) None of the above

66. With increase of pressure, the mean free path

(A) Decreases (B) Increases
(C) Does not change (D) Becomes zero

67. Which one of the following statements is NOT true about the effect of an increase in temperature on the distribution of molecular speeds in a gas

(A) The most probable speed increases
(B) The fraction of the molecules with the most probable speed increases
(C) The distribution becomes broader
(D) The area under the distribution curve remains the same as under the lower temperature

68. If P, V, M, T and R are pressure, volume, molar mass, temperature and gas constant respectively, then for an ideal gas, the density is given by

(A) $\frac{RT}{PM}$ (B) $\frac{P}{RT}$

(C) $\frac{M}{V}$ (D) $\frac{PM}{RT}$

69. An ideal gas will have maximum density when
(A) $P = 0.5\ atm, T = 600\ K$
(B) $P = 2\ atm, T = 150\ K$
(C) $P = 1\ atm, T = 300\ K$
(D) $P = 1.0\ atm, T = 500\ K$

70. If the inversion temperature of a gas is $-80^{o}C$, then it will produce cooling under Joule-Thomson effect at
(A) 298 K (B) 273 K
(C) 193 K (D) 173 K

71. Absolute zero is defined as the temperature
(A) At which all molecular motion ceases
(B) At which liquid helium boils
(C) At which ether boils
(D) All of the above

72. Consider the following statements :
(1) Joule-Thomson experiment is isoenthalpic as well as adiabatic.
(2) A negative value of μ_{JT} (Joule Thomson coefficient corresponds to warming of a gas on expansion.
(3) The temperature at which neither cooling nor heating effect is observed is known as inversion temperature.
Which of the above statements are correct
(A) 1 and 2 (B) 1 and 3
(C) 2 and 3 (D) 1, 2 and 3

73. Vibrational energy is
(A) Partially potential and partially kinetic
(B) Only potential
(C) Only kinetic
(D) None of the above

74. At the same temperature and pressure, which of the following gases will have the highest kinetic energy per mole
(A) Hydrogen (B) Oxygen
(C) Methane (D) All the same

75. Dimensions of pressure are the same as that of
(A) Energy
(B) Force
(C) Energy per unit volume
(D) Force per unit volume

Molecular speeds

76. At $27^{o}C$, the ratio of *rms* velocities of ozone to oxygen is
(A) $\sqrt{3/5}$ (B) $\sqrt{4/3}$
(C) $\sqrt{2/3}$ (D) 0.25

77. The average kinetic energy of an ideal gas per molecule in SI units at $25^{o}C$ will be
(A) $6.17\times10^{-21}\ kJ$ (B) $6.17\times10^{-21}\ J$
(C) $6.17\times10^{-20}\ J$ (D) $6.17\times10^{-20}\ J$

78. At what temperature the *RMS* velocity of SO_2 be same as that of O_2 at 303 K
(A) 273 K (B) 606 K
(C) 303 K (D) 403 K

79. Among the following gases which one has the lowest root mean square velocity at $25^{o}C$
(A) SO_2 (B) N_2
(C) O_2 (D) Cl_2

80. The root mean square velocity of an ideal gas in a closed container of fixed volume is increased from $5\times10^{4}\ cm\,s^{-1}$ to $10\times10^{4}\ cm\,s^{-1}$. Which of the following statement correctly explains how the change is accomplished
(A) By heating the gas, the temperature is doubled
(B) By heating the gas, the pressure is quadrupled (*i.e.* made four times)
(C) By heating the gas, the temperature is quadrupled
(D) By heating the gas, the pressure is doubled

81. The ratio between the root mean square velocity of H_2 at 50 K and that of O_2 at 800 K is
(A) 4 (B) 2
(C) 1 (D) 1/4

82. The root mean square velocity of an ideal gas at constant pressure varies density (D) as
(A) d^2 (B) d
(C) $\sqrt{d}$ (D) $1/\sqrt{d}$

83. Consider a mixture of SO_2 and O_2 kept at room temperature. Compared to the oxygen molecule, the SO_2 molecule will hit the wall with

(A) Smaller average speed
(B) Greater average speed
(C) Greater kinetic energy
(D) Greater mass

84. The *rms* speed of N_2 molecules in a gas is u. If the temperature is doubled and the nitrogen molecules dissociate into nitrogen atoms, the *rms* speed becomes

(A) $u/2$ (B) $2u$
(C) $4u$ (D) $14u$

85. Choose the correct arrangement, where the symbols have their usual meanings

(A) $\bar{u} > u_p > u_{rms}$ (B) $u_{rms} > \bar{u} > u_p$
(C) $u_p > \bar{u} > u_{rms}$ (D) $u_p > u_{rms} > \bar{u}$

86. The ratio of most probable velocity to that of average velocity is

(A) $\pi/2$ (B) $2/\pi$
(C) $\sqrt{\pi}/2$ (D) $2/\sqrt{\pi}$

87. The r.m.s. velocity of a certain gas is v at $300K$. The temperature, at which the r.m.s. velocity becomes double

(A) $1200K$ (B) $900\,K$
(C) $600K$ (D) $150K$

88. The r.m.s. velocity of a gas depends upon

(A) Temperature only
(B) Molecular mass only
(C) Temperature and molecular mass of gas
(D) None of these

89. What is the pressure of 2 mole of NH_3 at 27^oC when its volume is 5 litre in vander Waal's equation ($a = 4.17$, $b = 0.03711$)

(A) 10.33 atm (B) 9.33 atm
(C) 9.74 atm (D) 9.2 atm

90. The root mean square velocity of one mole of a monoatomic having molar mass M is U_{rms}. The relation between the average kinetic energy (E) of the U_{rms} is

(A) $U_{rms} = \sqrt{\frac{3E}{2M}}$ (B) $U_{rms} = \sqrt{\frac{2E}{3M}}$
(C) $U_{rms} = \sqrt{\frac{2E}{M}}$ (D) $U_{rms} = \sqrt{\frac{E}{3M}}$

Real gases and Vander waal's equation

91. Any gas shows maximum deviation from ideal gas at

(A) 0^oC and 1 atmospheric pressure
(B) 100^oC and 2 atmospheric pressure
(C) -100^oC and 5 atmospheric pressure
(D) 500^oC and 1 atmospheric pressure

92. The temperature at which the second virial coefficient of real gas is zero is called

(A) Critical temperature
(B) Eutetic point
(C) Boiling point
(D) Boyle's temperature

93. When is deviation more in the behaviour of a gas from the ideal gas equation $PV = nRT$

(A) At high temperature and low pressure
(B) At low temperature and high pressure
(C) At high temperature and high pressure
(D) At low temperature and low high pressure

94. Vander Waal's constants '*a*' and '*b*' are related with..... respectively

(A) Attractive force and bond energy of molecules
(B) Volume and repulsive force of molecules
(C) Shape and repulsive forces of molecules
(D) Attractive force and volume of the molecules

95. Gas deviates from ideal gas nature because molecules

(A) Are colourless
(B) Attract each other
(C) Contain covalent bond
(D) Show Brownian movement

96. The temperature at which real gases obey the ideal gas laws over a wide range of pressure is called

(A) Critical temperature

(B) Boyle temperature

(C) Inversion temperature

(D) Reduced temperature

97. At low pressure, the Vander Waal's equation is reduced to

(A) $Z = \frac{pV_m}{RT} = 1 - \frac{ap}{RT}$ (B) $Z = \frac{pV_m}{RT} = 1 + \frac{b}{RT}p$

(C) $pV_m = RT$ (D) $Z = \frac{pV_m}{RT} = 1 - \frac{a}{RT}$

98. At high temperature and low pressure, the Vander Waal's equation is reduced to

(A) $\left(p + \frac{a}{V_m^2}\right)(V_m) = RT$

(B) $pV_m = RT$

(C) $p(V_m - b) = RT$

(D) $\left(p + \frac{a}{V_m^2}\right)(V_m - b) = RT$

99. When helium is allowed to expand into vacuum, heating effect is observed. Its reason is that

(A) Helium is an ideal gas

(B) Helium is an inert gas

(C) The inversion temperature of helium is very low

(D) The boiling point of helium is the lowest among the elements

100. In van der Waal's equation of state of the gas law, the constant 'b' is a measure of

(A) Volume occupied by the molecules

(B) Intermolecular attraction

(C) Intermolecular repulsions

(D) Intermolecular collisions per unit volume

Liquefaction of gases

101. Which set of conditions represents easiest way to liquefy a gas

(A) Low temperature and high pressure

(B) High temperature and low pressure

(C) Low temperature and low pressure

(D) High temperature and high pressure

102. Adiabatic demagnetisation is a technique used for

(A) Adiabatic expansion of a gas

(B) Production of low temperature

(C) Production of high temperature

(D) None

103. An ideal gas can't be liquefied because

(A) Its critical temperature is always above $0^o C$

(B) Its molecules are relatively smaller in size

(C) It solidifies before becoming a liquid

(D) Forces operative between its molecules are negligible

104. However great the pressure, a gas cannot be liquefied above its

(A) Boyle temperature

(B) Inversion temperature

(C) Critical temperature

(D) Room temperature

105. An ideal gas obeying kinetic theory of gases can be liquefied if

(A) Its temperature is more than critical temperature T_c

(B) Its pressure is more than critical pressure P_c

(C) Its pressure is more than P_c at a temperature less than T_c

(D) It cannot be liquefied at any value of P and T

106. The Vander Waal's parameters for gases *W*, *X*, Y and *Z* are

Gas	a (atm L^2 mol^{-2})	b (L mol^{-1})
W	4.0	0.027
X	8.0	0.030
Y	6.0	0.032
Z	12.0	0.027

Which one of these gases has the highest critical temperature

(A) *W* (B) *X*

(C) *Y* (D) *Z*

107. The Vander Waal's constant '*a*' for the gases O_2, N_2, NH_3 and CH_4 are 1.3, 1.390, 4.170 and 2.253 $L^2\, atm\, mol^{-2}$ respectively. The gas which can be most easily liquefied is

(A) O_2 (B) N_2

(C) NH_3 (D) CH_4

108. A gas can be liquefied

(A) Above its critical temperature

(B) At its critical temperature

(C) Below its critical temperature

(D) At any temperature

109. A gas has a density of 2.68 g/L at stp. Identify the gas

(A) NO_2 (B) *Kr*

(C) *COS* (D) SO_2

110. Weight of 112 *ml* of oxygen at NTP on liquefaction would be

(A) 0.32 *g* (B) 0.64 *g*

(C) 0.16 *g* (D) 0.96 *g*