



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN BUILDING AND CIVIL ENGINEERING

EBC 2106: ENGINEERING GEOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

DATE: 22 Dec 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

-Drawing instruments.

-Scientific calculator

This paper consists of five questions.

Attempt any THREE questions.

Do not write on the question paper.

QUESTION ONE

(a) Briefly explain the following:

- (i) Abundance of more quartz than micas in sands on the beach environment.
- (ii) Response of a granite to crushing compared to response of a limestone.

(8 Marks)

(b) Distinguish the following:

- (i) Quartz from Gypsum based on colour
- (ii) Quartz from Mica based on cleavage
- (iii) Conglomerate from a gneiss

(6Marks)

(c) Distinguish an intrusive body from an extrusive body if they occur on a construction site.

(6 Marks)

QUESTION TWO

(a) Compare response of a limestone to properties of a granite if the rocks are subjected to loading.

(4 marks)

(b) Outline **FOUR** characteristics for a basaltic rock.

(8 marks)

c) Distinguish a dyke from a sill.

(8 marks)

QUESTION THREE

(a) Briefly explain **THREE** prospecting methods for lateritic soils of a proposed quarry site.

(8 marks)

(b) Outline main diagenetic changes that transform loose material into a bedrock stating while considering one example.

(12 marks)

QUESTION FOUR

(a) Outline **FOUR** considerations necessary for selection of a site for dam construction.

(8 marks)

(b) Outline **FOUR** geological difficulties to be encountered when tunneling

(12 marks)

QUESTION FIVE

(a) Briefly explain the term 'unconformity' as applied to geological maps.

(6 marks)

(b) Explain; (i) Characteristics of a geological map

(ii) Uses of a geological map

(14 marks)