



# MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

DIPLOMA IN CIVIL ENGINEERING

BCECD215 ENGINEERING GEOLOGY

DATE: 12/11/2020

TIME: 2.00-4.00 PM

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## INSTRUCTIONS

*Answer Question One and Any Other Two Questions*

### QUESTION ONE (30 MARKS) (COMPULSORY)

- a) Define the following terms: -
- i. paleontology
  - ii. geology
  - iii. stratigraphy (6 marks)
- b) Explain **THREE** agents of weathering (9 marks)
- c) Explain **THREE** physical properties of a mineral (6 marks)
- d) Explain **THREE** problems encounter during dam construction (6 marks)
- e) State **SIX** uses of a dam (3 marks)

### QUESTION TWO (20 MARKS)

- a) Explain **FIVE** application of geology in construction industries (10 marks)
- b) Discuss how the following subjects are related to geology: -
- i. physics
  - ii. chemistry (4 marks)
- c) Explain **THREE** igneous structures (6 marks)

**QUESTION THREE (20 MARKS)**

- a) with sketches, describe **THREE** types of folding (9 marks)
- b) Explain **FOUR** importance of faults (8 marks)
- c) Discuss the process of erosion (3 marks)

**QUESTION FOUR (20 MARKS)**

- a) Describe with sketches **THREE** methods of tunnel construction (12 marks)
- b) Explain **FOUR** geological problems that may be encounter during construction of tunnel (6 marks)
- c) State 4 uses of tunnel (2 marks)

**QUESTION FIVE (20 MARKS)**

- a) Explain **FIVE** physical properties of sedimentary rocks (10 marks)
- b) Describe any **TWO** types of sedimentary rocks (4 marks)
- c) Discuss physical weathering and biological weathering (6 marks)