



**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 ARCHITECTURE**

**DIPLOMA IN BUILDING & CIVIL ENGINEERING**

EBC 2323: CONSTRUCTION TECHNOLOGY V

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**SERIES: OCTOBER 2012**

**TIME: 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  
Maximum marks for each part of a question are as shown  
This paper consists of **THREE** printed pages

**Question One (20 marks)**

- a) Define the following terms:  
i) Thermal conductivity  
ii) Thermal resistivity  
iii) Thermal resistance  
iv) Surface resistance  
v) Thermal transmittance. **(14 marks)**
- b) Explain the following terms used in sound insulation:  
i) Reverberation time  
ii) Decibel scale  
iii) Sound absorption coefficient **(6 marks)**

**Question Two (20 Marks)**

- a) Sketch and label the following forms of insulation.  
i) Roofs (sheet covering)  
ii) Insulation outside solid wall. **(10 marks)**
- b) Explain the **TWO** modes of sound transmission. **(4 marks)**

**Question Three (20 Marks)**

- a) Sketch and label a section of the following sound insulation floors:-  
i) Timber floating floor  
ii) Floating screed **(8 marks)**
- b) Define the following terminologies used in fire protections:  
i) Fire load  
ii) Fire precaution  
iii) Fire prevention  
iv) Fire protection  
v) Fire resistance  
vi) Fire stop **(12 marks)**

**Question Four (20 Marks)**

- a) State the **THREE** reasons for fire protection to building elements. **(2 marks)**
- b) Sketch and label one hour fire resistant to the following structural elements: **(14 marks)**  
i) Solid protection to steel beam  
ii) Reinforced column  
iii) Reinforced beam  
iv) Fire resistant timber floor
- c) State **FOUR** aims of building maintenance. **(4 marks)**

**Question Five (20 Marks)**

- a) With the aid of a sketch, describe the construction of a foot path with grass verge, paving slabs on a mortar dots. **(12 marks)**
- b) With the aid of a sketch, describe the use of hose-reel **(8 marks)**