

Name of the Student: _____

Max. Marks : 21 Marks

Time : 21 Minutes

Q1.

- (a) A converging (convex) lens is placed 0.25 m from an object. The focused image produced is virtual and formed 0.64 m from the lens.

Calculate the power of the lens. Give a suitable unit for your answer.

power = _____ unit = _____ (3)

- (b) Calculate the magnification produced.

magnification _____ (1)

- (c) State the defect of vision that this lens can correct.

(1)

- (d) A defective eye is found to suffer from astigmatism.

Discuss the cause, effect and correction of astigmatism.

kinetic energy = _____ J
(2)

- (c) An electron transfers 75 keV of energy to produce a single X-ray photon.
Calculate the wavelength of this photon.

wavelength = _____ m
(3)
(Total 11 marks)