



TECHNICAL UNIVERSITY OF MOMBASA

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

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

HIGHER DIPLOMA IN CONSTRUCTION (BUILDING ECONOMICS OPTION)

EBE 3305: CONSTRUCTION TECHNOLOGY IV

END OF SEMESTER EXAMINATION

SERIES: APRIL 2015

TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Answer any **THREE** questions of the **FIVE** questions
Maximum marks for each part of a question are as shown
Use neat, large and well labeled diagrams where required
This paper consists of **TWO** printed pages

Question One

- a) Describe the methods of protecting structural steel elements from the effects of degradation **(6 marks)**
- b) Describe the concept of fire check and resistance in the design of elements in buildings **(8 marks)**
- c) State the various methods of controlling and extinguishing different types of fires in buildings **(5 marks)**

Question Two

- a) State the importance of building maintenance **(2 marks)**
- b) Describe the process of building maintenance **(6 marks)**
- c) Outline the procedure of maintenance to a painted wall surface **(12 marks)**

Question Three

- a) Explain the following techniques of multi-storey construction:
 - (i) Load bearing construction
 - (ii) Framed construction **(8 marks)**
- b) Describe methods of external finishing to multi-storey framed construction **(12 marks)**

Question Four

- a) Describe the common causes of degradation to various elements in buildings **(6 marks)**
- b) Describe the various stages of building maintenance **(6 marks)**
- c) State the factors to be considered in the general maintenance of buildings **(8 marks)**

Question Five

- a) Define the following terminologies in fire fighting:
 - (i) Fire propagation
 - (ii) Fire resistance
 - (iii) Fire check **(6 marks)**
- b) State the main causes of fire in domestic buildings **(6 marks)**
- c) Explain the building code considerations for provision of fire escape routes in buildings **(8 marks)**