



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
DIPLOMA IN BUILDING & CIVIL ENGINEERING (DBCE 13J)

EBC 2104: GEOLOGY & CLIMATOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2014

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

All questions carry equal marks

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) Explain the following as applied to minerals:
 (i) Hardness
 (ii) Cleavage **(8 marks)**
- b) (i) Outline characteristics of a basalt **(12 marks)**
 (ii) State THREE uses of basalts

Question Two

- a) Distinguish intrusive from extrusive **(6 marks)**
- b) Explain the term “cement” as applied to rocks **(4 marks)**
- c) Describe contact metamorphism of a shale **(10 marks)**

Question Three

- a) Outline THREE changes that occur during metamorphism **(6 marks)**
- b) Explain sources of heat in metamorphic changes **(6 marks)**
- c) Outline: (i) Formation of marble
 (ii) Construction use of marble material **(8 marks)**

Question Four

- a) Compare the response of a granite to marble with respect to cutting and polishing. **(4 marks)**
- b) Distinguish the following:
 (i) Vesicles from pores
 (ii) Schist from Gneiss
 (iii) Streak from colour **(6 marks)**
- c) (i) Outline FOUR constituents of weather
 (ii) Explain the term ‘radiation’ **(10 marks)**

Question Five

- a) Explain human activities that lead to modification of climate worldwide **(10 marks)**
- b) Briefly explain climate responsive Architecture as applied to Arid and Semi-Arid areas. **(10 marks)**