



# UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA

SECOND SEMESTER EXAMINATIONS, MAY 2018

COURSE NO: GL 372

COURSE NAME: ENVIRONMENTAL GEOLOGY

CLASS: GL III

TIME: 3 HOURS

Name: Unihubgh.com Index Number: \_\_\_\_\_

**Answer questions one (1) and two (2) and any other two (2) questions. Marks will be awarded for good presentation.**

1.

- a. Briefly explain the following terms as applied in Environmental Geology
- |                |                           |
|----------------|---------------------------|
| i. Landslide   | ii. Suspended Load        |
| iii. Floodpath | iv. Catchment             |
| v. Flashflood  | vi. Groundwater overdraft |
| vii. Epicenter | viii. Pyroclasts          |
| ix. Lahar      | x. Natural hazards        |

*2 marks each*

- b. Define Environmental Geology and its two main principles *(3 marks)*  
c. Briefly explain the relationship between Environmental Geology and Planning *(4 marks)*  
d. What is Environmental Impact Assessment *(1 marks)*  
e. Differentiate between water scarcity and water stress *(2 marks)*

2

- a. Use the information provided in the table below to complete the table.

Material Type of Movement	Rock	Debris	Mud
<i>eg. Falls</i>	<i>Rockfall</i>	<i>Debris fall</i>	<i>N/A</i>
Slides			
Avalanches			
Flows			

*(9 marks)*

- b. Describe the two rock properties that control the rate of groundwater flow *(4 marks)*  
c. How does SiO<sub>2</sub> content and temperature influence the viscosity of magmas? *(4 marks)*  
d. Why do floods occur? *(3 marks)*

3

- a. Differentiate between conservation, restoration and reclamation of land (5 marks)
- b. State three (3) important uses of Environmental Geological maps (3 marks)
- c. What are geological hazards? (1 mark)
- d. Can we plan for geological hazards? (2 marks)
- e. List the essential elements needed for effective quake forecast (4 marks)

4

- a. Name six (6) possible sources of groundwater pollution (6 marks)
- b. Differentiate between water pollution and contamination (2 marks)
- c. Name and explain three (3) main purposes of building dams (3 marks)
- d. List two (2) types of mass wasting under the following:
  - i. Slow types
  - ii. Fast types(2 marks each)

5

- a. Name five (5) negative impacts of dams (5 marks)
- b. Name five (5) conditions which will indicate the possibility of a mass movement (5 marks)
- c. Explain five (5) factors that control flooding (5 marks)