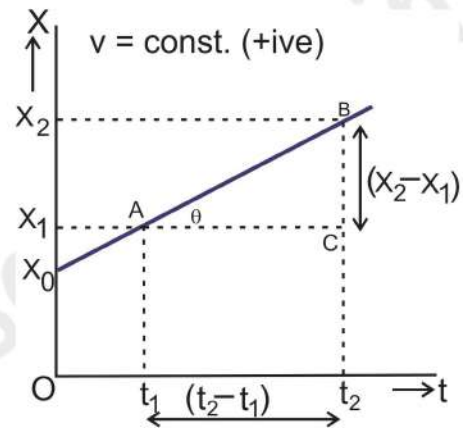


❖ In this case displacement (area under v-t graph) is negative.

## 2. Displacement (position) – Time Graph: (x-t graph):

The fig shows the x-t graph for constant (positive) velocity.  $X_1$  and  $X_2$  are the position of the body at  $t_1$  and  $t_2$  respectively.  $X_0$  is position at  $t = 0$ .

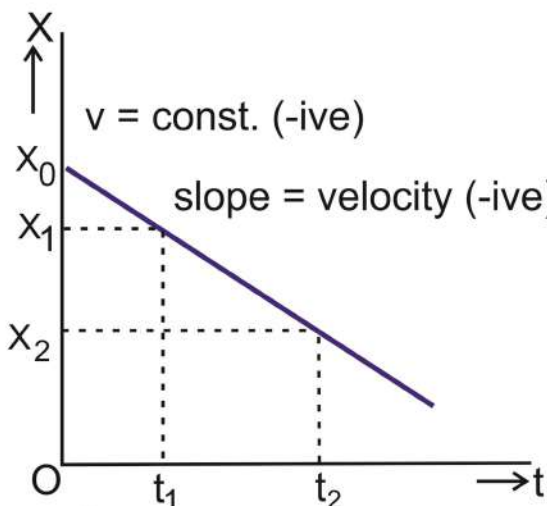
For motion with constant positive velocity, position time graph is an inclined straight line, with positive slope.



Slope of x-t graph =  $\tan\theta$

$$= \frac{BC}{AC} = \frac{x_2 - x_1}{t_2 - t_1} = \text{velocity}$$

Thus, the slope of x-t graph represents the velocity of the body.



For motion with constant negative velocity, position time graph is an inclined straight line, with negative slope.