

Sec. I - ans - 2 :-

Given :-

Weight = 100 N

Inclination angle = 35°

Pulled force = 80 N

Distance plane (s) = 4

- To calculate the velocity (v) :-

Soln :- fig. (a) is mentioned above.

∴ force along plane  $\Sigma H = 0$ .

∴  $F = 80 - 100 \sin 35 - \cancel{MR_n}$

∴  $F = 22.64 \text{ N}$

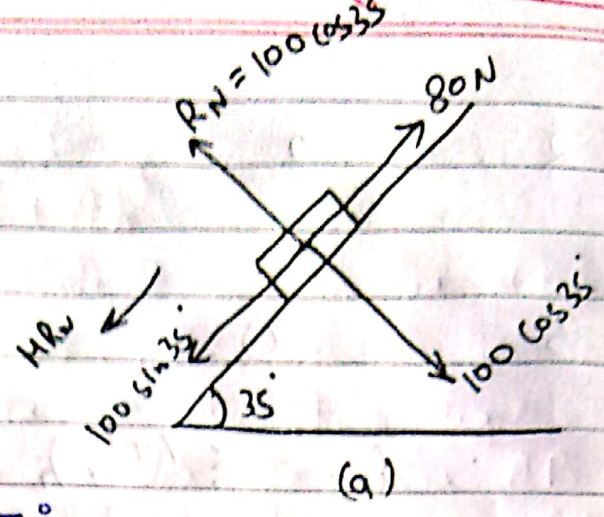
as we know,  $W = 100 \text{ N}$

∴  $m = 10.2 \text{ kg}$

∴  $f = m a$

$a = \frac{f}{m}$

$a = \frac{22.64}{10.2} = 2.22 \text{ m/s}^2$



From eq<sup>n</sup> of motion :-

$$v^2 = u^2 + 2as$$

$$v^2 = 0 + 2 \times 2.22 \times 9$$

$$v^2 = 19.76$$

$$\therefore v = 4.2 \text{ m/s}$$