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**Max Time : 1 hr**  **STATES OF MATTER Max Marks :**

**Class = 11th Chemistry Test CODE : A**

1. The pressure of a mixtures of equal weights of two gases X and Y with molecular weight 4 and 40 respectively is 1.1 atm. The partial pressure of the gas X in the mixture is

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| --- | --- | --- | --- |
| a) 1 atm | b) 0.1 atm | c) 0.15 atm | d) 0.5 atm |

1. If the ratio of the masses of SO3 and O2 gases confined in a vessel is 1 : 1, then the ratio of their partial pressure would be

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| --- | --- | --- | --- |
| a) 5 : 2 | b) 2 : 5 | c) 2 : 1 | d) 1 : 2 |

1. The correct expression of partial pressure in terms of mole fraction is

|  |  |
| --- | --- |
| a) P1 = x1 PTotal , P2 = x2 PTotal | b) P = x1 x2  PTotal |
| c) PTotal = P1 x1 , PTotal = P2 x2 | d) P1 + P2 = x1 + x2 |

1. Equal masses of helium and oxygen are mixed in a container at 25˚C. The fraction of the total pressure exerted by oxygen in the mixture of gases is

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| --- | --- | --- | --- |
| a) 1/3 | b) 2/3 | c) 1/9 | d) 4/9 |

1. At any particular time, different particles in the gas

a) have same speed and kinetic energy

b) have same speed but different kinetic energies

c) have different speeds but same kinetic energy

d) have different speeds and hence different kinetic energies.

1. According to kinetic theory of gases, the collisions between molecules of a gas

|  |  |
| --- | --- |
| a) occur in a zig-zag path | b) occur in a straight line |
| c) change velocity and energy | d) result in settling down of molecules |

1. Pressure of 1 g of an ideal gas A at 27˚C is found to be 2 bar. When 2 g of another ideal gas B is introduced in the same flask at the same temperature the pressure becomes 3 bar. What would be the ratio of molecular masses of A and B ?

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| --- | --- | --- | --- |
| a) 4 : 1 | b) 1 : 4 | c) 1 : 8 | d) 2 : 8 |

1. A mixture of dihydrogen and dioxygen at one bar pressure contains 20 % by weight of hydrogen. What would be the partial pressure of dihydrogen in bar ?

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| a) 0.8 | b) 1.8 | c) 2.8 | d) 3.0 |

1. What will be the pressure of the gaseous mixture when 0.5 L of H2 at 0.8 bar and 2.0 L of O2 at 0.7 bar are introduced in a 1 L vessel at 27˚C ?

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| --- | --- | --- | --- |
| a) 1.8 bar | b) 2.8 bar | c) 3.0 bar | d) 5 bar |