LEVEL -8

PHYSICS

FINAL TERM REVISION WORKSHEET -1

TOPIC : CHAPTER -13

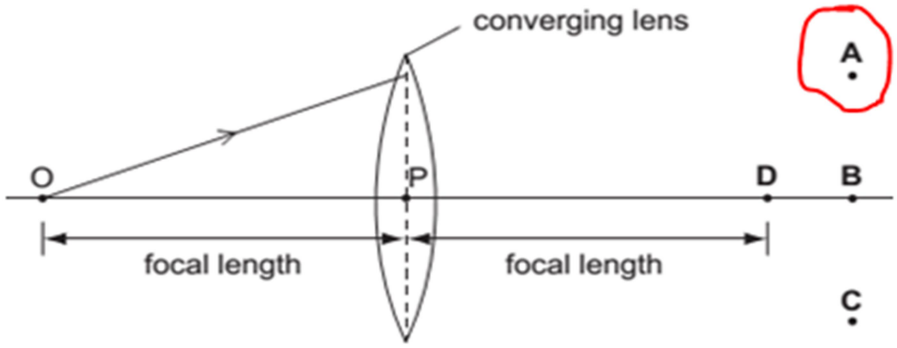
LIGHT

ANSWERS

SECTION A

MULTIPLE CHOICE QUESTIONS

1. **In the diagram, the distance OP is the focal length of the converging lens. One ray of light from O is shown. Through which point will this ray pass, after refraction by the lens?**



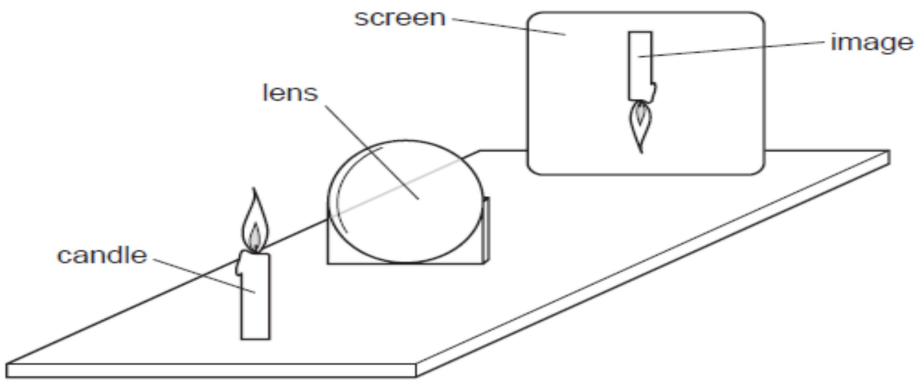
Note : OP is the focal length of the converging lens. O is the principal focus. Rays from the principal focus of a converging lens are turned into parallel beam of light.

2. **The diagram shows the image of a clock in a plane mirror.**

What time is shown in the clock?

A 02:25 **B** 02:35 **C** 09:25 **D** 09:35

3. **A thin converging lens is used to produce, a focused image of a candle on a screen.**



Various focused images are produced on the screen by moving the lens and the screen backwards and forwards.

Which statement is **always** correct?

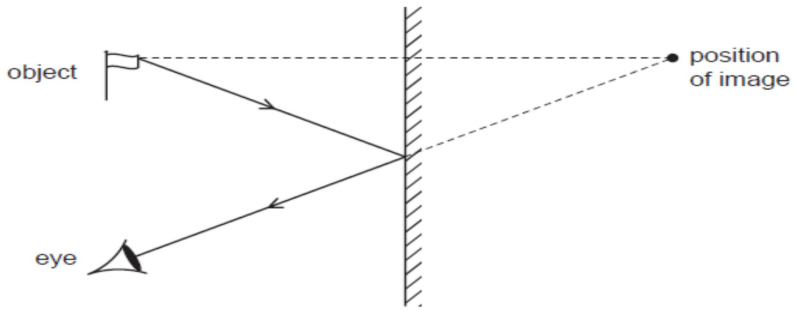
A The image is at the principal focus (focal point) of the lens.

B The image is bigger than the object.

C The image is closer to the lens than the object is.

D The image is inverted.

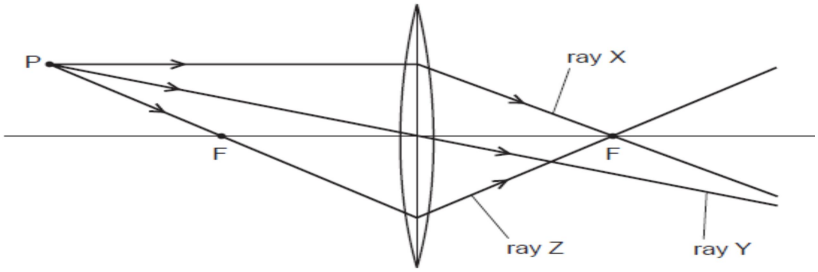
4. **The image formed by a plane mirror is upright.**



What are the other characteristics of the image?

	laterally inverted (left to right)	magnified (larger than the object)	virtual
A	no	yes	yes
B	yes	no	no
C	yes	no	yes
D	yes	yes	no

5. **A student draws three rays of light from point P through a converging lens. Each point labeled F is a principal focus of the lens.**



Which of the rays are drawn correctly?

A ray Y only

B ray Z only

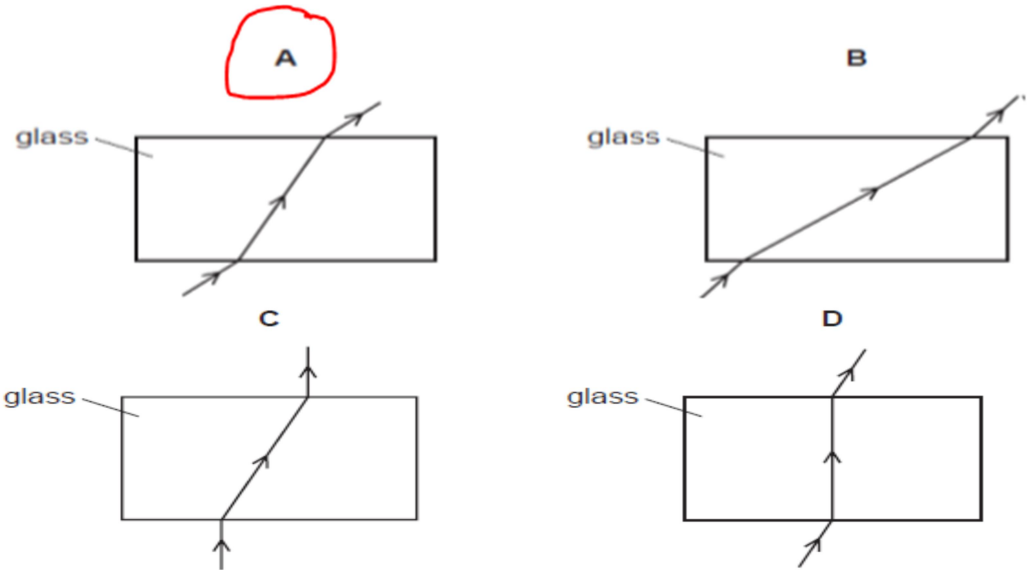
C ray X and ray Y

D ray X and ray Z

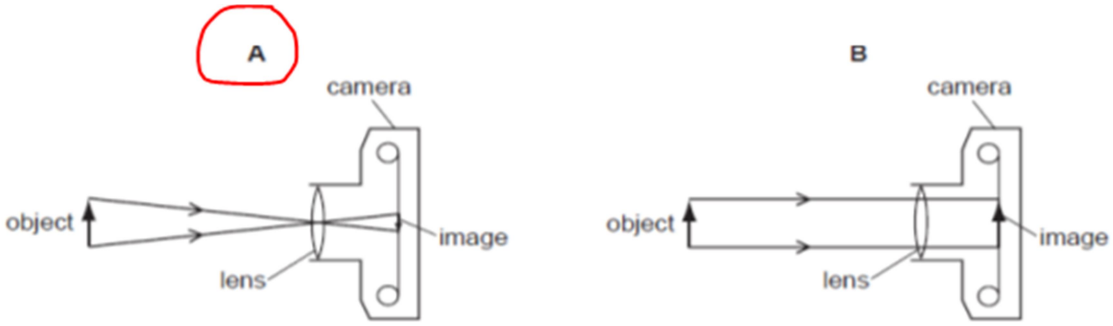
Note :

- Ray x travels parallel to principal axis and pass through the principal focus.
- Ray y continues to travels in a straight line passing through the centre of the lens.

6. **Which diagram shows how a ray of light could pass through a glass block in air?**



7. **Which diagram correctly represents rays of light passing through a converging lens in a camera?**



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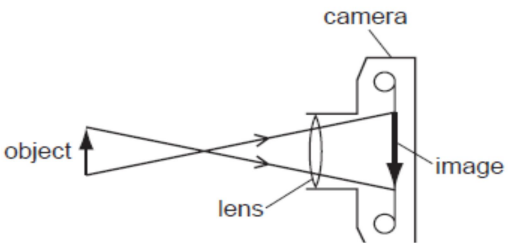

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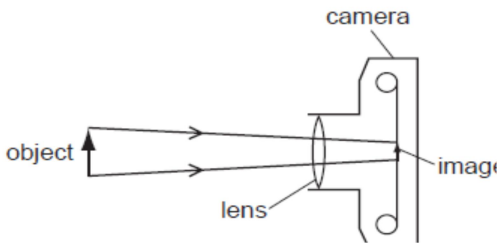
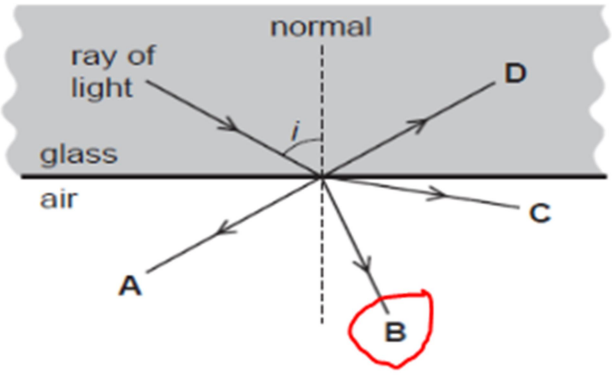
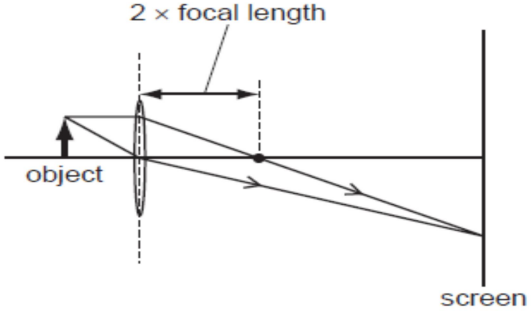


8. **Which arrow correctly shows the direction of the ray after it leaves the edge of the glass?**

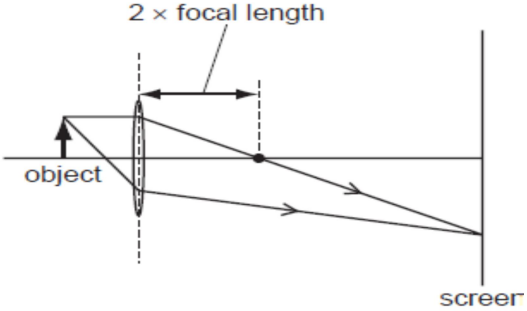


9. **Which diagram shows how an image of an object is formed on a screen by a converging lens?**

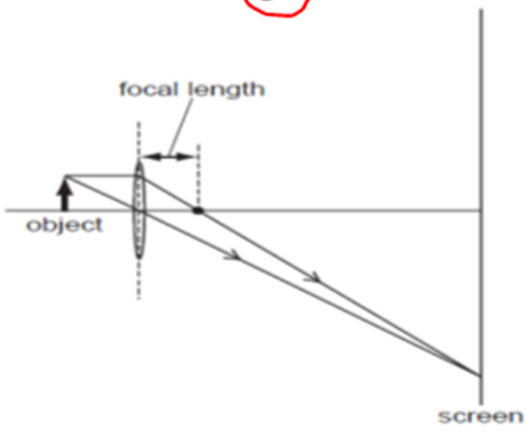
A



B



C



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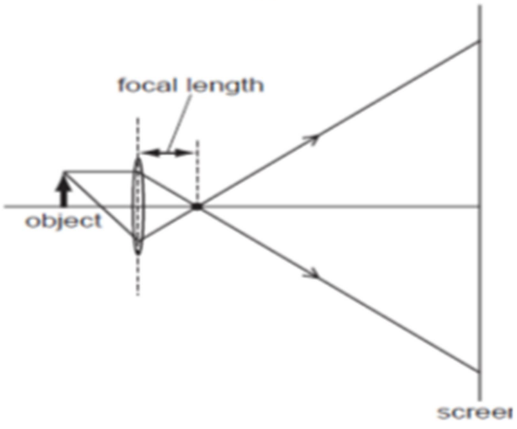
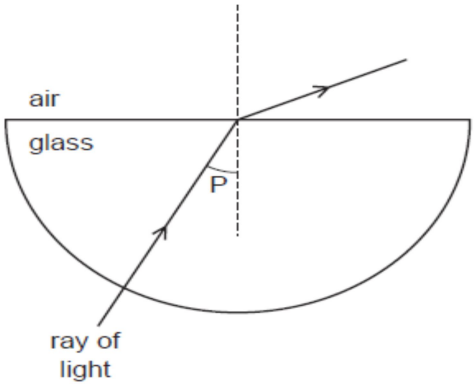


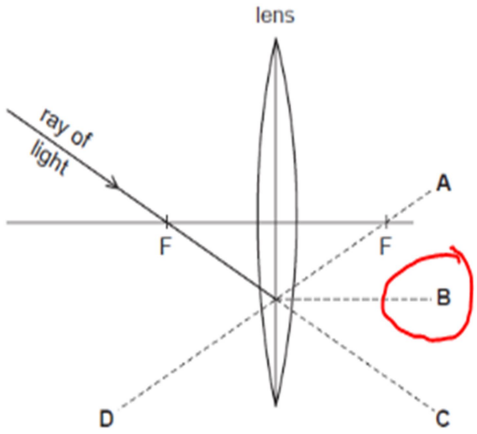
10. The diagram shows a ray of light passing through a semicircular glass block into air.



Which row gives the correct name for angle P and states how angle P compares with critical angle?

	name of angle P	angle P compared with the critical angle
A	angle of incidence	larger than the critical angle
B	angle of incidence	smaller than the critical angle
C	angle of refraction	larger than the critical angle
D	angle of refraction	smaller than the critical angle

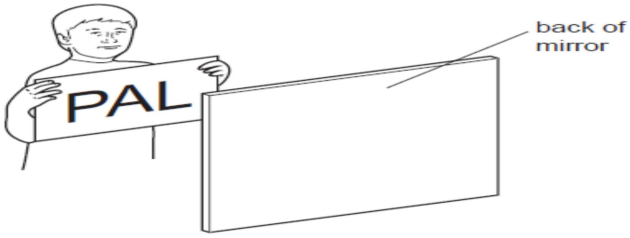
11. **The diagram shows the path of a ray of light passing through a principal focus F of a lens. Which broken line shows the direction of the ray after it leaves the lens?**



Note :

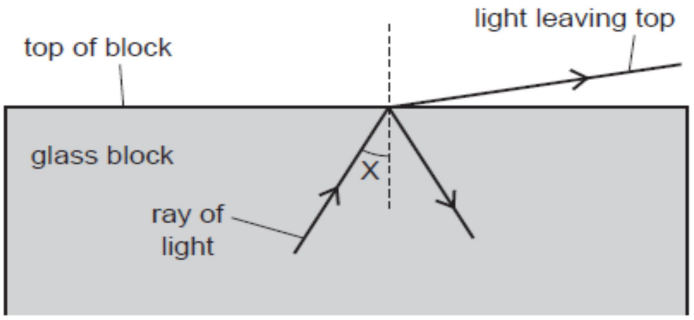
- Ray of light passing through principal focus of the lens travels parallel to the principal axis.

12. A piece of paper has 'PAL' written on it. A student holds the paper in front of a plane mirror.



What does the student see?

13. A **scientist is trying to direct a ray of light through a glass block without any light leaving the top of the block. However, some light does leave the top.**



The scientist changes angle X and stops the ray of light leaving the top. Which row in the table describes the change to angle X and the name of the effect produced?

	change to angle X	name of effect produced
A	decrease	total internal reflection
B	decrease	total internal refraction
C	increase	total internal reflection
D	increase	total internal refraction

14. Rays of light enter and leave a box.

What could be inside the box to make the rays behave as shown?

A. a converging lens
B. a parallel-sided glass block
C. a plane mirror
D. a triangular prism