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Light
Assignment-2

1. Define the following terms:

a) Mirror
→ A mirror is a reflective surface from which light bounces off and produces an image.

b) Concave mirror
→ Concave mirror is a converging mirror which has a curved reflecting surface.

c) Convex mirror
→ Convex mirror is a diverging mirror which has a bulged out reflecting surface.

d. Center of curvature
→ Center of curvature is the center of the hollow sphere of which the mirror a part.

e) Radius of curvature

→ Radius of curvature is the radius of the hollow sphere.

f. Principle axis.

→ The line passing through the the center of curvature and pole is called principle axis

g) Focus

→ Focus is the point in which a beam on light parallel to principale axis meets after ~~reflecting~~ reflection.

h.) Pole, focal length

→ Center of surface of mirror is called as pole.

→ Focal length is the distance between focus and pole.

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2. Differentiate between real and virtual image.

Real Image	Virtual Image
They can be obtained on screen.	They cannot be obtained on screen
They are inverted.	They are erect.

3. List out the four rules to be followed while drawing ray diagram.

- A ray of light from an object going parallel to principal axis is passed through focus F after reflection. ~~as shown in fig~~
- A ray of light from an object ~~going~~ passing through the focus F is reflected parallel to the principal axis.
- A ray of light from an object passing through the center of curvature C is reflected ~~or~~ along its own path.
- A ray of light from an object is incident at the pole of the mirror, which is reflected making the same angle as the angle of incidence.

4. List out any 3 uses of concave & convex mirrors each.

- Concave mirrors:
  - For making astronomical telescopes.
  - For shaving & making cosmetic mirror
  - For making solar cooker.
- Convex mirrors:
  - To make back view mirror in automobiles
  - To make street light reflector.
  - To make magnifying glass.

5. State the laws of refraction of light.

→ The incident ray, refracted ray & normal, all lie on the same plane at the point of incidence.

→ The ratio of sine of angle of incidence to the sine of angle of refraction, for a given pair of media, is constant. The constant is called refractive index.

6. A clear pond appears shallower than its actual depth. Why?

→ ∴ because when rays of light travels from denser to rare medium, it bends away from the normal. Thus, the actual depth appears to be raised

7. What is the size of the image of an object of 5m formed by plane mirror?

→ The size of the image of an object of 5m formed by the plane mirror is 5m as the image formed by plane mirror is same size as the object.

8. Define refraction of light & state Snell's law.

→ Refraction of light is the bending of ~~lik~~ light in between two media when it travels from one medium to another.

→ Snell's law states that the ratio of sine of angle of incidence to the sine of angle of refraction for a given pair of ~~med~~ media is constant.