

Physics - FSC Part 1 Physics Chapter 10 Short Questions Preparation

Q1. Define Snell's law and write its mathematical form.

Ans 1: Snell's law states that the ratio of the sines of the angles of incidence and refraction of a wave are constant when it passes between two given media. OR Snell' Law is a formula used to describe the relationship between the angles of incidence and refraction, when referring to light or other waves passing through a boundary between two different isotropic media such as water, glass, or air.

Q2. Write any two uses of spectrometer.

Ans 1: It is used to study spectra from different sources of light. Its is used to determine the wavelength of light.

Q3. What is resolving power in optical instrument? Write formula for grating.

Ans 1:

Q4. What do you understand by Linear Magnification?

Ans 1: Linear magnification is the ratio of the size of the image to the size of object. Angular magnification is the ratio of the angle subtended by the image as seen through the optical device to that subtended by the object at the naked eye placed at least distance of distinct vision.

Q5. Differentiate between microscope and telescope.

Ans 1: Microscope is a device which is used to see the magnified image of very small and near object. Whereas telescope is an optical instrument used for viewing distant objects.

Q6. Write down the three major components on which a fibre communication system consists.

Ans 1: A fibre communication system consist of

1. Transmitter
2. Optical fibre
3. Receiver

Q7. How light signals is transmitted through optical fibre?

Ans 1: The lights signal are transmitted through the optical on the principle of

- Total internal reflection

- Continuous refraction

In multimedia step index fiber, the signal is transmitted by means of total internal reflection while in case of multimode graded index fiber, the signals transmitted by total internal reflection and continuous refraction.

Q8. How the power is lost in Optical fibre?

Ans 1: If light is not perfectly monochromatic, power is lost due to dispersion (or spreading of the light signal). Some light is absorbed due to impurities in the glass. Some light is scattered by groups of atoms which are formed at places such as joints when fibres are joined together.

Q9. How Convex Lens act as magnifying glass?

Ans 1: A convex lens of shorter focal length can be used as a magnifier when the object is placed very close to it i.e. When it lies between the lens and its focus. The image then formed is virtual, erect and magnified.

Q10. One can buy a cheap microscope for used by the children. The image seen in such a microscope has coloured edges. Why is this so?

Ans 1: It is due to the defects of lenses known as chromatic aberrations. This is because of the prism like formation of the lens which causes dispersion of white light.
