



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

UNIVERSITY EXAMINATIONS

2013/2014 ACADEMIC YEAR

**FIRST YEAR, SECOND SEMESTER EXAMINATION FOR DIPLOMA IN
BUILDING AND CIVIL ENGINEERING**

TBC- 2123 ENGINEERING GEOLOGY

August 2013

TIME: 1.5 HOURS

INSTRUCTIONS TO CANDIDATES

This paper consists of 5 questions

Answer Question ONE and any other TWO Questions

QUESTION ONE

- a) In reference to profession of Building and Civil Engineering, discuss the relevance of knowledge of geology.
(8 Marks)
- b) Explain the areas of focus of the following aspects of geological studies
- i. Geotechnics
 - ii. Petrology
 - iii. Palaeontology
- (6 Marks)
- c) State the hierarchy of geologic time scale
(4 Marks)
- d) State nature of the THREE layers of Earth's interior
(6 Marks)
- e) State any THREE reasons for carrying out site investigation
(6Marks)

QUESTION TWO

- a) Distinguish between intrusive and extrusive rocks
(4 Marks)
- b) Compare and contrast TWO physical features of Igneous and Sedimentary rocks
(5 Marks)
- c) Giving TWO examples explain the formation process of metamorphic rocks.
(6 Marks)

QUESTION THREE

- a) Distinguish between mineral and a rock and list TWO types of each.
(7 marks)
- b) Distinguish between the following physical properties of minerals.
- i. Colour and streak
 - ii. Cleavage and hardness
- (8 Marks)

QUESTION FOUR

- (a) Define the following terms as applied in structural geology
- i. Bedding
 - ii. Outcrop
- (5 Marks)
- (b) List TWO types of folds
(2 Marks)
- (c) State any FOUR features that may help you recognize a fault in the field.
(8 Marks)

QUESTION FIVE

Discuss any TWO surface and any TWO subsurface methods for carrying out site investigation
(15 Marks)