I Mid Term Examination

Even-Semester, 2017-18

Program: B.Tech I Year **Branch :** Computer Science **Year:** First

Subject with Code: Engineering Physics (AHP 1101)

Time: 1 Hour **Max. Marks:** 15

Section A

Note: Attempt all questions. **2X3= 6 Marks**

1. Two coherent sources whose intensity ratio is 100:1 produce interference fringes. Deduce the ratio of maximum intensity to minimum intensity in fringe system.
2. The monochromatic light of web length 6000 Å emerging from two coherent sources produce an interference pattern on a screen kept at a distance of 1.0 meter from the coherent sources. The distance between two consecutive bright fringes on the screen is 0.5 mm. Find the distance between the two coherent sources.
3. Light of wavelength 5000 Å falls normally on a slit of width 24.0×10^{-5} cm. Calculate the values of angles of diffraction at first two minima on either side of the central maxima.

Section B

Note: Attempt all questions. **3X3= 9 Marks**

1. Drive the expression for the diameter of the dark ring of order n in reflected light obtained in newton's rings experiments.
2. Obtain an expression for the intensity distribution due to Fraunhofer's diffraction at a single slit. Find the condition of principal maxima.
3. Define specific rotation. The plain of polarization of plain polarized light is rotated through 6.5^0 in passing through a length of 20 cm of sugar solution of 5% concentration. Calculate the specific rotation of the sugar solution.

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