MODEL QUESTIONS – PHYSICS

1. A particle performs simple harmonic motion with amplitude **A** and time period **T**. The mean velocity of the particle over the time interval during which it travels a distance of **A/2** starting from extreme position.
   1) A/T 2) 2A/T 3) 3A/T 4) A/2T

2. When a battery connected across a resistor of 16 Ω, the voltage across the resistor is 12V.When same battery is connected across a resistor of 10 Ω voltage across it is 11V.The internal resistance of the battery
   1) 10/7Ω 2) 20/7Ω 3) 25/7Ω 4) 30/7Ω

3.**Assertion (A):** A rocket works on the principle of conservation of linear momentum.
Reason (R): Whenever there is change in momentum of one body, the same change occurs in the momentum of the second body of the same system but in the opposite direction.
   1) A is true & R is true and correct explanation
   2) A is true & R is true and not correct explanation
   3) A is true & R is false
   4) A is false & R is true

4. **Statement(A):** A particle can have zero displacement and non zero average velocity.

Statement (B): A particle can have zero acceleration and non zero velocity

Statement (C): A particle can have zero velocity and non-zero acceleration.

   1) A,B,C True 2) A, B True, C False 3) B,C True, A False 4) A,B,C False.

5. Match the following
   In the experimental study of photoelectric effect:

Column-I	Column-II
A. Intensity of incident light changes	**I.** Maximum K.E of photoelectrons changes
B. Frequency of incident light changes	**II**. Stopping potential changes
C. Target material changes	**III**. Saturation current changes.

   1. A-III B-I,II C-I,II
   2. A-II B-I,III C-I,II
   3. A-III B-III,II C-I,II
   4. A-I B-I,II C-I,II

*****