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National Institute of Open Schooling
Senior Secondary
Lesson 23 – Optical Instruments
WORKSHEET – 23

Q1. Why the objective of microscope has a small focal length?

Q2. Explain why the telescopes enable us to view the distant stars which are not visible through the naked eye?

Q3. Explain why the object appears smaller when the positions of an objective and eye-piece in a telescope are inverted?

Q4. How the magnification of a very small object can be achieved at 3.5?

Q5. What are the benefits of seeing from two eyes instead of one eye?

Q6. Differentiate between refractive and reflective telescope.

Q7. Explain why the size of the sun appears to be very small from the earth, even though the radius of the sun is much larger than that of the earth?

Q8. The height of tower A is 20m, and tower B is 25 m, while the distance of tower A and B from the observer is 10m and 20m, respectively. Explain which tower will appear taller and why?

Q9. Calculate the distance between an eyepiece and objective in a compound microscope when the focal length of the objective and eyepiece is 20mm and 15mm, respectively, and the distance between object and objective is 1.5 cm, and the image is formed at infinity.

Q10. What is the focal length of a telescope when the separation between an objective and eye piece is 60 cm, and the magnifying power of the telescope is 20?