Printing Page(s) : 1 **Paper Code :DSC-204**

Roll No. | | | | | | | | | | |

B.Sc. (PCM)-12

2nd Year Examination, Calendar Batch 2016

Physics-IV (Optics)

Time : 3 Hours] *[Max. Marks : 100*

***Note**. Attempt any **five** questions. Each questions carry equal marks.*

Q.1 Describe with necessary theory the Fresnel's type of diffraction due to a straight eadge. Show the intensity distribution in the diffraction.

Q.2 Describe the method of dividing a cylindrical wave front into half period strips and find its effect an external point.

Q.3 Describe the construction and action of Nicol's prism.

Q.4 Describe the Rayleigh limit of resolution. Deduce an expression for resolving power of a plane transmission grating.

Q.5 Describe the formation of Newton's rings. How can these used to determine the refractive index of liquid and wave length of sodium light.

Q.6 Deduce an expression for the intensity at a point in the region of superposition of two waves of same periods.

Q.7 Discuss the principle of working of Huygen's eye piece. Deduce the positions of cardinal points of Huygen's eye piece and indicate them on diagram.

Q.8 What is spherical aberration? How can this defect be minimized in ordinary lenses.


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