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SUBJECT:- PHYSICS CLASS:- IXTH DATE:- 27/04/XXI

SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 1. (MOTION)(BASED ON NCERT PATTERN)

1. When will you say a body is in (i) uniform acceleration? (ii) Non-uniform acceleration?

Answer: (i) A body is said to be in uniform acceleration if it travels in a straight line and its velocity increases or decreases by equal amounts in equal time intervals.

(ii) A body is said to be in non-uniform acceleration if the rate of change of its velocity is not constant, that is differs in different time intervals.

2. A bus decreases its speed from 80 km h^{-1} to 60 km h^{-1} in 5 s. Find the acceleration of the bus.

Answer:

Initial speed of the bus, u= 80 km/h $= 80 \times \frac{5}{18} = 22.22$ m/s

Final speed of the bus, v= 60 km/h $= 60 \times \frac{5}{18} = 16.66$ m/s

Time take to decrease the speed, t= 5 s

Acceleration, $a = \frac{v-u}{t} = \frac{16.66-22.22}{5} = -1.112$ m/s^2

3. A train starting from a railway station and moving with uniform acceleration attains a speed 40 km h^{-1} in 10 minutes. Find its acceleration.

Answer:

Initial velocity of the train, u= 0

Final velocity of the train, v= 40 km/h $= 40 \times \frac{5}{18} = 11.11$ m/s

Time taken, t = 10 min = 10 x 60 = 600 s

Acceleration, $a = \frac{v-u}{t} = \frac{11.11-0}{600} = 0.0185$ m/s^2

Hence, the acceleration of the train is 0.0185 m/s².