



WBCS PRE 2023



SCIENCE

LIGHT

নতুনদের এই ভিডিওটি দেখতে হবে

BY SOUMI MAHENDRAS

(((•))) **LIVE** | 06:15 PM





WBBCS PRE 2023



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INM

THURSDAY

GS-POL
REASONING
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LIGHT:

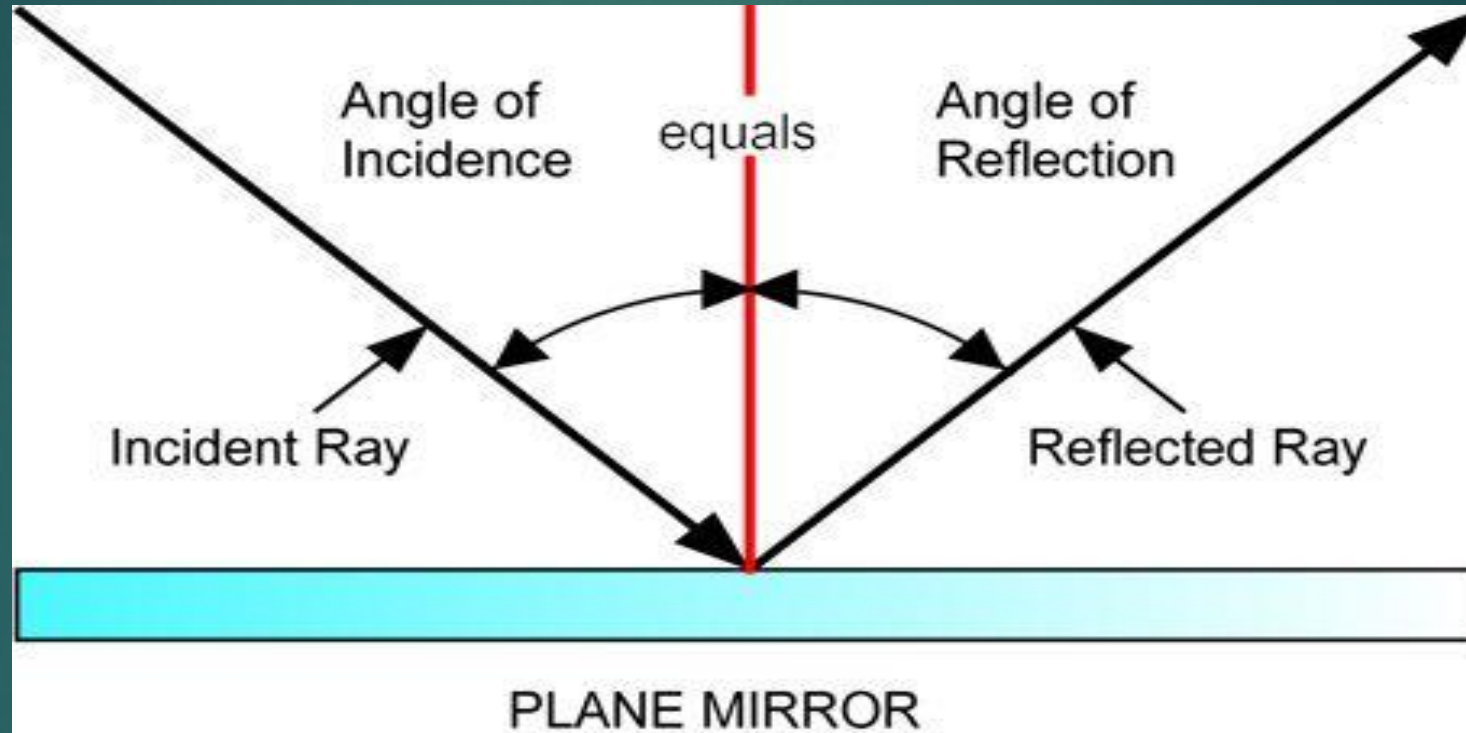
The speed of light in vacuum is 299,792,458 meters per second.

The medium through which light can pass easily is transparent medium.

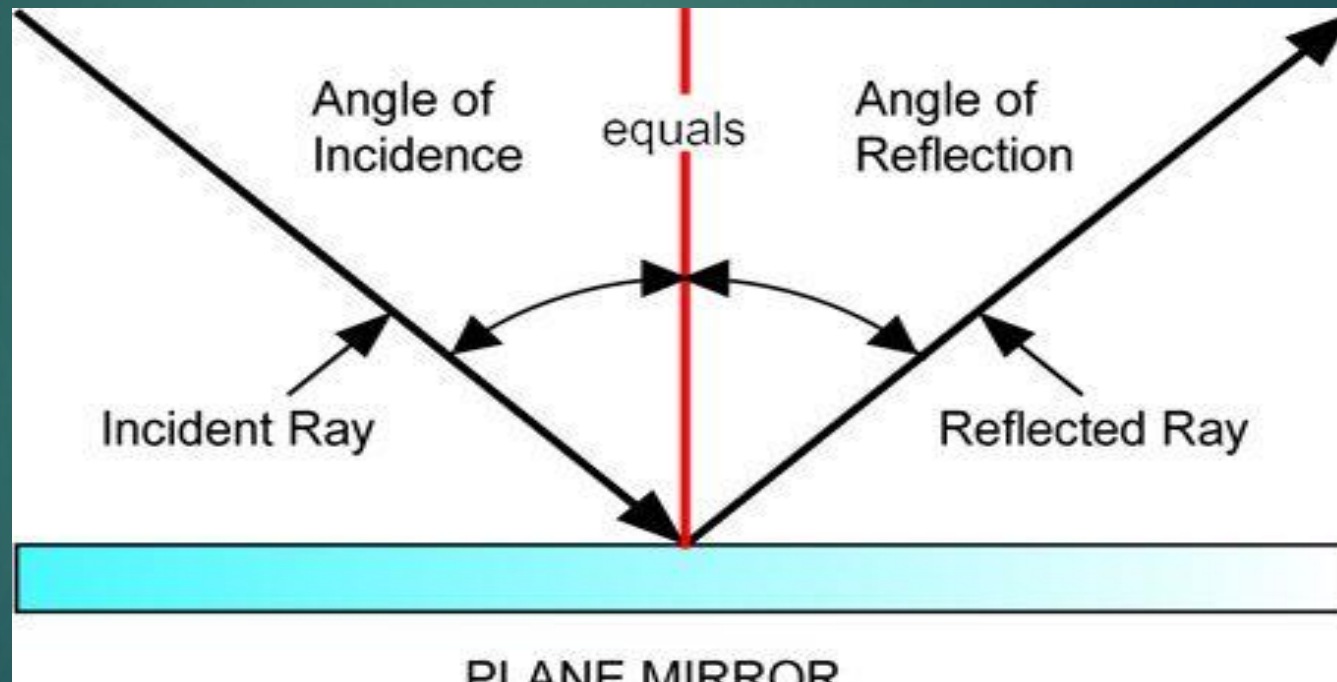
The medium through which light can pass partially is translucent medium.

The medium through which light cannot pass is opaque medium.

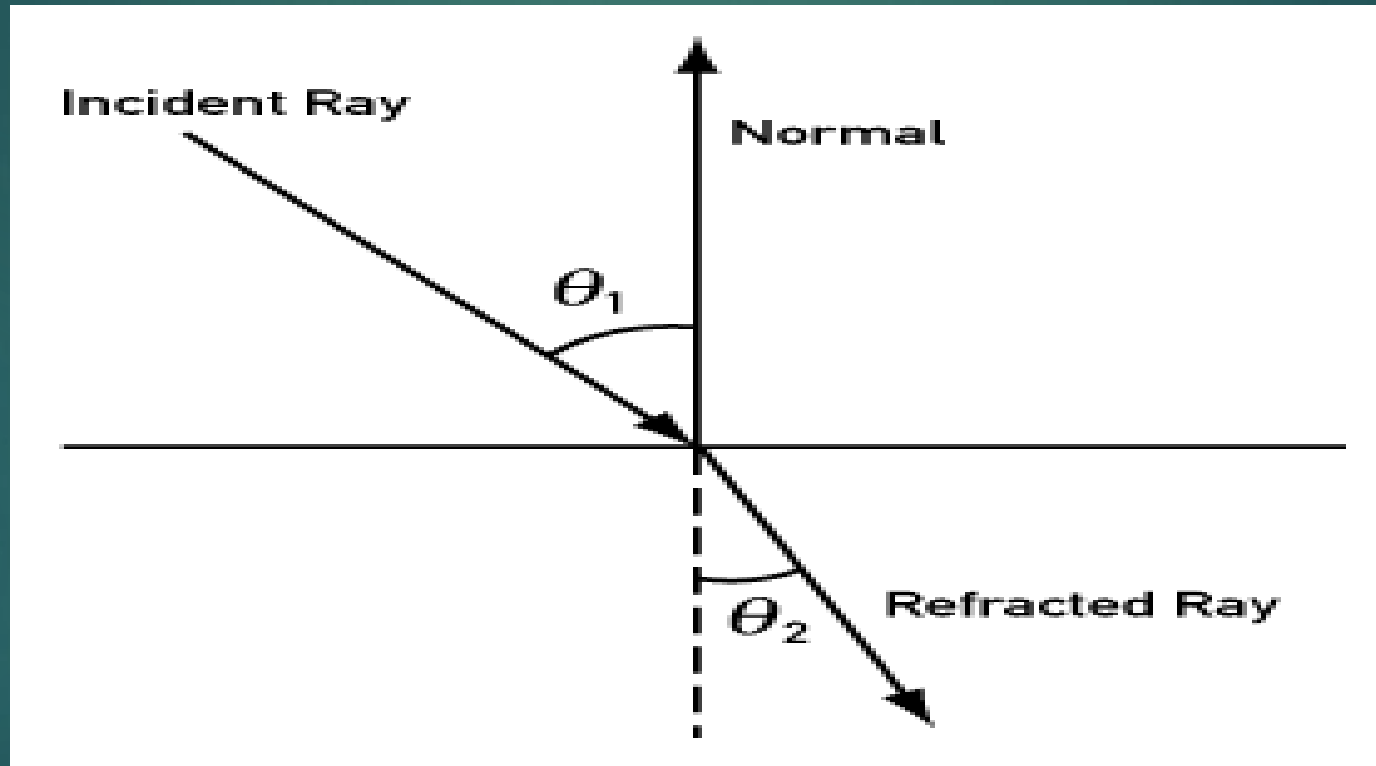
Incident Ray- The ray of light which strikes the surface of a medium before reflecting back.



Reflected Ray- The ray of light which strikes back from the medium after reflection is called reflected ray.



Refracted Ray- The ray of light which that is transmitted into the second medium and travels in a different direction than the incident ray.

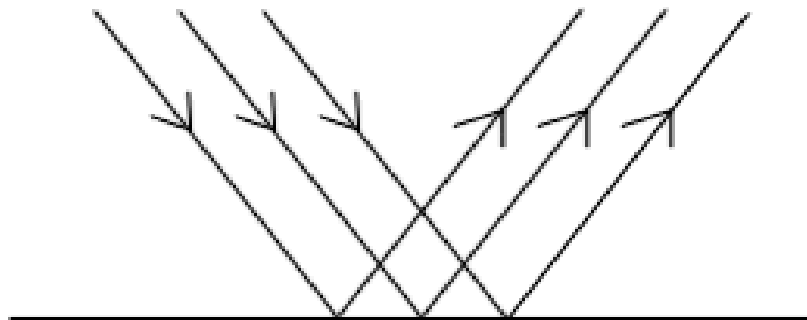


Diffuse reflection : is the reflection of light or other waves or particles from a surface such that a ray incident on the surface is scattered at many angles rather than at just one angle as in the case of specular reflection. ... Many common materials exhibit a mixture of specular and diffuse reflection.

Regular Reflection

Incident rays

Reflected Rays

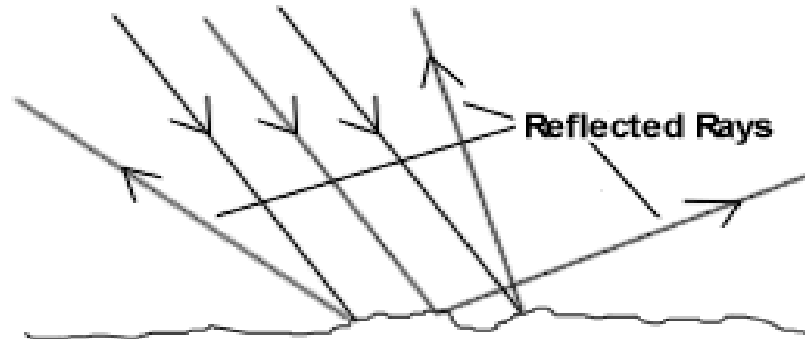


Eg. plane mirror or any other surface that produces a reflected image.

Diffuse Reflection

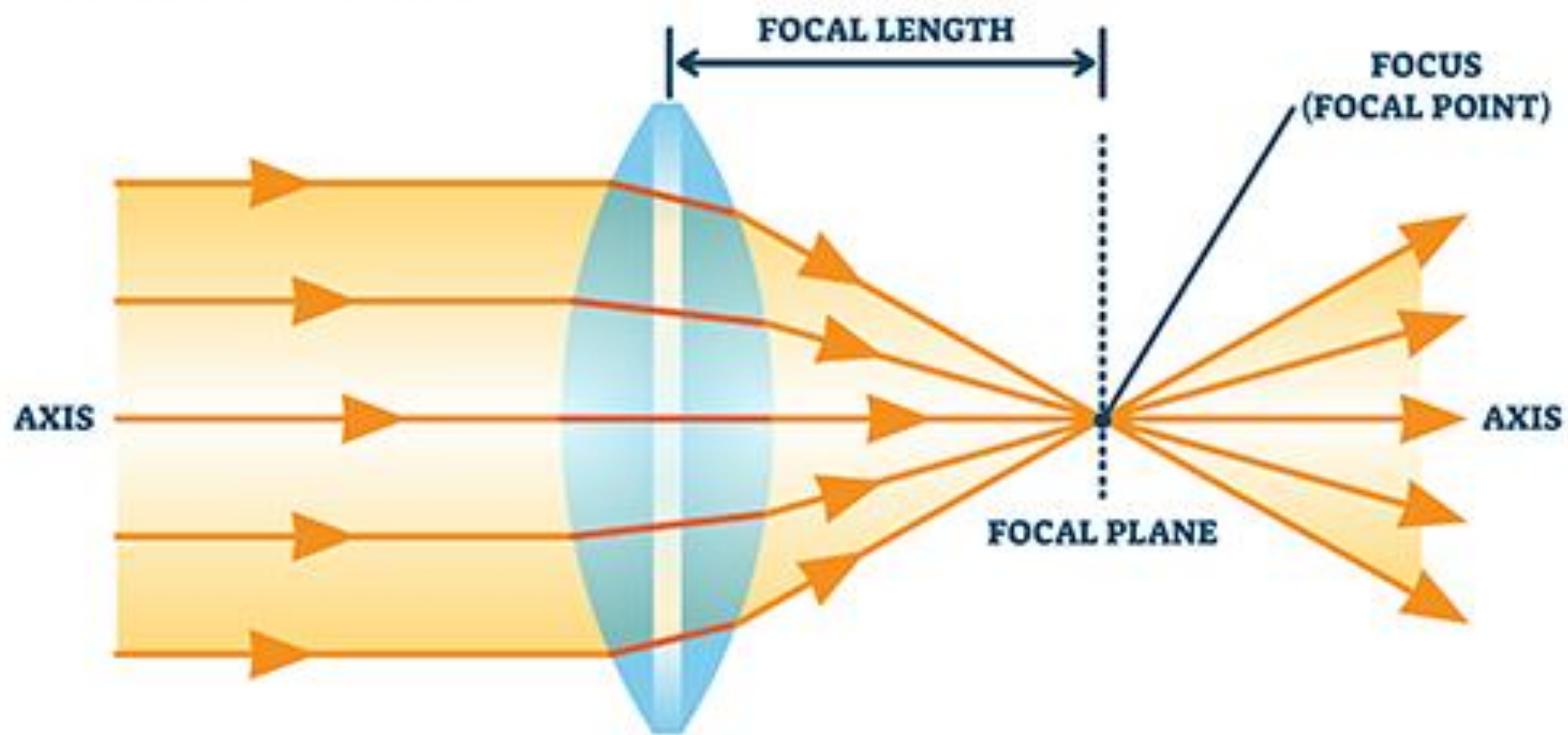
Incident rays

Reflected Rays



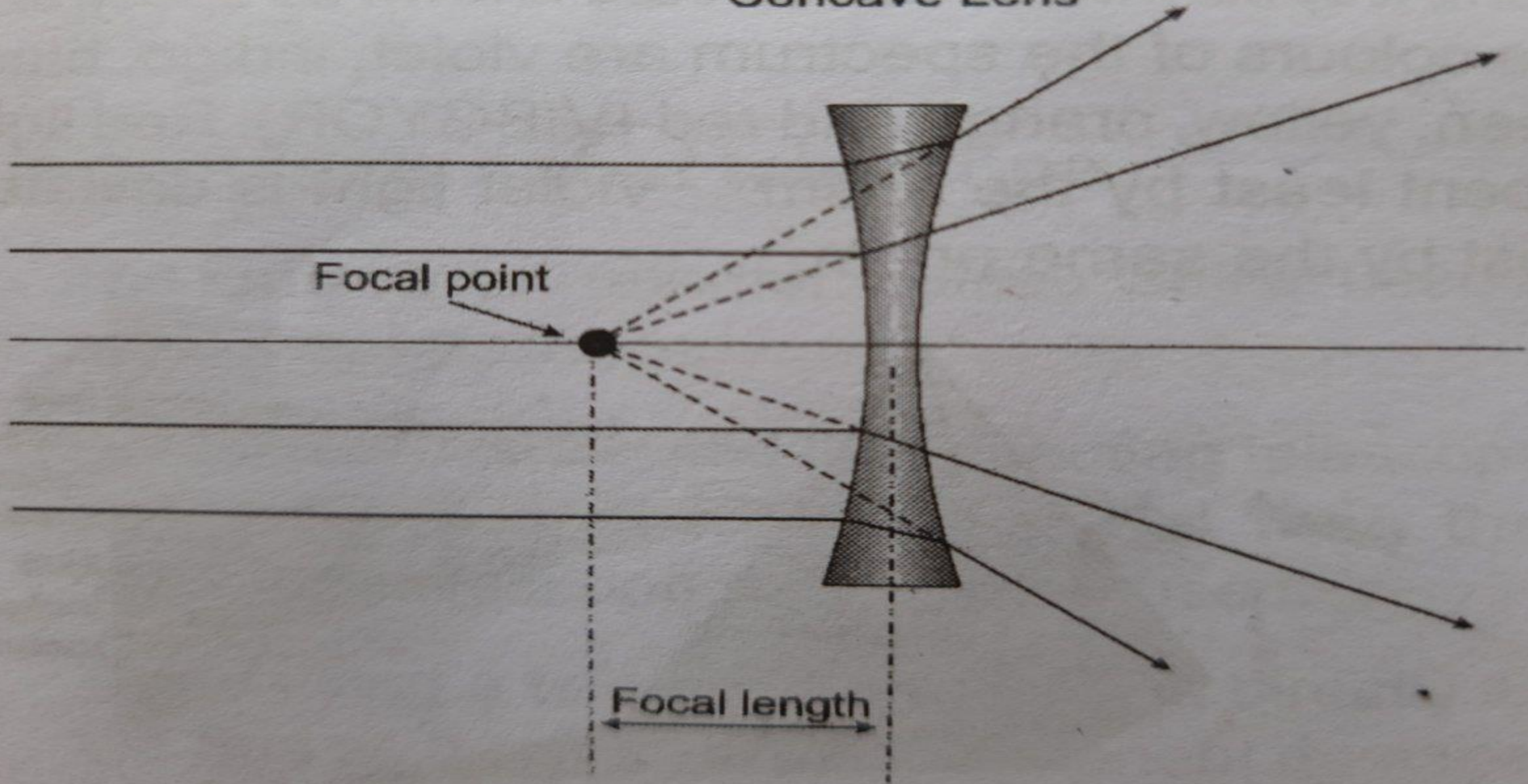
This is like any surface that we can see but does not reflect an image

CONVEX LENS



Concave or Divergent lens

Concave Lens



[MCQ-7] What kind of mirror is this?

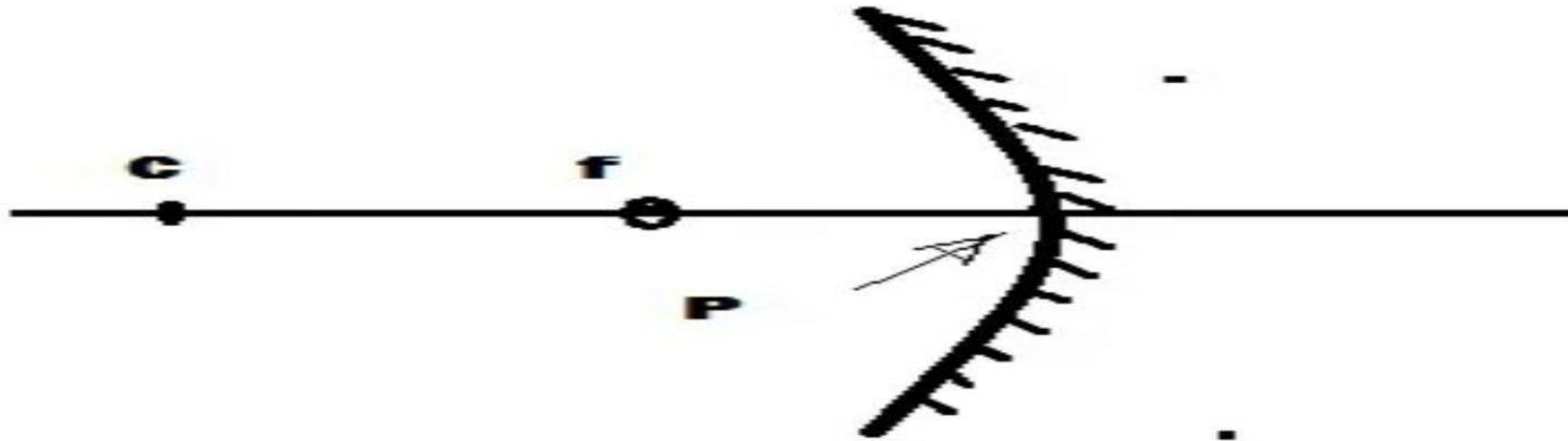


fig 1

- A: Convex mirror
- B: Concave mirror
- C: Plano Concave
- D: Concavo Convex

[MCQ-8] In the above figure – 1,
the point P represents –

A: Pole

B: Center of curvature

C: Focus point

D: None of these

[MCQ-9] In the above figure – 1,
what the point f indicates?

A: Pole

B: Center of curvature

C: Focus point

D: None of these

[MCQ-10] In the above figure – 1,
the point C represents-

A: Pole

B: Center of curvature

C: Focus point

D: None of these

[MCQ-11] Which among the following figure is correct regarding the reflection of light by a concave mirror?

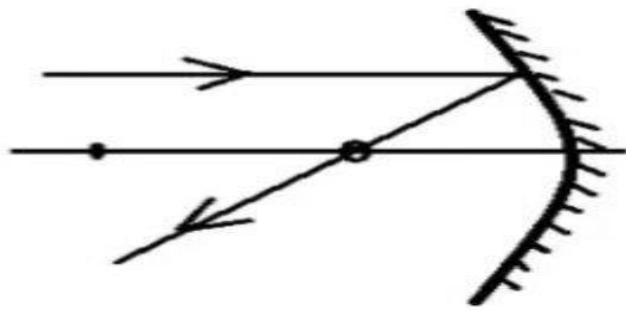


Figure-1



Figure-2

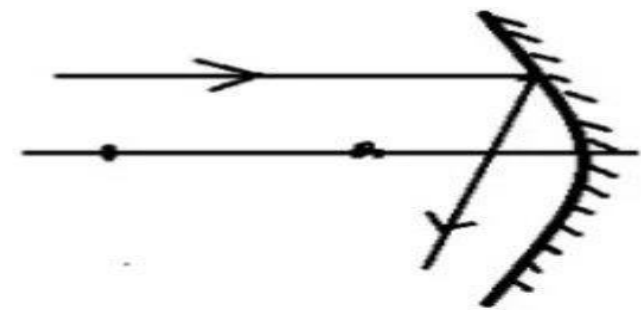
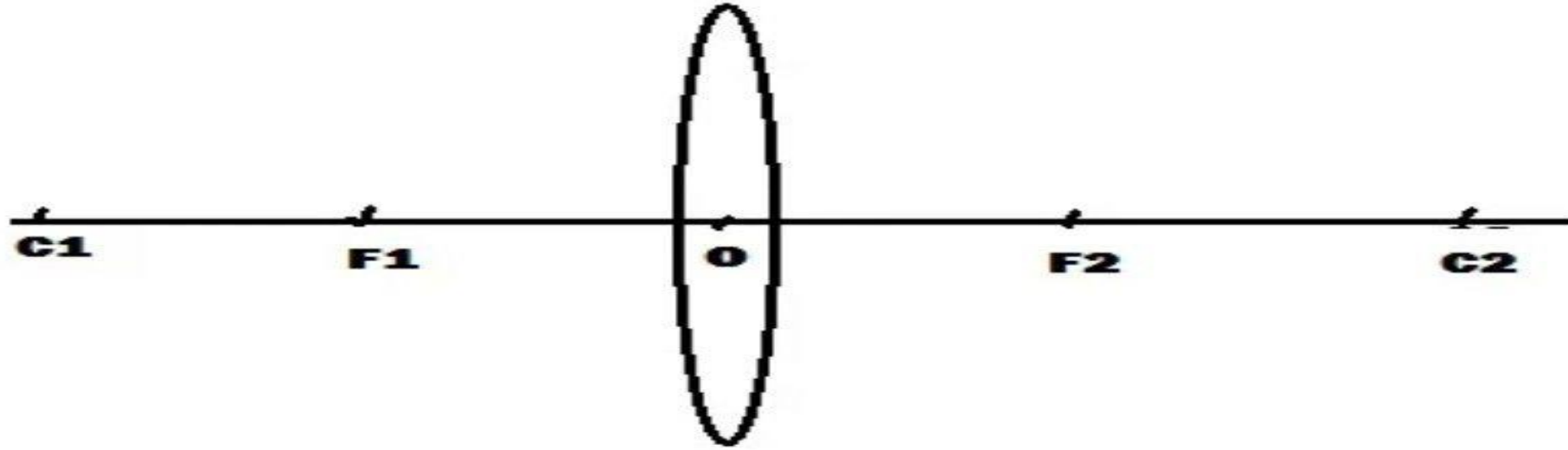


Figure-3

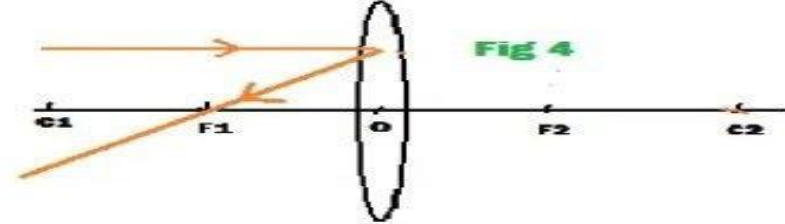
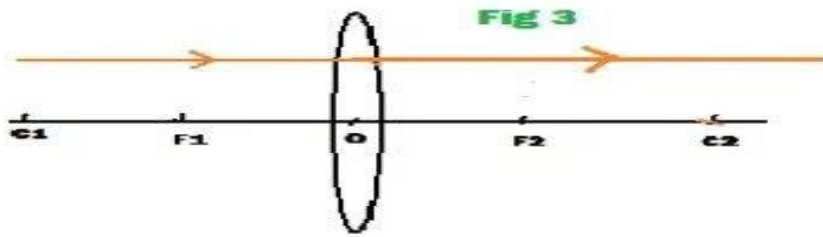
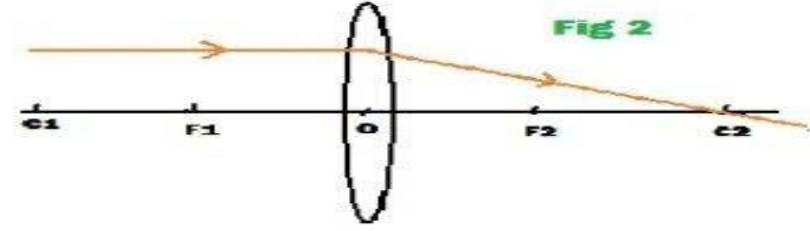
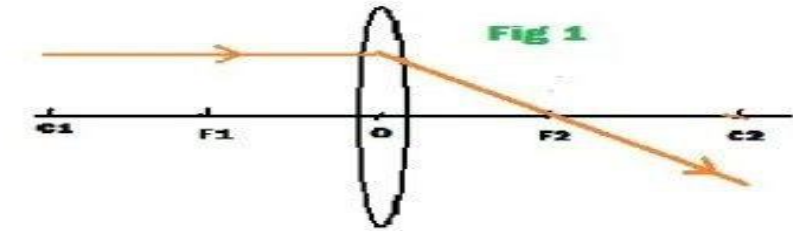
- A: Figure 1 is correct
- B: Figure 2 is correct
- C: Figure 3 is correct
- D: None of the figure is correct

[MCQ-12] What kind of lense is the following figure given below?



- A: Concave Lens
- B: Plano-Concave Lens
- C: Convex lens
- D: Concevo-Convex Lens;

[MCQ-13] Which of the following figure given below is correct?



- A: Figure 1 is correct
- B: Figure 2 is correct
- C: Figure 3 is correct
- D: Figure 4 is correct

What is the relation between focal length (f) and radius of curvature (r) of a curve mirror?

A: $f = 2r$

B: $f = r/2$

C: $f = r/3$

D: $f = 3r/2$

What is the focal length of a curve mirror if it has a radius of curvature is 40 cm.

A: 20 cm

B: 35 cm

C: 25 cm

D: 40 cm



Which type of mirror used in the headlight of a motorcycle?

A: Concave mirror

B: Convex mirror

C: Flat mirror

D: none of the above

Which type of mirror used in the dental clinic?

A: Concave mirror

B: Convex mirror

C: Flat mirror

D: None of the above

In case of refraction, if the angle of incidence and the angle of refraction are 45 degrees and 30 degrees respectively, then the angle of deviation is

A: 75 °

B: 15°

C: 7.5°

D: 37.5°

Which of the following has the highest wavelength?

A: X-Ray

B: Gamma ray

C: infrared ray

D: ultraviolet ray

When the light is passing from rarer to a denser medium, which is the correct statement?

- A: Incident angle is equal to refracted angle**
- B: Incident angle is greater than refracted angle**
- C: Incident angle is less than refracted angle**
- D: Can not be determined**

Which physical quantity is remain constant in case refraction?

- A: Wavelength of light**
- B: Frequency of light**
- D: Amplitude**
- E: All of the above**

In case of refraction, when the light passes from rarer to a denser medium, if the angle of incident is 65° and angle of refraction is 25° , then the deviation of angle would be-

- A: 65°**
- B: 25°**
- C: 40°**
- D: 30°**

The deviation of light ray when refracted by a parallel glass slab is –

- A: 90°**
- B: 0°**
- C: 45°**
- D: 180°**



Which color has the maximum deviation when white color refracted through a prism?

A: Red

B: Violet

C: Green

D: Yellow

Which among the following electromagnetic wave the frequency is maximum?

A: Infrared

B: Ultraviolet

C: X-ray

D: Gama Ray



For White light which color has the maximum refractive index?

A: Red

B: Yellow

C: Orange

D: Violet

The color of light depends on

A: Wavelength

B: Frequency

C: Amplitude

D: All of the above



Between red and violet, which color has more frequency?

A: Red has more frequency than violet

B: Violet has more frequency than red

C: Red and violet has the same frequency

D: Can not say

Between red and violet, which color has greater wavelength?

A: Red has a greater wavelength than violet.

B: Violet has a greater wavelength than red.

C: Red and violet have the same wavelength.

D: Can not say



For which of the following color does a lens has maximum focal length?

A: Red

B: Yellow

C: Green

D: Violet

For an object placed at the focus of a convex lens the image will be formed at

A: Focus

B: Optical center

C: Infinity

D: Twice the length of focus



What is the type of image form on the retina of our eyes?

A: Real and upright

B: Virtual and upright

C: Real and inverted

D: Virtual and inverted

For danger sign, red color is used, because

A: Scattering of red color is less due to large wavelength

B: Scattering of red color is less due to small wavelength

C: Scattering of red color is greater due to large wavelength

D: Scattering of red color is greater due to small wavelength



Focal length of a convex lens is 15 cm. For which distance an object is placed so that the lens acts as a magnifying glass?

A: Between 15 cm and 30 cm

B: Less than 15 cm

C: Greater than 30 cm

D: Exactly at 30 cm

The split of white light into 7 colors by prism is known as

A: Diffraction

B: Dispersion

C: scattering

D: Polarization

THANK YOU.