



আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় চট্টগ্রাম
International Islamic University Chittagong
Faculty of Science and Engineering (FSE)
Department of Civil Engineering (CE)

END-OF-SEMESTER EXAMINATION
SEMESTER AUTUMN, 2022 SESSION

Programme	: Bachelor of Science in Civil Engineering	Level of Study	: UG 1/2
Time	: 1.30 pm	Date	: December 12, 2022 Monday
Duration	: 2 hour 30 minutes		
Course Code	: CE-2405	Section(s)	: 4AM
Course Title	: Engineering Geology & Geomorphology		

This Question Paper Consists of **Three (03)** Printed Pages (Including Cover Page)
with **Five (05)** Questions.

Course Learning Outcome(CLO)	
CLO-1	Understand the typical formations and mineralogical compositions of solids and rocks.
CLO-2	Identify and classify common minerals, rocks and soils, and understand their significance to different types of engineering projects.
CLO-3	Show an understanding of the engineering and construction problems associated with earth processes and of the procedures used to counteract such problems.
CLO-4	Show an understanding of the geomorphic processes that modify the earth's surface.

Bloom's Levels of the Questions						
Letter Symbol	R	U	A	ANA	E	C
	Remember (10)	Understand (10)	Apply (10)	Analysis (30)	Evaluation (30)	Create (10)

INSTRUCTION(S) TO CANDIDATES

DO NOT OPEN UNTIL YOU ARE ASKED TO DO SO

- This is a Closed Book, Closed Notes Examination.
- Do not open until You Are Asked to Do So.
- Total mark of this examination is 100 for two sections A & B and is worth 50% of the total course.
- Attempt All Questions.
- Mobile Phones and Other Electronic Devices are Prohibited in the Exam Hall.
- **Workout Can Be Done Using Pencil Or Pen.**

Note: Any form of cheating or attempt to cheat is a serious offence, which may lead to dismissal

PART –A

(There are THREE questions, answer all THREE Questions)

QUESTION 1 (20 marks)_

- | | | CO | BL |
|----|---|----|----|
| a) | With neat sketches show the following parts of a fault: i) fault trace, (5 marks)
ii) hade, iii) wall, iv) upthrow & down-throw side and v) dip & strike of the fault. | 3 | R |
| b) | How faults can effects on the civil engineering operations? (5 marks) | 3 | R |
| c) | What does uniformity mean in geology? Write down the formation steps of an uniformity. How are disconformities formed? (10 marks) | 4 | U |

QUESTION 2 (20 marks)_

- | | | | |
|----|--|---|---|
| a) | What is weathering? Write down the factors effects the rate of weathering. (5 marks) | 2 | R |
| b) | What are the main agents of weathering? Explain them in brief. (5 marks) | 2 | R |
| c) | Explain the geometrical classification of joints. (5 marks) | 3 | U |
| d) | Why knowledge about joint patterns of rocks is essential for various engineering projects. (5 marks) | 3 | E |

QUESTION 3 (20 marks)_

- | | | | |
|----|---|---|----|
| a) | Write down the possible causes of land-subsidence. (5 marks) | 4 | AN |
| b) | Explain various preventive measures for land-subsidence. (5 marks) | 4 | A |
| c) | What do you mean by hazard mapping? Why Chattogram hill tracks has a most frequent landslide? (5 marks) | 3 | U |
| d) | State the geological factors which govern the possibility and frequency of landslides. (5 marks) | 3 | AN |

PART –B

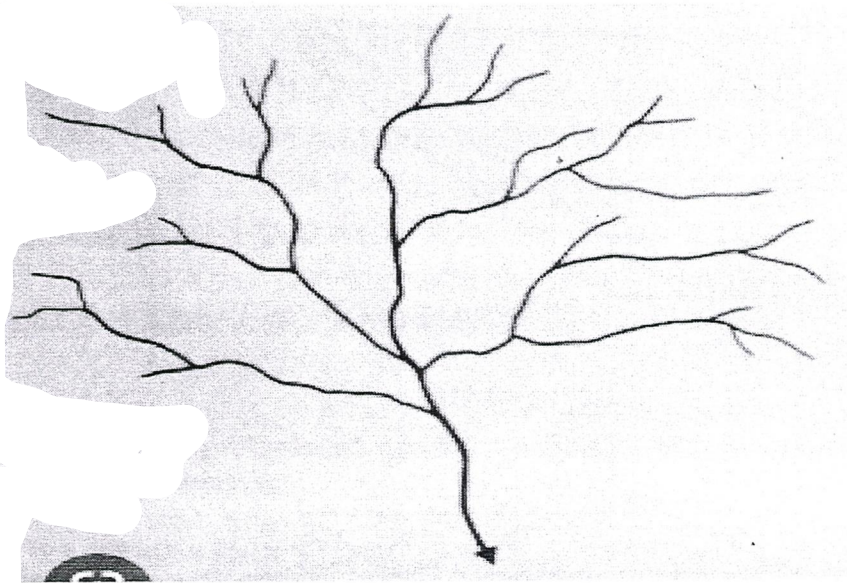
(There are TWO questions, answer all TWO Questions)

QUESTION 4 (20 marks)_

- | | | | |
|----|--|---|---|
| a) | Write down a note on geological work of a river in respect of erosion, transportation and deposition. (10 marks) | 4 | U |
| b) | Write the process of river erosion and mention the transportation process of rock in river briefly. (5 marks) | 4 | A |
| c) | Write the purpose of the spillway and sluice way of a dam. (5 marks) | 3 | R |

QUESTION 5 (20 marks)_

- a) Differentiate between gravity dam and buttress dam. (5 marks) 3 AN
- b) Explain the influence of various geological structures in case of dam construction. (5 marks) 3 E
- c) Write down the natural causes of landslides. (5 marks) 4 A
- d) Determine the number of streams of different order of the drainage network given below (Use Strahler's ordering system). (5 marks) 3 C



End of Questions Paper