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

END OF SEMESTER EXAMINATION
SERIES: AUGUST 2012
TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

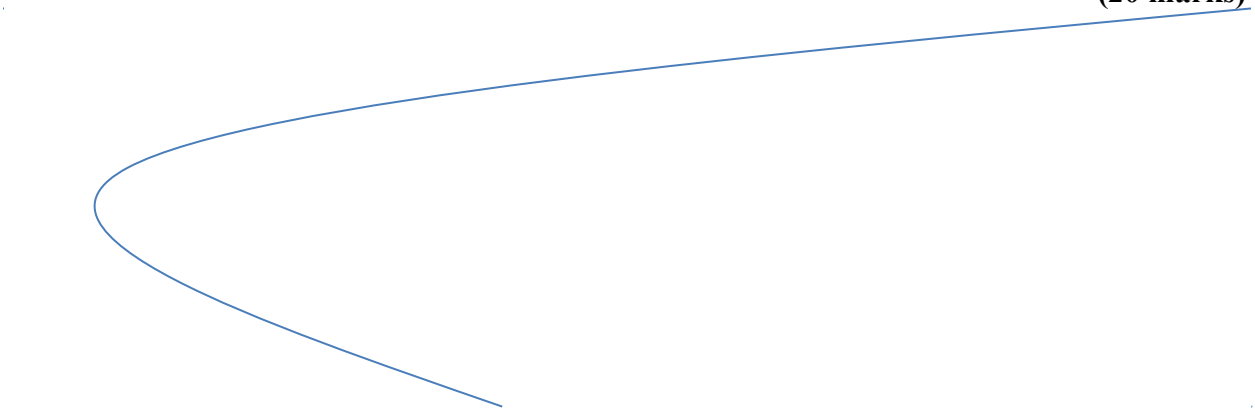
- *Answer Booklet*
- *Calculator*

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 force in each member in figure 1. State whether the member is in tension or compression. All members are sloping at 60^{o} to the horizontal.

(20 marks)



Question Two (20 marks)

Using method of section, determine member forces in figure 2. State whether in compression or in tension. **(20 marks)**

40KN

Question Three (20 marks)

Find the resultant of the con-current force system given in figure 3. Using horizontal and vertical components. **(20 marks)**

15KN

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 a tie. **(20 marks)**

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