Physics - ICS Part 1 Physics Chapter 10 Short Questions Test

Q1. Define Magnification.

Ans 1: The size of the object goes on increasing, when the object brought from a far off point to the focus of the lens. This phenomenon of enlargement is called magnification. Its is the ration of size of image to the size of object.

Q2. Why we use infrared light in a fiber optics communication system?

Ans 1: Infrared light travels faster through optical fiber than visible light. So, it is preferred.

Q3. What do you understand by linear magnification and angular magnification?Explain how a convex lens is used as magnifier ?

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 near point
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.

Q4. When object lie within the principle focus of convex lens what is the nature of image and where it is formed?

Ans 1: When object lie within the principle focus of convex lens, then image will be virtual, erect and magnified and will be formed at least distance of distinct vision.

Q5. 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.

Q6. 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.

Q7.

Ans 1:

Q8. 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 a chromatic aberrations. This is because of the prism like formation of the lens which causes dispersion of white light.

Q9. A telescope is made an objective of focal length 20 cm and eye-piece of 5 cm, both convex lenses. Find the magnifying power of telescope.

Ans 1:

Q10. 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.
