



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology
Department of BUILDING & Civil engineering

UNIVERSITY EXAMINATION FOR: CERTIFICATE IN BUILDING AND CIVIL ENGINEERING

ECV 1201 : ENGINEERING GEOLOGY

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2024

TIME: 2 HOURS

DATE: Pick Date AUGUST 2024

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of five questions.

Attempt any THREE questions.

Do not write on the question paper.

QUESTION ONE

(a) Explain the term Engineering Geology.

(2 Marks)

(b) Briefly explain FOUR geologic hazards and other adverse conditions mitigated by an engineering geologist.

(8 Marks)

(c) In regard to rock forming minerals. Explain the following:

- (i) Natives
- (ii) Sulphides
- (iii) Carbonates

(6 Marks)

(d) Explain the following physical properties of rock forming minerals:



- (i) Hardness
- (ii) Cleavage

(4 Marks)

QUESTION TWO (20 Marks)

(a) In regard to formation of sedimentary rocks, describe sediment transport and deposit.

(6 Marks)

(b) Explain the following terms as applied to forms of a Clast:

- (i) Surface texture
- (ii) Rounding

(4 Marks)

(c) In regard to igneous rocks, identify and explain TWO factors affecting textures.

(6 Marks)

(d) Describe Gabbros.

(4 Marks)

QUESTION THREE (20 Marks)

(a) Identify and explain the TWO major metamorphic factors.

(5 Marks)

(b) Identify and explain TWO metamorphic textures.

(4 Marks)

(c) Identify and explain THREE typical types of faults.

(6 Marks)

(d) Explain TWO features for recognition of faults in the field.

(5 Marks)

QUESTION FOUR (20 Marks)

(a) Explain the term dam.

(2 Marks)

(b) Identify and explain FOUR main purposes of dam construction.

(8 Marks)

(c) Describe hard rock quarries.

(5 Marks)

(d) Outline FIVE purposes for drilling as a prospecting method.

(5 Marks)

QUESTION FIVE (20 Marks)

- (a) (i) Briefly describe a rock tunnel.
(ii) Explain ONE method of tunneling (8 Marks)
- (b) Briefly explain ONE geological problem associated with tunneling. (2 Marks)
- (c) Outline FOUR features of a geological map. (4 Marks)
- (d) Outline FOUR uses of geological maps. (4 Marks)
- (e) Explain the term Inlier. (2 Marks)