



- Q. 1. Attempt any two. 6
- a) How LASERS are different than ordinary source of light?
 - b) Define i) critical angle ii) acceptance angle iii) Numerical aperture.
 - c) In phase measurement by lissajous patern ellipse is obtained with major axis of 2 cm and minor axis of 0.8 cm. Estimate the phase change.
- Q.2. a) With neat diagram explain in brief the construction and working of He- Ne Laser. 5
- OR
- Derive the expression for numerical aperture of optical fibre. 5
- b) Calculate the numerical aperture and hence acceptance angle for an optical fibre given that R. I. of the core and the cladding are 1.45 and 1.40 respectively. 4

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