## L.E.E./ A.I.P.M.T. Foundation - XI Physics Worksheet

## Time: 30 min

## Chapter\#3: Motion in Straight Line-02

## Instructions:

## 1. All questions are compulsory.

2. Please give the explanation for the answer where applicable.

Q1 - What are scalar and vector quantities?

Q2 - Differentiate speed and velocity.

Q3 - The distance ' $x$ ' of particle moving in one dimension under the action of a constant force is related to time $t$ by relation
$t=\sqrt{x}+3$
Where ' $x$ ' is in $m, t$ is in sec. Find displacement when velocity is zero.

Q4 - Explain following velocity time graphs.

Q5 - A particle is moving along $X$ axis the position is given by

$$
x=k+j t^{2}
$$

where $K=8 \mathrm{~m}$ and $\mathrm{j}=4 \mathrm{~m} / \mathrm{s} 2 \mathrm{t}$ is time. Find velocity of particle at $\mathrm{t}=0, \mathrm{t}=3 \mathrm{sec}$.

Q6 -A body is dropped from the top of a tower, which falls through 40 m during the last two seconds of its fall. What is the height of tower $?(\mathrm{~g}=10 \mathrm{~m} / \mathrm{s} 2)$
(5 Marks)

Q7 - The displacement of a body is zero. Is the distance covered by it also necessarily zero?

Q8 - If a body has constant speed, is it true that it can have acceleration?

