



TECHNICAL UNIVERSITY OF MOMBASA

**FACULTY OF ENGINEERING AND TECHNOLOGY IN CONJUNCTION WITH KENYA
INSTITUTE OF HIGHWAYS AND BUILDING TECHNOLOGY (KIHBT)**

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR:

HIGHER DIPLOMA IN BUILDING ECONOMICS

EBE 3111: SPECIFICATION AND QUANTITIES I B

END OF SEMESTER EXAMINATIONS
SERIES: OCTOBER 2016

TIME: 2 HOURS

Instruction to candidates

You should have the following for this examination

- Answer booklet
- Pocket Calculator

This paper consist of five question.

Answer any three questions of the five questions

All question carry equal marks

Maximum marks for each part of a question are as shown

This paper consist of two printed pages

Question 1

- a) Write specification notes for excavation works for a proposed Storm water drainage system under the following headings
- i) Preliminary Survey
 - ii) Actual Survey
 - iii) Excavation and Earthworks
 - iv) Timbering to trench
 - v) Disposal of excavation materials
 - vi) Safety to excavations
- (12 marks)
- b) Write Specification notes for the construction works of railway track under the following headings
- i) Preliminary works
 - ii) Topographical survey
 - iii) Excavation and Earthworks
 - iv) Stabilization of formation
 - v) Surface drainage
- (8 marks)

Question 2

- a) Write Specification notes for construction of a new proposed Tarmac road on a surveyed route under the following headings
- i) Sub grade Preparation.
 - ii) Sub Base construction
 - iii) Base coarse construction
 - iv) Application Stabilized layer
 - v) Primer application
 - vi) Bitumen Surfacing laying
- (12 marks)
- b) Write specification notes for provision of Site security to a construction site. (8 marks)

Question 3

- a) State the role of specifications in Civil Engineering construction. (5 marks)
- b) Define the following types of Specifications in Civil Engineering construction
- i) General specifications
 - ii) Particular specifications
 - iii) Product specifications
 - iv) Standard specifications
 - v) ISO Specifications
- (15 marks)

Question 4

Write specification notes for excavation and construction of a Septic Tank under the following headings

- i) Excavation and Earthworks
 - ii) Timbering to excavations works
 - iii) Concrete to bottom Slab
 - iv) Masonry Walling
 - v) Plastering work
 - vi) Floor Screed
 - vii) Step Irons
 - viii) Formwork to Cover Slab
 - ix) Concrete to Cover slab
 - x) Manhole cover
- (20 marks)

Question 5

a) Write specification notes for laying concrete sewer drainage pipes under the following headings.

- i) Transportation of pipes
 - ii) Earthworks
 - iii) Laying pipes and jointing
 - iv) Testing of drainage system
 - v) Backfilling
- (10 marks)

b) Write Specification notes for construction of a concrete road under the following headings

- i) Concrete Materials
 - ii) Preparation and Earthworks
 - iii) Water proofing underlay
 - iv) Laying and fixing of reinforcement
 - v) Concrete works
- (10 marks)