SNS COLLEGE OF TECHNOLOGY
(An Autonomous Institution)
COIMBATORE-35
DEPARTMENT OF PHYSICS

Elasticity

Two marks:

Level 1:

1. Define elasticity.
2. Define shearing strain?
3. Define a Cantilever.
4. Give the applications of I-shape girders.
5. State Hooke's law

Level 2:

1. Define torque.
2. Define a beam.
3. What is moment of force?
4. Explain neutral axis
5. Explain bending moment of beam.

Level 3:

1. What are the factors of hammering and annealing on elasticity of material?
2. Mention the factors affecting the elasticity of a material.
3. What do you infer from stress-strain diagram?
4. How do temperature and impurity in a material affect the elasticity of the materials?
5. What is meant by annealing?
6. Give the relation between the three modulii.

14 Marks:

1.Describe with necessary theory, the method to determine the Young's modulus of the materialof a rectangular bar by uniform bending.

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1. What is cantilever? Obtain an expression for the depression at the loaded end of a cantilever whose other end is fixed assuming that its own weight is not effective in bending.
2. Describe a experiment to determine the Young's modulus of a beam using bending of beams?
3. Derive an expression for the internal bending moment of a beam in terms of radius of curvature.
4. Derive an expression for the elevation at the centre of a cantilever which is loaded at both ends. ii) Describe an experiment to determine Young's modulus of a beam by uniform bending.