VIT Vidyalankar Institute of Technology

IA-(2016-17)

Date: 23/02/2017	Test No: 1	Branch: All
Semester: II	Subject: Applied Physics II	Marks: 15

Q. 1) Attempt any five (02 Marks each) 10 Marks

a) In diffraction, Intensity of maxima is
i)Constant ii) Zero iii)Decrease from center iv)None of the above

b) In Interference, Intensity of minima is
i) Constant ii) Zero iii)Decrease from center iv)None of the above

c) What is the minimum thickness of a soap film needed for constructive interference in reflected light, if the light incident on the film is 750 nm? Assume that the index for the film is n = 1.33.
i) 282 nm ii) 70.5 nm iii) 141 nm iv) 387 nm

d) In Fresnel's class of diffraction, the
i) Obstacle-screen distance is small
ii) The diffracted wave front is considered as spherical
iii) No convex lens is used to focus the diffraction fringes on the screen
iv) All of the above

e) For total internal reflection angle of incidence must be
i) Greater than critical angle
ii) Equal to critical angle
iii) Zero
iv) None of above

f) in Newton's ring experiment, width of ring _____ with increase in diameter of ring.
i) Remains constant ii) Increases iii) Decreases iv) Zero

Q. 2)

a) Newton's rings are formed using light of wavelength 5896A^0 in reflected light with liquid placed between plan and curved surface. The diameter of 7th bright fringe is 0.4 cm and radius of curvature is 1m. Find the refractive index of liquid 5 Marks

OR

b) What do you mean by diffraction and explain its types. 5 Marks

"Assessed papers will be distributed to the students within a week from the date of exam."