V.P. AND R .P.T.P.SCIENCE COLLEGE V.V.NAGAR
B.Sc. SEMESTER –I
PHYSICS COURSE: USO1CPHY01
INTERNEL TEST

DATE: 4/12/2014   TIME:11.00 AM t0 12.00 PM

THURSDAY   TOTAL MARKS. 25

Q-1 MULTIPLE CHOICE QUESTIONS.   3

(1) Unit of modulus of elasticity is ....

    (a) dyne/cm   (b) dyne/cm^2 (c) N/m   (d) dyne

(2) The time period of a torsional pendulum is directly proportional to the square root of.................

    (a) distance   (b) vibrations (c) moment of inertia (d) force

(3) The velocity of sound will be greater in..................

    (a) water   (b) air   (c) vacuum   (d) metal

Q-2 SHORT QUESTIONS. (any two)   4

    (1) State and explain Hooke's law.

    (2) Define Poisson's ratio. Give its unit.

    (3) Define torsional pendulum and write the formula for its periodic time.

    (4) Write the formula for the velocity of sound in gaseous and solid medium.

Q-3. Derive the formula for the work done per unit volume in stretching a wire.   6

                  OR

Derive the expression of bulk modulus for deformation of a cube.

Q-4. Derive the formula for the couple per unit twist produced in a cylindrical wire .   6

                  OR

Describe the Maxwell's vibrating needle method to determine modulus of rigidity of wire.

Q-5. Derive the formula for the velocity of sound wave in a gaseous medium.   6

                  OR

Discuss the Kundte's tube to determine the velocity of sound in a metal rod.