



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)
Faculty of Engineering and Technology

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

DIPLOMA IN ARCHITECTURE
DIPLOMA IN BUILDING & CIVIL ENGINEERING

EBC 2333: SPECIFICATIONS

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: MAY/JUNE 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*
- *Calculator*
- *Drawing Instruments*

This paper consists of **FIVE** questions

Answer any **THREE** questions each **20 marks**

Maximum marks for each part of a question are clearly shown

This paper consists of **THREE** printed pages

Question 1 (20 marks)

- a) Under appropriate headings write brief specification notes for laying a new proposed water mains to an existing urban centre. (10 marks)
- b) Write brief specification notes on laying Sewer and Drainage works under the following headings
- i) Materials for drainage works
 - ii) Excavations
 - iii) Pipe laying
 - iv) Jointing of pipes
- (10 marks)

Question 2 (20 marks)

- a) Write brief specification notes on laying highway concrete storm water drainage pipes under the following headings.
- i) Loading and unloading of pipes
 - ii) Laying of pipes
 - iii) Building-in of pipes
 - iv) Concrete protection to pipes
 - v) Backfilling of trenches
- (10 marks)
- b) A structural secondary steel beam is to be jointed to two primary beams by welding. Write briefly specification notes for the process under the following key points.
- i) Member preparation
 - ii) Joint preparation
 - iii) Application of weld
 - iv) Testing of welded joints
 - v) Surface Treatment
- (10 marks)

Question 3 (20 marks)

- a) State the **FIVE** requirements for formation preparation for a proposed railway track. (10 marks)
- b) Under appropriate headings write brief specification notes on materials for construction of a railway track. (10 marks)

Question 4 (20 marks)

- a) A drainage system is to be constructed on a new estate. The system is to be interconnected with a series of Manholes. Under appropriate headings write brief specification notes for the works. (8 marks)
- b) State the specifications for general structural steel works in high rise buildings under the following headings.
- i) Quality of steel
 - ii) Inspection
 - iii) Cutting and fabrication
 - iv) Erection and jointing
 - v) Surface protection
- (12 marks)

Question 5 (20 marks)

- a) Write brief general specification notes on road works in flexible pavement under the following headings.
- i) Sub Grade Preparation
 - ii) Sub Base formation soil
 - iii) Cement stabilization
 - iv) Lean concrete base
 - v) Bitumen surfacing
- (15 marks)
- b) State the advantages of Reinforced concrete rigid pavement over the flexible pavement in 5(a) above.
- (5 marks)