



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

((A Constituent College of JKUAT)

(A Centre of Excellence)

**Faculty of Engineering &
Technology in Conjunction with
Kenya Institute of Highways and
Building & Technology (KIHBT)**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

**HIGHER DIPLOMA IN BUILDING & CIVIL ENGINEERING
(BUILDING SERVICES OPTION)**

EBE 3120: MECHANICAL PLANT & EQUIPMENT

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*
- *Scientific 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 **TWO** printed pages

Question One (20 Marks)

a) List the safety measures labeled on the plate of earth-moving plant. **(10 marks)**

b) State the precautions taken when operating lifting plant. **(10 marks)**

Question Two (20 marks)

a) Briefly describe the operation of bottom dump trucks. **(11 marks)**

b) Explain **THREE** ways used to express truck capacity. **(9 marks)**

Question Three (20 marks)

a) With the aid of a sketch, explain the operation of elevators. **(10 marks)**

b) State **SIX** factors affecting the productivity of trucks. **(10 marks)**

Question Four (20 marks)

With the aid of a sketch, describe the operation of:

a) Pan type mixer **(10 marks)**

b) Tilting drum mixer **(10 marks)**

Question Five (20 marks)

a) (i) State **FOUR** factors affecting productivity of mixers.

(ii) State the elements of cycle time of mixers. **(10 marks)**

b) Briefly describe the operation of weight batching plant. **(10 marks)**