

Section A

Q1. Multiple Choice Questions (5 marks)

1. The transfer of heat by direct contact of particles is called:
a) Conduction b) Convection c) Radiation d) Evaporation
2. The SI unit of temperature is:
a) Celsius b) Fahrenheit c) Kelvin d) Degree
3. The bending of light as it passes from one medium to another is called:
a) Reflection b) Refraction c) Diffraction d) Dispersion
4. A lens that converges light rays is called a:
a) Convex lens b) Concave lens c) Cylindrical lens d) Plano-convex lens
5. The phenomenon of splitting of white light into its constituent colors is called:
a) Dispersion b) Scattering c) Polarization d) Interference

Section B

Q2. Short Answer Questions (10 marks)

1. Explain the three modes of heat transfer. (3 marks)
2. Define specific heat capacity. What is its SI unit? (2 marks)
3. State the laws of refraction of light. (2 marks)
4. Draw a ray diagram to show the image formation by a convex lens when the object is placed between the focus and the optical center. (2 marks)
5. What is the power of a lens? What is its SI unit? (1 mark)

Section C

Q3. Long Answer Questions (10 marks)

1. (5 marks) Derive the lens formula.
2. (5 marks) Explain the working of a human eye.
What are the common defects of vision and how can they be corrected?