I Mid Term Examination
***Odd*-Semester, 2018-19**

Programme: B. Tech I Year **Branch:** All **Year:** First

Subject with Code: Engineering Physics (BPHS0001)

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

Section A

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

1. Two identical waves each of amplitude 3 units having no phase difference superimpose to each other in an interference pattern. Find the resultant intensity.
2. The light of wave length 5000 Å from a narrow slit is incident on a double slit. If the overall separation of 10 fringes on a screen 200 cm away is 2.0 cm. Find the double slit separation.
3. Write the phenomenon of double refraction. How would you distinguish between ordinary and extra ordinary rays?

Section B

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

1. Define the fringe width. Drive the expression for fringe width using the theory of Young's double slit experiment.
2. Show that the resultant intensity as observed in the N-slits diffraction pattern (grating) is proportional to N^2.
3. Define specific rotation. A 20 cm long tube containing 48 cm^3 of sugar solution rotates the plane of polarization by 11^0. if the Specific rotation of sugar is 66^0, Calculate the mass of sugar in the solution.

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