



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

DIPLOMA IN BUILDING & CIVIL ENGINEERING

DIPLOMA IN CIVIL ENGINEERING

ECV 2303: CIVIL ENGINEERING CONSTRUCTION II

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **SIX** 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) Briefly describe the following terms as used in construction of civil engineering works.
- i) Surface drainage
 - ii) Sub-surface drainage
 - iii) Sedimentation
 - iv) Coagulation
 - v) Ventilation
- (10 marks)
- b) Describe the principles of solid waste management. (10 marks)

Question Two (20 marks)

- a) Draw a well labeled diagram to show various railway components. (8 marks)
- b) Describe the following terms as used in railway design.
- i) Horizontal curve
 - ii) Vertical curve
 - iii) Gradient
- (12 marks)

Question Three (20 marks)

- a) Define Dredging and hence describe **THREE** methods used in dredging. (12 marks)
- b) Define Reclamation and then describe **TWO** methods used in Reclamation process. (8 marks)

Question Four (20 marks)

- a) Briefly describe the following types of roads.
- i) Bituminous roads
 - ii) Earth roads
 - iii) Concrete roads
 - iv) Macadam roads
- (12 marks)
- b) Describe any **ONE** type of a dam and hence explain its method of construction. (8 marks)

Question Five (20 marks)

- a) With the help of an illustration, explain two methods of highway drainage. (12 marks)
- b) Define pavements and hence explain methods used in pavement construction. (8 marks)

Question Six (20 marks)

Describe any **FOUR** forms of crossing drainage works giving its:

i) Functional requirements when constructing. **(10 marks)**

ii) Describe the construction of any **TWO** types of bridges. **(10 marks)**