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CLASS XI CBT FEBRUARY-2024 , SUBJECT- PHYSICS
TOPIC- Kinetic Theory of Gases

1. **Every periodic motion is ____**
   a. **Simple harmonic motion**
   b. **Not simple harmonic motion**
   c. **Both a and b**
   d. **None**

   Answer: Not simple harmonic motion
2. **The period of SHM does not depends on the**
   a. **Amplitude**
   b. **Energy**
   c. **Phase Constant**
   d. **All**

   Answer: All
3. **The force acting in simple harmonic motion is proportional to displacement and is always directed**
   a. **Away from the centre of motion**
   b. **Towards the centre of motion**
   c. **Both**
   d. **None**

   Answer: Towards the centre of motion
4. **The motion which repeat itself after equal interval of time is called as**
   a. **Non periodic motion**
   b. **Periodic motion**
   c. **Uniform Motion**
   d. **Non uniform motion**

   Answer: Periodic motion
5. **The angular frequency w is related to period T as**
   a. **W = 2πT**
   b. **W = 2π/T**
   c. **W = 2/T**
   d. **W = T/2π**

   Answer: W = 2π/T
6. **The average distance a molecule can travel without colliding is called as**
   a. **Free path**
   b. **Mean free path**
   c. **Mean distance**
   d. **average distance**

   Answer: Mean free path
7. **At constant temperature, pressure is inversely proportional to volume is called as**
   a. **Charle's Law**
   b. **Boyle's Law**
   c. **Zeroth law of thermodynamics**
   d. **First law of thermodynamics**

   Answer: Boyle's Law
8. **In equilibrium, the total energy is equally distributed in all possible energy modes having an energy equal to 1/2KB T, this is called as**
   a. **Boyle's law**
   b. **Charle's law**

c. **law of equipartition of energy**
d. **None**

Answer: law of equipartition of energy

9. **The diatomic gas molecule has total ____ degrees of freedom**
   a. **4**
   b. **3**
   c. **2**
   d. **5**

   Answer: 5
10. **The molar specific heat at constant volume for monoatomic gas molecule is given by**
   a. **1/2RT**
   b. **3/2RT**
   c. **5/2RT**
   d. **RT**

   Answer: 3/2RT