THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

((A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

CONSTRUCTION TECHNICIAN I

EBC 1114: ANALYSIS OF FORCES IN TRUSSES

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: OCTOBER 2012
TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

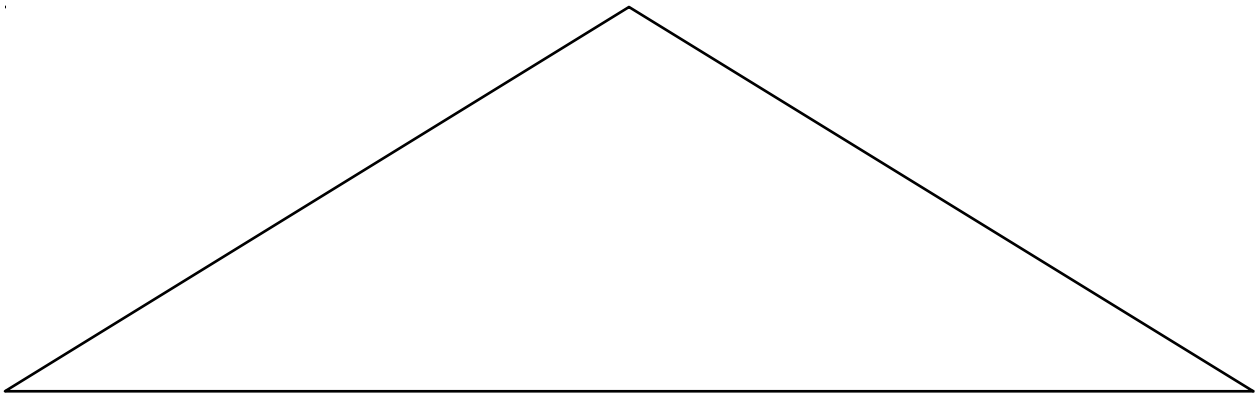
- *Answer Booklet*
- *Calculator*

This paper consists of **FIVE** questions.

Answer any **THREE** questions
Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

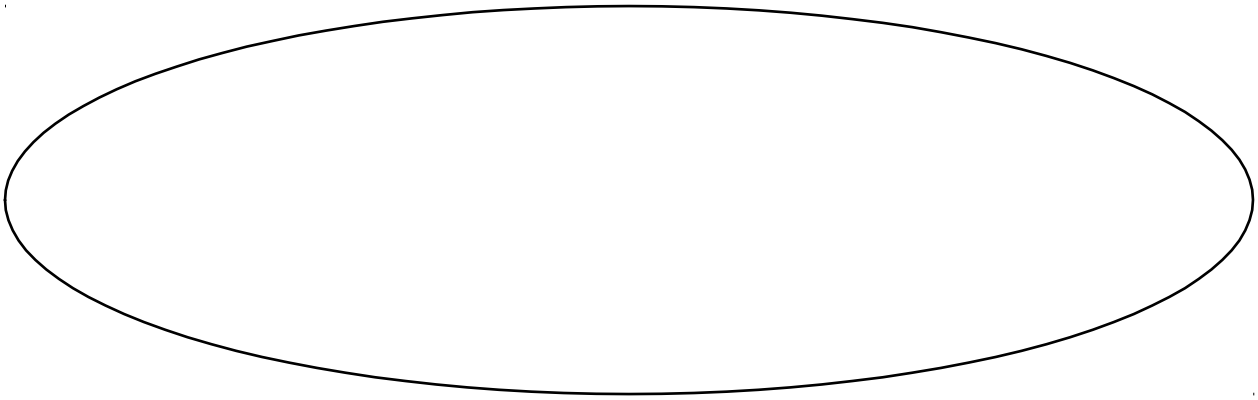
Question One (20 marks)

Using method of resolution of joints, determine the forces in each member of the frame in figure 1 and state whether it is a tie or strut. **(20 marks)**



Question Two (20 marks)

Using method of section, determine member forces in figure two, state whether a tie or a strut. **(20 marks)**



Question Three (20 marks)

Find the resultant of the concurrent force system given in figure 3 using horizontal and vertical components. **(20 marks)**

Figure 3

Question Four (20 marks)

Using tension coefficient method determine member forces in figure 4. Determine whether a strut or a tie. **(20 marks)**

Figure 4

Question Five (20 marks)

Using method of resolution of joints, determine the force in each member of the frame in figure 5. Say whether it's a strut or tie. **(20 marks)**

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