

HOME ASSIGNMENT

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B- Short / Long Answer Questions:

1- State the speed of light in

a- air - 3×10^8 m/s

b- water 2.25×10^8 m/s

c- glass - 2×10^8 m/s

2- How does the speed of light determine the optical density of a medium.

A- If the optical density of a medium is more ^{then} ~~the~~ the speed of light in that medium will be less and vice-versa

3- Which is optically denser: water or air? Give reason.

A- Water is optically denser because the speed of light in water decreases.

4- Out of air and glass, which is optically rarer? Give reason.

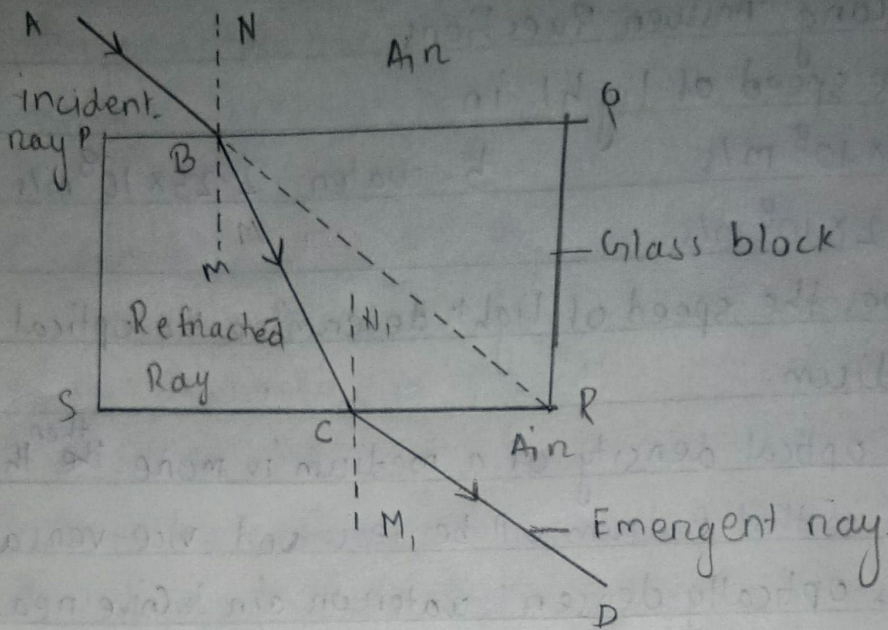
A- Air is optically rarer because the speed of light in air increases.

5- ~~B~~ What do you understand by refraction of light?

A- The change in direction of path of light when it passes from one optically transparent medium to another, is called refraction of light.

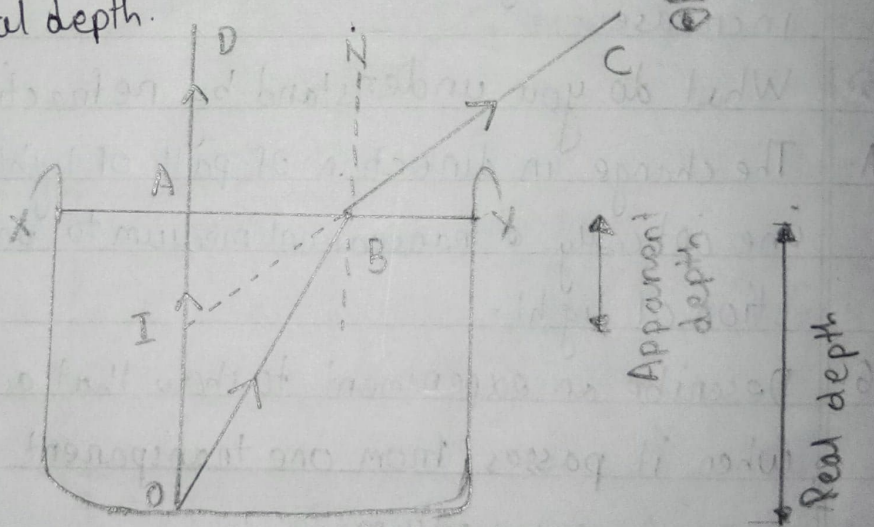
6- Describe an experiment to show that a light ray bends when it passes from one transparent medium into another transparent medium.

A- Aim:- To show that a light ray bends when it passes from one transparent medium into another transparent medium.
A ray of light AB travelling from air (rarer medium) to glass (denser medium) and back to air



7. Draw a ray diagram to show that the depth of a vessel containing water when seen from above, appears to be less than its real depth.

A.



8. Define the following terms:-

- Incident Ray :- The ray of light falling on the surface separating the two medium media, is called the incident ray.
- Refracted ray :- The ray of light travelling in the other

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medium in the changed direction, is called the refracted ray.

Angle of incidence: The angle between the incident ray and the normal is called the angle of incidence 'i'.

Angle of refraction: The angle between the refracted ray and the normal is called the angle of refraction 'r'.

Q- A ray of light falls normally on a glass slab. What is the angle of incidence?

A- The angle of incidence is 0° .

10- A ray of light travels from a ~~re~~ ^{rarer} medium to a denser medium. How will it bend?

A- A ray of light travels from a rarer medium to a denser medium. It will bend towards the normal.