

## Physics - ICS Part 1 Physics Chapter 10 Short Questions Test

Q1. Find magnifying power of a convex lens of 25 cm focal length act as a magnifying glass.

**Ans 1:**

Q2. 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.

Q3. What are different types of optical fibre?

**Ans 1:** There are three types of optical fibres.

1. Single mode step index fibre.
2. Multimode step index fibre.
3. Multimode graded index fibre.

Q4. What is resolving power in optical instrument? Write formula for grating.

**Ans 1:**

Q5. A magnifying glass gives a five times enlarged image at a distance of 25 cm from the lens. What will be the focal length of the lens?

**Ans 1:**

Q6. Write any two uses of spectrometer.

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

Q7. Define total internal reflection and continuous refraction.

**Ans 1:** **Total Internal Reflection:** When a light ray traveling from a denser medium towards a rarer medium, makes an angle of incidence greater than critical angle of the medium, then the ray is totally reflected back into the same denser medium. This phenomenon is called total internal reflection.

**Continuous Refraction:** It is the mode of propagation of light in which light is continuously refracted inside the different graded index fibers which are used in fibre optics.

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Q8. Why would it be advantageous to use blue light with a compound microscope?

**Ans 1:**

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Q9. 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 baby means of total internal reflection while in case of multimode graded index fiber, the signals transmitted by total internal reflection and continuous refraction.

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Q10. If the person was looking through a telescope at thee full moon, how would the appearance of the moon be changed by covering half of the objective lens?

**Ans 1:** How will see the full moon still but the brightness will be reduced because less light is transmitting through the half covered lens.

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