

UGANDA MARTYRS UNIVERSITY

WESTERN CAMPUS

FACULTY OF ENGINEERING

END OF SEMESTER ONE ACADEMIC YEAR 2023/24 EXAMS DECEMBER 2023

PROGRAM(S): Bsc Civil I

COURSE NAME: ENGINEERING GEOLOGY

COURSE CODE: BCE 1105

DATE: 12/12/2023

TIME OF THE EXAM: 2:00pm - 5:00pm



**All Questions carry equal marks**

**Answer four out of six questions**

**Time: 3 hrs**

1. Define seismology.
  - a. Explain the terms 'intensity' and 'magnitude' of earthquakes (4 Marks)
  - b. Define the terms i) Focus ii) Epicenter (4 Marks)
  - c. Name the causes of earthquake (3 Marks)
  - d. Discuss the different ways of classifying earthquake (4 Marks)
2.
  - a) What do you understand by geotechnical site investigation? (2 Marks)
  - b) What are the considerations while carrying out geological investigations? (7 Marks)
  - c) Jasmin is a signed to carry out an investigation of siting a dam, describe the steps he must follow to produce results? (6 Marks)
3. What do you understand by tunneling, methods and considerations in tunneling? (15 marks)
4.
  - a) Define in simple terms the meaning of engineering geology? (2 Marks)
  - b) Explain the importance of Engineering Geology? (4 Marks)
  - c) Discuss the difference between the primary and secondary rock structures (4 Marks)
  - d) Describe the formation of Igneous, Sedimentary, and Metamorphic rocks.(5 Marks)

5. Write short notes on the following terms

- a. Physical Geology (2 Marks)
- b. Historical geology (2 Marks)
- c. Dynamic geology (2 Marks)
- d. Mineralogy (2 Marks)
- e. Earth structure (2 Marks)
- f. The term “minerals” as used in nutrition labels and pharmaceutical products is not the same as a mineral in a geological sense. Discuss the minerals as a geological component. (5 Marks)

6. i) Elaborate the meaning of weathering? (2 Marks)
- ii) Describe the processes of weathering and the factors affecting weathering. (6 Marks)
- iii) Denudation can occur through several mechanisms, including weathering, erosion, transportation, and deposition. Define denudation and write brief notes on its mechanisms. (7 Marks)

END

