# Class 11 Properties of bulk matter – Elasticity practice paper

## Section A

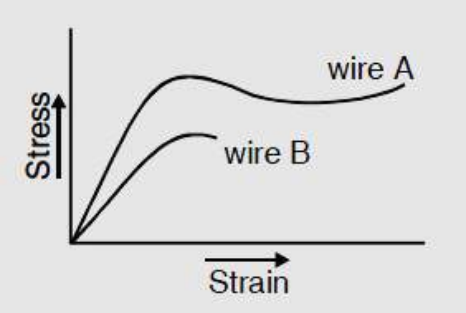
**Instructions:-** All the questions are long answer type questions write the answers as if you are writing for 5 marks questions.

**Question 1** Explain the terms Stress, Strain and Young's modulus. Derive a relation for Young's modulus of elasticity.
**Question 2** State Hooke's law. Define the terms Elastic fatigue and elastic after effects.
**Question 3**Find the work done in stretching a wire.
**Question 4** Discuss simple qualitative explanation of elasticity as explained according to molecular model of solids.
**Question 5** Draw and discuss stress versus strain graph, explaining clearly the terms elastic limit, permanent set, proportionality limit, elastic hysteresis, tensile strength.
**Question 6** What do you mean by following terms?
(a) Elastic bodies (b) plastic bodies (c) elastic energy (d) compressibility
**Question 7** What do you mean by deforming forces? Write detailed notes on crystalline solids and amorphous solids.

## Section B

**Instructions:-** All the question given below are short answer type questions. Write the answers accordingly.

**Question 1** When a wire is bent back and forth it becomes hot why?
**Question 2** Define the term bulk modulus. Give its SI unit. Give its SI unit. Give the relation between bulk modulus and compressibility.
**Question 3** Define shear modulus. With the help of a diagram explain how shear modulus can be calculated.
**Question 4** Which is more elastic steel or rubber. Explain
**Question 5** Stress strain curve for two wires of material A and B are as shown in Fig.



(a) Which material in more ductile?
(b) Which material has greater value of young modulus?
(c) Which of the two is stronger material?
(d) Which material is more brittle?

**Question 6** Two wires P and Q of same diameter are loaded as shown in the figure. The length of wire P is L m and its young's modulus is Y N/m2 while length of wire a is twice that of P and its material has young's modulus half that of P. Compute the ratio of their elongation.