

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 $16\ \Omega$, the voltage across the resistor is 12V. When same battery is connected across a resistor of $10\ \Omega$ voltage across it is 11V. The internal resistance of the battery

- 1) $10/7\ \Omega$ 2) $20/7\ \Omega$ 3) $25/7\ \Omega$ 4) $30/7\ \Omega$

3. **Assertion (A):** A rocket works on the principle of conservation of linear momentum.

Reason (R): When ever 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
