

U.G. 1st Semester Examination 2020

PHYSICS PRACTICAL

HONOURS

General Elective Course(GE)

Course Code PHYS-H-GE-P-01 Full Marks 20

Group – A

Answer any one :

- 1) a) How do you determine Young's Modulus(Y) of the material of a beam by the method of flexure (theory only) ?
5
- b) What is bending moment? 5
- c) How are longitudinal stress and strain produced by bending ? 5
- d) What is neutral surface of the bent beam ? 3
- e) Will the value of Y change if length, breadth or width of the beam is changed ? 2
- 2) a) How do you determine the rigidity modulus of the material of a wire by dynamical method (theory only) ? 10
- b) What is the difference between simple rigidity and torsional rigidity ? 5
- c) Which quantity in this experiment would you measure very accurately and why ? 3
- d) How rigidity (n) is related to Young's modulus (Y) ? 2

Group – B

Answer any one :

- 1) a) How do you determine the average resistance per unit length of the meter bridge wire by Carey- Foster's method (theory only) ? Draw the diagram . 10
- b) How to you determine an unknown resistance with the help of the average resistance per unit length (theory) ? 5
- c) Can you compare two nearly equal resistances by this method ? If so, what is the limitation ? 5
- 2) a) How do you determine the quality factor Q of a series L-C-R Resonant Circuit (theory only) ? Draw the diagram of the circuit . 10

b) What is ac voltage ? What do you mean by the terms 'peak value', 'average value' and 'r.m.s value' of ac ? What is the physical significance of r.m.s current ? 5

c) What is the phase relationship between the voltage and current in a pure R , in a pure L, in a pure C ? 5