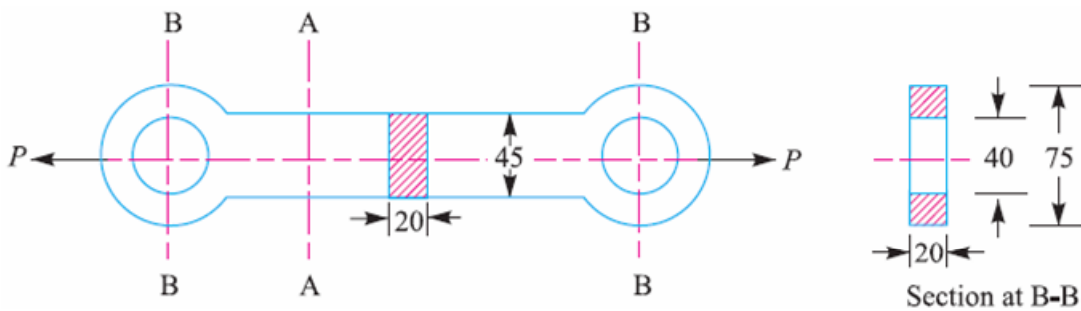
	<b>Alexandria Higher Institute of Engineering &amp; Technology (AIET)</b>		
	Industrial Department		First Year
	EME142	Design of Machine elements	Mid Term, April.,13,2010
	Examiners:	Dr. Rola Afify	Time: 1.5 hour

**Answer the following questions:**

**Question one (10 marks)**

- a) What are the general procedures in machine design?
- b) Draw the stress-strain diagram.
- c) A cast iron link, shown in figure, is required to transmit a steady tensile load of 45 kN. Find the tensile stress induced in the link material at sections A-A and B-B.

All dimensions are in mm.



**Question two (10 marks)**

- a) Define: Elasticity, Brittleness, Toughness and Creep.
- b) Draw, using neat sketches, the following:
  - a. Elevation and Plan of a cap screw with Hex. socket head.
  - b. Elevation and Plan of a cap screw with Button head.
  - c. Elevation of a set screw with Flattened head and Full dog point.

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Good Luck