	Alexandria Higher Institute of Engineering & Technology (AIET)	
	IE Department	
	1 st Year	
	EME142	Design of Machine elements
Examiners:	Dr. Rola Afify and committee	Time: 1.5 hour

Answer the following questions:

Question one (10 marks)

a) Define:-

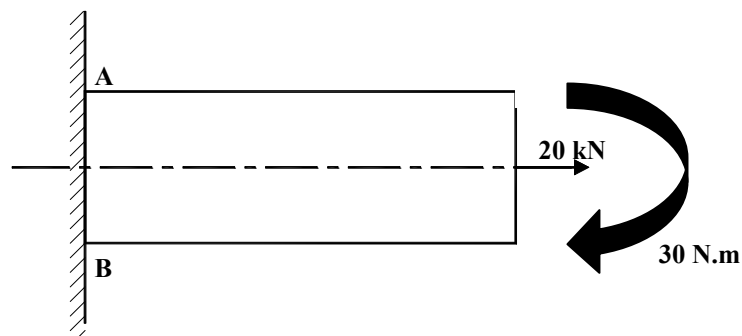
1- Machine Design

2 – Strength

3 – Stiffness

4 – Stress

b) A 30 mm diameter rod, shown in figure, is subjected to a force of 20 kN and a moment of 10 kN.m. Calculate the stresses at A and B.



Question two (10 marks)

a) What are the general procedures in Machine Design?

b) Draw, using neat sketches, the following:

1- Elevation and Plan of a cap screw with Fluted socket head

2- Elevation and Plan of a cap screw with Square head

3- Elevation of a set screw with Headless head with Full dog point

Good Luck