



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (CIVIL ENGINEERING)

ECV 300: ENGINEERING GEOLOGY

DATE: 13/8/2021

TIME: 2.00-4.00 PM

INSTRUCTIONS

- This paper comprises of five questions. Answer **three** questions
- Question one is **compulsory** and carry 30 marks
- Answer any other **two** questions

QUESTION ONE (30 MARKS)

- Briefly explain the importance of geology in Civil Engineering. (10 marks)
- Discuss the relationship between petrology and geology (5 marks)
- Distinguish between optical and crystallographic properties of minerals in Engineering Geology. (15 marks)

QUESTION TWO (20 MARKS)

Explain the formation of three different types of rocks (20 marks)

QUESTION THREE (20 MARKS)

With the help of sketches, explain the following terms as used in structural geology.

- Folds (4 marks)
- Faults (4 marks)
- Joints (4 marks)
- Shear fractures (4 marks)
- Outcrops (4 marks)

QUESTION FOUR (20 MARKS)

Discuss the types and factors affecting weathering.

QUESTION FIVE (20 MARKS)

- a) Discuss the advantages and disadvantages of the two methods of site investigations (10 marks)
- b) Briefly explain how to conduct sampling in site investigations. (10 marks)