VIVEKANANDA COLLEGE

ALIPURDUAR, 736121

[UGC 2F And 12 B Affiliated]

DEPARTMENT OF PHYSICS

ORGANISES

ADD-ON COURSE

ON

ELASTICITY: AN ADVANCED COURSE

Starting from 1st February, 2024

DURATION: 32 Hours, Number of Seats: 10

For Registration click here:

https://docs.google.com/forms/d/1Db0lyi963bxzBgCJh-e9Pgg1-DXea1y8s2x5SesoQpk/edit

FOR REGISTRATION DETAILS PLEASE CONTACT DEPARTMENT OF PHYSICS

Certificates will be issued after successful completion of the course

COURSE CONTENT

CONTACT HOURS		
LECTURE	:	16 HOURS 30 MINUTES
LABORATORY EXPERIMENTS	:	10 HOURS
HOME ASSIGNMENTS	:	5 HOURS 30 MINUTES

Lectures:

- Introduction on Elasticity **1h**
- Relations between Young's modulus, Bulk modulus, Rigidity modulus and Poisson's ratio **1h**
- Torsion of a cylinder or wire **1h**
- Elasticity of Liquid and Gases **1h 30m**
- Bending of Beams **1h**
- Cantilever **1h 30m**
- General method of determining deflection due to bending of abeam **1h 30m**
- Transverse vibration of a loaded cantilever **1h**
- Bending beams with considerable curvature **1h**
- Rod under Thrust-Struts **1h**
- Strain Energy , Flat and Non Flat Spiral spring **1h 30m**
- Variation of Elasticity with temperature and pressure **2h**

Laboratory Experiments:

- Determination of Young's modulus by Vernier method **3h**
- Determination of Young's modulus and Rigidity modulus by Searle's method **3h**
- Determination of Poisson's ratio by Direct method **2h**
- Determination of Poisson's ratio of Indian Rubber **2h**

Home Assignment:

- Experimental Problems (Data given in Class) **2h**
- Spring constant **1h 30m**
- Numerical **2h**