



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 2106 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 TWO printed papers.



SGS ISO 9001:2008 Certified

QUESTION ONE

- (a) Briefly explain the role of engineering geology in roadwork projects. (5 marks)
- (b) Explain the construction significance of the following terms as applied to limestone: (i) Hardness (ii) Cleavage (6 marks)
- (c) Outline the causes of colour variation in minerals. (4 marks)
- (d) Explain the criteria for differentiating a basalt from a granite. (5marks)
if both rock bodies occur on a construction site.

QUESTION TWO

- (a) Explain the term “diagenesis” as applied to sedimentary rocks. (3 marks)
- (b) Explain the evidence of flow in a basalt occurring on a construction site. (4 marks)
- (c) Outline the suitability of a granite if used as aggregates for road surfacing. (6 Marks)
- (d) Explain the criteria for recognition of faults in the field. (7 marks)

QUESTION THREE

- (a) Explain the textural characteristics for Tuffs. (6 marks)
- (b) Distinguish Conglomerate from Agglomerate. (4 marks)
- (c) Outline geological factors for selection of dam sites. (10 marks)

QUESTION FOUR

- (a) Explain the geological effects of folding to drainage of ground water. (4 marks)
- (b) Explain the influence of clayey deposits to quarrying techniques. (8 marks)
- (c) Explain causes of siltation into a reservoir and construction measures for each. (8 marks)

QUESTION FIVE

- (a) Outline characteristics for quartz (6 marks)
- (b) Explain the construction use of geological maps (6 marks)
- (c) Outline **FOUR** geological problems associated with tunneling. (8marks)

