



MACHAKOS UNIVERSITY

University Examinations 2017/2018

**SCHOOL OF ENGINEERING
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING**

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA IN CIVIL
ENGINEERING**

BCE CD 215: ENGINEERING GEOLOGY

DATE: 13/12/2017

TIME: 8.30-10.30 AM

INSTRUCTIONS

Answer Question One and Any Other Two Questions

1.
 - a) Describe five physical characteristics of the following minerals; (9 marks)
 - b) Differentiate between foliation and exfoliation. (3 marks)
 - c) Explain six roles of a geologist in construction industry. (6 marks)
 - d) Give three geological importance of faulting (6 marks)
 - e) Explain three agents of metamorphism. (6 marks)
2.
 - a) Describe with sketches any three types of faults (9 marks)
 - b) Describe with sketches two methods of tunnel construction. (4 marks)
 - c) With sketches, describe three types of folds. (7 marks)
3.
 - a) Explain five geological problems in dam construction. (10 marks)
 - b) Explain five physical properties of igneous rocks. (10 marks)
4.
 - a) Explain the process of water erosion (4 marks)
 - b) Describe three types of foliation in metamorphic rocks giving an example in each. (8 marks)
 - c) Explain four factors affecting metamorphic rock textures. (8 marks)
5.
 - a) Describe the three processes in physical weathering. (6 marks)
 - b) Give two advantages of constructing a tunnel as opposed to an open cut. (4 marks)
 - c) State and explain the steps in the formation of sedimentary rocks (4 marks)
 - d) Give four factors affecting the choice of site of a dam construction. (4 marks)
 - e) Give two examples of bio-chemical weathering rocks. (2 marks)