

ANSWERS TO ICSE PHYSICS TEST/Worksheet*Topic: Force, Work, Energy, Power, Refraction of Light, Calorimetry, Sound (without numericals)*

1.

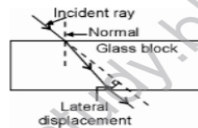
The ratio between the velocity of light in vacuum and the velocity of light in a given optical medium is called absolute refractive index of the optical medium.

2.

- (i) Refractive index of a medium depends upon its optical density.
 (ii) Refractive index of a medium depends upon the wavelength of the incident light.

3.

- (i) Lateral displacement is directly proportional to **thickness of the glass slab**.
 (ii) Lateral displacement is directly proportional to **the angle of incidence**.

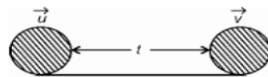


4.

Consider a body of mass ' m ' initially moving with a velocity ' u '. Let a force ' F ' act on the body for time ' t ', such that it picks up a final velocity ' v ', with an acceleration ' a '.

Change in momentum in time $t = m(v - u)$

Rate of change of momentum = $\frac{m(v - u)}{t}$



But, $\frac{(v - u)}{t} = a$

Rate of change of momentum = ma .

Also, by Newton's second law, rate of change of momentum is \propto applied force.