

➤ **Question 01.** *Anoop is moving due east with a velocity of 1 m/s and Dhyani is moving due west with a velocity of 2 m/s. What is the velocity of Anoop with respect to Dhyani?*

**Solution** It is a one dimensional motion. So, let us choose the east direction as positive and the west as negative. Now, given that

$$v_A = \text{velocity of Anoop} = 1 \text{ m/s}$$

and

$$v_D = \text{velocity of Dhyani} = -2 \text{ m/s}$$

Thus,

$$\begin{aligned} v_{AD} &= \text{velocity of Anoop with respect to Dhyani} \\ &= v_A - v_D = 1 - (-2) = 3 \text{ m/s} \end{aligned}$$

Hence, velocity of Anoop with respect to Dhyani is 3 m/s due east.