



ELIZADE UNIVERSITY, ILARA-MOKIN
FACULTY OF ENGINEERING
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
FIRST SEMESTER 2019/2020 EXAMINATIONS
CVE 303: Engineering Geology I Units: 3 Time Allowed: 3Hrs
INSTRUCTION: Answer ANY FIVE Questions

Question 1 (20 marks)

- a. Briefly outline important features of geology of Nigeria. (10 marks)
- b. Describe in brief safe yield concept in groundwater prospecting or abstraction. (6 marks)
- c. Why is fault in rock strata or formation very vital to Civil Engineer? (4 marks)

Question 2 (20 marks)

- a. Explain why it is not wise to depend totally on groundwater as the major source of water supply to EU community (5 marks)
- b. Folds are associated with dip and strike. Differentiate between the dip and strike using diagrams where appropriate. (9 marks)
- c. Describe the concept of stratigraphy associated with all sedimentary rock. (6 marks)

Question 3 (20 marks)

- a. During the field trip to Igbeti situated in Oyo State, a student picked three pieces of rock and presented them at a class lecture. Kindly furnish Clara with necessary information needed to identify the three pieces of rock. (8 marks)
- b. In brief, comment on the effect of weathering on rocks. Also, mention few primary agents of weathering. (6 marks)
- c. Explain the word glaciation and comment on the three groups of glaciers. (6 marks)

Question 4 (20 marks)

- a. Describe occurrence of groundwater with respect to water cycle concept. (9 marks)
- b. Compare and contrast the three geological units – aquifer, aquiclude and aquitard. (6 marks)
- c. List factors affecting porosity nature of soil found in the Elizade University. (5 marks)

Question 5 (20 marks)

- a. What are the criteria used to determine or measure the extent of site investigation? (4 marks)
- b. Why is stone favoured as good and sound construction material in your locality? (4 marks)
- c. Write short note on the following construction materials:
 - i. Road aggregate
 - ii. Crushed stone or rock
 - iii. Gravel
 - iv. Armourstone (12 marks)

Question 6 (20 marks)

- a. Write short note on site investigation: its objective and concept. (9 marks)
- b. Present various means groundwater in Lagos Metropolis can be polluted. (5 marks)
- c. Itemize tools needed in carrying out effective desk study aspect of site investigation. (6 marks)

Question 7 (20 marks)

- a. What is a map? (5 marks)
- b. State the purposes of engineering geomorphological map. (5 marks)
- c. Explain the concept of wind erosion in the Sahara desert. (10 marks)