

- Q.1 Why do we require coherent sources of light to observe interference in YDSE. (1)
- Q.2 What happens to fringe width of interference pattern if yellow light is replaced by red light. (1)
- Q.3 Draw the interference pattern for two cases when (2)
- (i) slit width is comparable to wavelength of light
(ii) slit width is fairly large.
- Q.4 Why do we obtain secondary maxima in Diffraction pattern having gradually diminishing intensity. (1)
- Q.5 State Brewster's law for Polarization. What will be polarising angle for a medium in which speed of light is 1.732×10^8 m/s (1)
- Q.6 How can we distinguish b/w polarised and unpolarised light by looking through a polaroid sheet (1)
- Q.7 Draw schematic diagram and briefly explain YDSE. Derive expression for path difference and fringe width in the experiment. (3)
- Q.8 Two polaroid sheets are placed coaxially in the line of sight of a beam of light such that their axis of transmission are mutually perpendicular [i.e. no light is transmitted]. Now a third polaroid sheet is introduced, at an angle θ wrt 1st sheet between the two sheets. Derive expression for intensity of transmitted light if I_0 is intensity of incident light. (2)
- Q.9 Fringe width in a YDSE is 4mm. Now the entire apparatus is submerged in a liq having $\mu = \frac{4}{3}$. What will be new fringe width. (2)
- Q.10 Intensity ratio of two sources in YDSE is, 16:9. What will be ratio of intensity of max. & min. in interference pattern. (2)