

## Answers/Solutions

SRM-II UG1 Physics Honours

Optics

Speed of light in a rarer medium

(a) Greater than speed of light in denser medium

A ray is always

(b) Normal to the wavefront

Huygenen's principal shows that the

If  $\psi_1$  and  $\psi_2$  be the two solutions of the differential wave equations then the solution will be

(a)  $\psi_1 + \psi_2$

Condition for good observable fringes is

(a) The sources must be very narrow

When light is diffracted which one of the following does not changes

(b) Frequency

The wavefront of light coming from a distant source of unknown shape is nearly

© Plane

Light waves from two coherent sources of the same intensity  $I$  interfere. The intensity of light of maxima is given by

(d)  $4I$

On reflection from denser medium the path difference introduced is

(b)  $\frac{\lambda}{2}$

Light waves from two incoherent sources of the same intensity  $I$  interfere. The observed intensity of the maximum light is

(b)  $2I$ .

Two coherent sources whose intensity ratio is 81:1 produce interference fringes. The ratio of maximum to minimum intensity of the fringe system is

(b) 25:16

Haidinger's fringes are the

(b) The fringes of equal inclination

The spacing between any two consecutive dark interference fringes

(b) are equal

The shape of the fringes in Young's experiment in two dimensional space is

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One can not get interference pattern if the slit separation be

(a) Less than the wavelength

The fringes of equal thickness are formed when two glass plates are kept over each other with a small gap in-between. If a parallel beam of light of wavelength  $6000\text{\AA}$  is used and fringe separation is  $3\text{mm}$ , then the angle between the plates (in radian)

(d)  $10^{-4}$