



TECHNICAL UNIVERSITY OF MOMBASA

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## 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.*



SGS ISO 9001:2008 Certified

### 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 **(10marks)**

(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)**

(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)

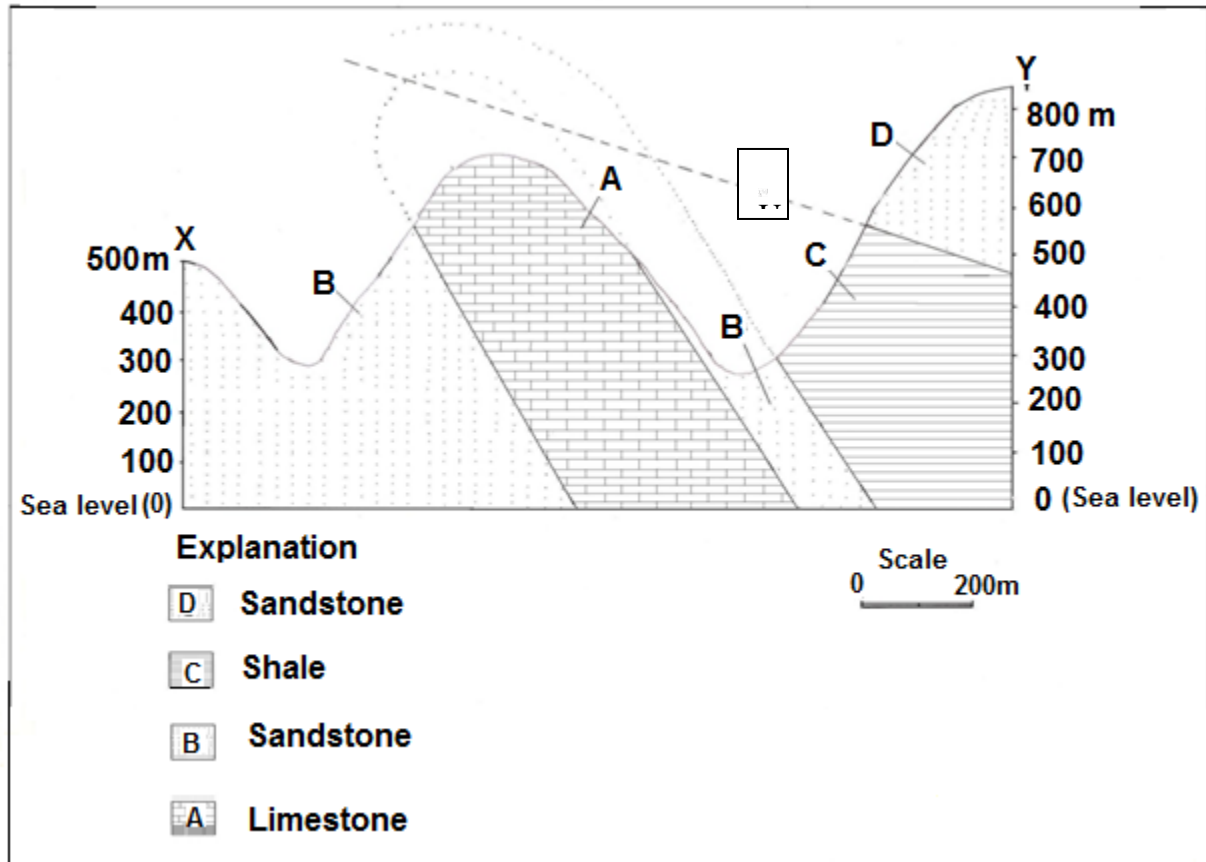


Fig. 1

