



MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

DIPLOMA IN CIVIL ENGINEERING

BCECD 215: ENGINEERING GEOLOGY

DATE: 30/7/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS: Answer questions **ONE** and any other **TWO** questions.

1. a) Define the following terms: -
 - i. palaeontology
 - ii. geology
 - iii. stratigraphy (6 marks)
- b) Explain Three agents of metamorphism (9 marks)
- c) State and explain 3 physical properties of a mineral (6 marks)
- d) State six importance of faulting (6 marks)
- e) State 6 uses of a dam (3 marks)
2. a) Explain six application of geology in construction industries (12 marks)
- b) Discuss how the following subjects are related to geology: -
 - i. mathematic
 - ii. chemistry
 - iii. biology (6 marks)
- c) Explain three igneous structures (6 marks)
3. a) With sketches, describe three types of folding (9 marks)
- b) Explain four importance of folding (8 marks)

- c) State 3 types of lining used in tunnels (3 marks)
- 4. a) Describe with sketches the 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)
- 5. a) Explain 5 physical properties of sedimentary rocks (10 marks)
- b) Describe any two types of sedimentary rocks (4 marks)
- c) Discuss chemical weathering and biological weathering (6 marks)