

# GOVERNMENT ENGINEERING COLLEGE, SHEIKHPURA

## Department of applied science and Humanities

Course : B.Tech (EE & ECE)

Session : 2019-20 (II Semester)

Subject : 103201 – PHYSICS

Module : 1

Topics Covered : Wave optics (Interference part I)

1. What will be the effect on the fringe width in case of double slit experiment if it is performed in water?
2. Why a thin film of oil on water appears to be coloured?
3. Give theory, experimental arrangement and method to determine the wavelength of a monochromatic light using Newton's Ring.
4. Show that the fringe width decreases with the order of rings in Newton's Ring Experiment.
5. In Newton's Ring Experiment the diameter of 4<sup>th</sup> and 12<sup>th</sup> rings are 0.4cm and 0.7cm respectively. Find the diameter of 20<sup>th</sup> ring.
6. In Newton's Ring Experiment the diameter of 10<sup>th</sup> ring changes from 1.40cm to 1.27 cm when a liquid is introduced between the lens and the plate. Calculate the refractive index of the liquid.