

**TECHNICAL UNIVERSITY OF MOMBASA** 

# **Faculty of Engineering & Technology**

## Department of Building & Civil Engineering

UNIVERSITY EXAMINATION FOR DIPLOMA IN:

## **DIPLOMA IN CIVIL ENGINEERING**

## DBCE/Sept 2015/S-FT

## EBC 2107 ENGINEERING GEOLOGY

## END OF SEMESTER EXAMINATION

SERIES: MAY 2016

### TIME ALLOWED: 2 HOURS

#### **Instruction to Candidates;**

You should have the following for this examination;

- Answer booklet
- Pocket calculator

This paper consists of FIVE questions. Answer **ANY THREE** questions. Use neat, large and well labelled diagrams where required Maximum marks for each part of a question are as shown This paper consists of **THREE** printed papers.



#### **QUESTION 1**

(a) Outline FOUR considerations that make engineering geology play significant role in construction works.(8 marks)

(b) Explain the following as applied to minerals considering construction aspects:

(i) Hardness	
(ii) Cleavage	(12 marks)
QUESTION TWO	

(a) With the aid of a sketch describe a dyke.	( 6 marks)
(b) Outline FOUR characteristics for a basalt.	(8 marks)
(c) With the aid of a sketch describe a reverse fault.	(6 marks)

#### **QUESTION THREE**

(a) Explain the following as applied to sedimentary rocks:

- (i) Weathering
- (ii) Diagenesis
- (iii) Rounding
- (iv) Stratification

# (b) Explain formation of lateritic deposits and use of the deposits in constructor works.(10 marks)

#### **QUESTION FOUR**

- (a) Outline TWO prospecting methods applied in search of geological construction material.
  (6 marks)
- (b) Outline FOUR geological considerations for location of dam sites (8marks)
- (c) Outline geological influence of a site to use of mechanical plant (6marks)

#### **QUESTION FIVE**

- (a) Explain the following as applied to geological maps:
  - (i) Unconformity surface
  - (ii) Outlier
  - (iii) Strike

(6 marks)

(10marks)

(b) Use figure 1 provided to answer the following:



- (i) Line marked U
- (ii) Thickness for bed B
- (iii) Outline geological processes that evolved the area from which the cross section was obtained.

#### (14marks)



Fig. 1

