

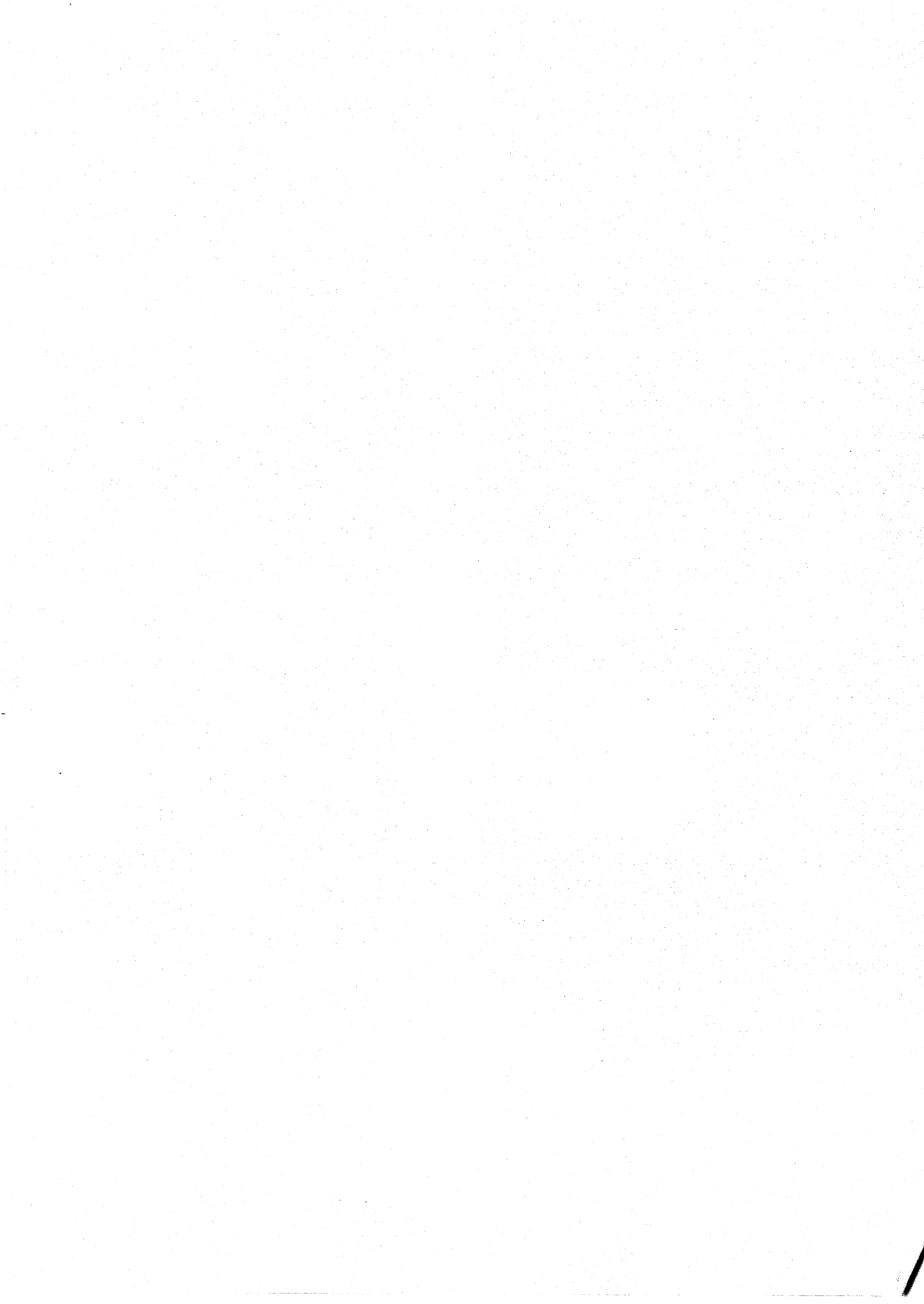
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2076 Chaitra

Exam.	Regular		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE 503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Define structural geology. Describe scope and importance of geology in civil engineering practice in the context of Nepal. [0.5+2.5]
2. What is plate boundaries? How Himalaya formed? Describe stepwise in detail. [2+1.5]
3. How do you differentiate carbonate and silicate minerals? Describe Moh's Scale of Hardness. Describe symmetry elements of crystals. [0.5+1+1.5]
4. a) How do you identify sedimentary rocks in the field? Give a brief account of the classification of sedimentary rocks. [1+3]
- b) Enumerate the various agents of metamorphism and explain their role. Describe important engineering significance of three rock type. [2+4]
5. a) Define attitude of geological structures. Distinguish between primary geological structures and secondary geological structures. [1+2]
- b) Describe the classification of fold on basis of position of axial plane. [2]
- c) Write the engineering significance of fault joint. [2.5]
6. a) What do you understand by epigene geological agent? Point out erosional landforms of wind and depositional landforms of glacier. [1+1.5+1.5]
- b) Describe factors of weathering. Describe Chemical weathering of rock. [1.5+1.5]
7. a) What are the soil types and rock types found in the Higher Himalaya zone, Midland zone and Dun Valleys? Differentiate Elluvial soil and lacustrine soil. [1.5+1]
- b) List out the physiographic division of Himalaya. [1.5]
8. Write short notes on: (Any one) [2]
 - a) Rock cleavage
 - b) Erosion



TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2075 Chaitra

Exam.	Regular / Back		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1½ hrs.

Subject: - Engineering Geology I (CE 503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Highlight the importance of engineering geology in civil engineering works. [2]
2. Define engineering geology according to IAEG. Differentiate convergent plate boundary and divergent plate boundary. [1+2]
3. Describe symmetry elements of crystals. Describe hardness of minerals. [1.5+1.5]
4. a) Describe Petrogenesis. How do you identify rocks in the field? Describe civil engineering significance of Granite, Phyllite and Sandstone. [2+3]
b) Distinguish between concordant and discordant bodies of igneous rocks. [2]
5. How do you differentiate primary geological structures and secondary geological structure? Describe relationship of strike and dip of geological planes. Describe with illustration; how do you find out strike line when dip direction is measured? [2+2+3]
6. What is weathering? Describe in brief the factors that affect in weathering. [1+3]
7. What are the geological works of running water? Mention the features developed due to geological works of running water. [1+2]
8. Write short notes on following (any three) [3x2]
 - a) Types of volcanoes
 - b) Stalagmite and stalactite
 - c) Mantle
 - d) Isometric system
9. How do you differentiate physiographic division and tectonic division of Nepal? Describe. [2.5+2.5]

TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2076 Ashwin

Exam.	Back		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1½ hrs.

Subject: - Engineering Geology I (CE 503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Describe scope and objectives of geology in the field of civil engineering. [2]
2. Describe crystal symmetry? Define Moh's hardness scale. [2+1]
3. a) Mention the factors of metamorphism. Describe metamorphic structures. [1+3]
b) Describe civil engineering significance of Marble, Granite Sandstone. [3]
4. a) How can you Identify fold? Describe effects of faulting in civil engineering works. [1.5+3.5]
b) Define Altitude. Determine the strike of bedding plane of limestone bedrock, which have dip direction N40°W and dip amount 64°. [1+4]
5. Mention geological works of different geological agents. Describe erosional features developed by wind and underground water. [1.5+2.5+2]
6. Discuss the tectonic division of Nepal Himalaya. [4]
7. Write short notes on: (Any Two) [2×4]
 - i) Rock cleavage
 - ii) Field identification criteria of fault
 - iii) Physical weathering
 - iv) Lutite

Exam.	Regular		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Describe the scope and objective of engineering geology in the field of civil engineering. [2]
2. What do you mean by Plate Tectonics? Differentiate between transform and divergent plate boundary. [2+2]
3. Write down the optical properties of minerals in Handspecimens. [3]
4. a) How do you differentiate three rock types in the field? [4]
b) Write down the physical and engineering properties of phyllite, Granite and Limestone. [6]
5. a) Define joint and discuss the geometric classification of joint with its engineering importance. [4]
b) Determine the dip direction of a bedding plane of limestone bed which has strike N55°E and dip amount 30°. [4]
6. a) What is geological cycle? Describe the depositional landform by wind. [2+4]
b) What is Volcano? Discuss the positive topography developed by volcano. [2]
7. Classify the Nepal Himalaya based on lithology and describe higher Himalaya in detail. [2+3]

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Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Define engineering geology and discuss the importance in civil engineering. [1+2]
2. Define plate tectonics and discuss the evolution of Himalaya. [3]
3. What is Mohs scale of Hardness? Describe the symmetry of crystal in detail. [1+2]
4. a) How do you differentiate Igneous rock and Sedimentary rocks in the field? [4]
b) Write down the physical and engineering properties of Marble, Slate and amphibolite. [6]
5. a) Define-fault with neat diagram and discuss its importance in civil engineering. [4]
b) What is unconformity? Why unconformity is important in geological structure in civil engineering. [4]
6. a) What are geological agents? Describe the erosional landform developed by glaciers. [2+4]
b) Differentiate between Conglomerate and Agglomerate. [2]
7. Mention the geomorphic sub-division of Nepal Himalaya and describe lesser Himalaya in detail. [2+3]

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Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
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- ✓ Assume suitable data if necessary.

1. Define geology. Explain scope and importance in the context of Nepal. [0.5+1.5+1]
2. Describe plate tectonics. What are the plate boundaries? Describe mountain building process w.r.t. Himalaya. [0.5+1+1.5]
3. Describe Hardness of mineral with scale. What are the elements of crystals? [1.5+1.5]
4. a) Describe rock cycle with suitable diagram. How metamorphic rock formed? [3]
b) Describe texture of igneous rock. [3]
c) Describe physical and engineering properties of Quartzite, Dolomite and Granite. [3]
5. a) How Fold and Joint formed? Describe parts of fault with suitable diagrams. [3]
b) Describe classification of faults. [3]
c) Define attitude of bedrock. A sandstone bedrock dips at 32° towards N 60°W; Find out strike of bedrock with illustration. [3]
6. a) Describe geological works of river and wind, with landform developed in brief. [5]
b) What is weathering? Describe volcanic products. [3]
7. a) Describe geological division of Nepal Himalayas. [3]
b) Describe lithology and altitude of Dun valley and Higher Himalaya. [2]

Exam.	Back		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Define engineering geology as per IAEG. Describe scope of petrology and structural geology in the field of civil engineering in brief. [1.5+1.5]
2. Describe internal structure of the earth with suitable diagram. What are the basis of the study of internal structures? [2+1]
3. How do you classify minerals? Describe Isometric system with symmetry elements. [1.5+1.5]
4. a) Define and describe texture of sedimentary rocks. Describe rock cleavage. [3]
- b) What are the basis of rock identification in the field? [3]
- c) Describe physical and engineering properties of Limestone, phyllite and Granite. [3]
5. a) How is rock deformed? Describe type and stage deformation of rock. [3]
- b) How do you classify Joint? [3]
- c) What is relationship between strike and dip? How do you calculate apparent dip amount from measured true dip amount? [3]
6. a) Describe landform developed by erosion and deposition by running water and glacier. [5]
- b) What is volcanism? Describe chemical weathering. [3]
7. a) Describe physiographic division of Nepal Himalaya. [3]
- b) Describe classification of Terai zone with lithology. [2]

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Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE503)

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- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Mention the importance of geology in civil engineering. [2]
2. How is Himalaya formed? Describe internal structure of the earth in brief. [1+2]
3. How do you define Hardness of mineral? Describe isometric system of crystal. [1+2]
4. a) How do you identify three rock types in field? Describe texture of sedimentary rock. [2+2]
b) Describe texture, structure, mineral composition and engineering properties of quartzite, limestone and Granite. [6]
5. a) How do you differentiate fault and thrust? What are field evidences of fold? [2+2]
b) Determine the strike direction of bedding plane when dipdirection in N40°W. [4]
c) Describe deformations in rock strata. [1]
6. Define weathering. Describe depositional
a) Features developed by river [2+3]
b) Mention erosional features of glacier and underground water. [3]
7. Explain geological division of Terai and siwalik zone. Describe lithology and altitude range of Dun valley and midland. [3+2]

Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ *Attempt All questions.*
- ✓ *The figures in the margin indicate Full Marks.*
- ✓ *Assume suitable data if necessary.*

1. Mention relationship between civil engineering and Geology. [2]
2. Describe plate boundary. How is mountain formed? [3]
3. Describe physical properties of minerals. What are the elements of symmetry of orthorhombic system? [2]
4. a) How do you differentiate petrography and petrogenesis? Describe classification of sedimentary rocks. [1+3]
b) Describe engineering properties, texture and structure of schist, sandstone and Phyllite. [6]
5. a) Describe criteria for identification of fault in the field. [2]
b) How do you classify fault and joint genetically? Describe. [4]
c) How do you calculate apparent dip amount, when true dip amount is measured? [4]
6. a) Describe factors for weathering. Mention erosional and depositional landform of wind. [1+4]
b) Describe classification of volcano. [3]
7. Describe lithological characteristics of Higher Himalaya and Tethys zone. Describe altitude and lithology of churiya range, fore Himalaya and Trans Himalaya. [2+3]

03

TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

Examination Control Division

2071 Chaitra

Exam.	Regular		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Discuss the mutual relationship between the two disciplines geology and engineering in the context of Nepal. [2]
2. Briefly describe the process of Himalayan evolution. Mention different types of plate boundaries. [1+1]
3. Define minerals. How do you differentiate silicate minerals and carbonate minerals in the field. [1+2]
4. a) How igneous rocks are formed? Describe the texture of sedimentary rocks. [2+2]
b) Describe the physical and engineering properties of following rocks: [2×3]
 - i) Granite
 - ii) Schist
 - iii) Dolomite
5. a) Define altitude of bed. Find out the strike of an inclined plane if the dip direction of the bed is N20°E with neat sketch? [2+4]
b) Mention different types of primary sedimentary structures. Describe parts of fold with neat diagram. [1.5+2.5]
6. a) Differentiate between weathering and erosion. Describe the different types of landform produced by wind. [2+2]
b) What is volcano? Mention different types of volcano? [1+3]
7. Mention the physiographic sub-division of Nepal Himalaya. Describe Indo-gangetic plain in detail. [2+3]

Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1 ½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

1. How IAEG defines engineering geology? [2]
2. What is mountain? Mention different types of plate boundaries with neat sketch. [0.5+1.5]
3. Define crystals. Describe hardness and tenacity of minerals. [1+2]
4. a) Describe characteristics of igneous, sedimentary and metamorphic rocks. [1+2+3]
b) Describe physical and engineering properties of phyllite and limestone. [2+2]
5. a) Describe criteria for identification of fault and fold in the field. [4+2]
b) Dip direction of gneiss bedrock is S 17°E. Find out strike of such rock with neat and suitable diagram. [4]
6. a) Mention the name of geological agents. What geological agents do? Describe erosional features developed by air and underground water. [0.5+0.5+4]
b) Describe the causative factors for rock weathering. [3]
7. Describe tectonic division of Nepal Himalaya with suitable cross-section. Describe lithological and elevation characteristics of Mahabharat Range. [3+2]

Exam.	Regular		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Define engineering geology according to IAEG. State the scope and objective of engineering geology. [1+1]
2. What is geological time scale? Describe the formation of Himalaya. [1+1]
3. How do you differentiate silicate and carbonate minerals? Describe the physical properties of minerals. [1+2]
4. Define Rock cycle. What are the characteristics metamorphic rocks? [1+3]
5. Describe the physical and engineering properties of the following rocks. [3×2]
 - a) Gneiss
 - b) Phyllite
 - c) Limestone
6. Describe the different types of deformation in rocks. Give the geometrical classification of joints with neat diagram. [3+3]
7. What is fault? How do you differentiate between faults and fold in the field. [1+3]
8. Define volcano. Differentiate between and erosion. Describe the different types of landform produced by wind. [2+4+2]
9. Write down the geomorphic sub-division of the Nepal Himalaya. Describe the geology of lesser Himalaya. [2+3]

Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

1. How do you differentiate between Geology and Engineering Geology? [1+1]
2. What is plate tectonics? Mention different types of plate boundaries. [1+1]
3. Define Moh's Hardness Scale. Describe elements of crystals. [1.5+1.5]
4. Define Petrology. Describe the classification of sedimentary rock. [1+3]
5. Describe physical and engineering properties of following rocks: [3×2]
 - a) Quartzite
 - b) Slate
 - c) Granite
6. Differentiate between Apparent dip amount and true dip amounts. What is geological compass? [1+3]
7. What is geological structure? Describe types of geological structure. [2+4]
8. Define Geological cycle morine. Describe land form developed by geological works of running water. [2+2+4]
9. Describe tectonic division of Nepal Himalaya. Describe midland zone w.r.t elevation and rock characteristics. [3+2]

Exam.	Old Back (2065 & Earlier Batch)		
Level	BE	Full Marks	80
Programme	BCE	Pass Marks	32
Year / Part	II / I	Time	3 hrs.

Subject: - Engineering Geology (EG523CE)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt any **Five** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

1. a) How is the earth formed? Write down its structure and environment. [4+4]
 b) What is seismicity? Describe about fold mountains. [5+3]
2. a) Why do engineers carry out engineering geological studies in Nepal? Write down the relationship between geology and earth science. [4+4]
 b) Describe symmetry elements of crystals. How are minerals identified? Describe. [3+5]
3. a) How are sedimentary rocks formed? Describe texture of igneous rock. [3+5]
 b) Define fold. Describe effect and engineering significance of fault. [3+5]
4. a) How does mass movement occurred? Describe classification of landslide according to Varne. [3+5]
 b) Define site investigation. Describe sub-surface site investigation of foundation site of a Dam. [2+6]
5. a) Define Over break. Describe geological investigation activities in Tunnel. [3+5]
 b) Describe Darcy's law. Describe types of aquifer with suitable diagram. [4+4]
6. Write short notes on: [4×4]
 - a) Physical properties of igneous rock
 - b) Engineering classification of rock masses
 - c) Interpretation of Topographic maps
 - d) Geology of Terai siwalik zones

04 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING

Examination Control Division
2069 Chaitra

Exam.	Old Back (2065 & Earlier Batch)		
Level	BE	Full Marks	80
Programme	BCE	Pass Marks	32
Year / Part	II / I	Time	3 hrs.

Subject: - Engineering Geology (EG523CE)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt any Five questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) Define engineering geology according to IAEG. Point out the importance of engineering geology in the field of civil engineering. Differentiate convergent plate boundary and divergent plate boundary. [2+4+2]
- b) Describe internal structure of earth with its neat sketch. What are the products of volcanoes? Mention them briefly. [4+4]
2. a) Define mineral. Describe physical properties of minerals. [2+6]
- b) What is rock cycle? Discuss the various based to classify igneous rock. Illustrate it with examples. [3+5]
3. a) What is landslide different from mass movement? Describe repairing measures of landslide. [2+6]
- b) What do you mean by rock mass? Describe classification system of rock mass. [2+6]
4. a) What do you understand by attitudes of beds? Describe classification of fold. [3+5]
- b) What is geological site investigation? Describe its methods in brief. [2+6]
5. a) Discuss the tectonic division of the Nepal Himalaya. [8]
- b) Describe river channel morphology. What are the geological works of running water? Describe the features developed due to geological works of running water. [3+1+4]
6. Write short notes on: [4×4]
 - a) Types of volcanoes
 - b) Forms of sedimentary rock
 - c) Unconformity
 - d) Isometric system

04 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2069 Chaitra

Exam.	Regular		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ All questions carry equal marks.
- ✓ Assume suitable data if necessary.

1. What are the importances and objectives of engineering geology course in civil engineering? [1+1]
2. Mention any three evidences of plate tectonics. [2]
3. Define moh's scale of hardness. Describe crystal symmetry. [1.5+1.5]
4. a) Describe rock cleavage. Write down the physical and engineering properties of limestone, phyllite and granite. [2+3]
- b) Write down the formation process of metamorphic rock. Describe texture of igneous rock. [5]
5. a) Describe about attitude of rock. What are the differences between true and apparent dip? [2+2]
- b) What is joint? Point out engineering significance of joint and fault. [2+4]
6. What is volcano? Briefly describe about location and types of volcano. [1+3]
7. Describe different land forms produced by river. [4]
8. What are physiographic divisions of Nepal Himalaya. Describe the lithology of Tibetan-Tethys zone. [3+2]

Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1½ hrs.

Subject: - Engineering Geology I (CE503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Define engineering Geology. Highlight the scope of engineering geology. [2]
2. How is Himalaya formed? Name all plate boundaries. [2]
3. Describe physical properties of any three rock forming minerals. [3]
4. a) Describe rock cycle. Write the process of igneous rock formation. [4]
- b) Write physical and engineering properties of following rocks. [1.5×4]
 - i) Dolomite
 - ii) Slate
 - iii) Schist
 - iv) Quartzite
5. a) Define strike, dip and dip amount of a plane. [3]
- b) What is fold? With a neat and labelled diagram show different parts of a fold. Classify fold on the basis of orientation of hinge line and axial surface. [1+3+3]
6. Define geological cycle. Describe types of weathering. [2+3]
7. What are the landforms developed by erosional activities of river. [3]
8. Discuss about the geological division of Nepal Himalaya with simplified cross-section. [5]

Exam.	Regular		
Level	BE	Full Marks	40
Programme	BCE	Pass Marks	16
Year / Part	II / I	Time	1½ hrs.

Subject: - Engineering Geology (CE 503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Mention the different branches of engineering geology. Write in brief the internal structure of earth. [1+3]
2. What are the physical and optical properties of minerals? [4]
3. What are the engineering significance of three rock classes? [4]
4. Explain fault, fold and joint. Define the attitude of geological structure. [3+2]
5. Write short notes on: i) Conglomerate (ii) Shale (iii) Slate (iv) Marble (v) Granite [1×5]
6. Write short note on primary and secondary structures of geology. [5]
7. Mention different geological agents and explain the geological cycle. [4]
8. Define weathering and erosion. Write short notes on volcanism. [4]
9. What are the tectonic division of Nepal? Explain the geology of lesser Himalaya zone. [5]

05 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING

Examination Control Division
2068 Baishakh

Exam.	
Level	BE
Programme	BCI
Year / Part	II / I

½ hrs.

Subject: - Engineering Geology I

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. What is the importance of Geology? What are different branches of geology? [1+1]
2. Define plate tectonics? Define features of the earth surface? [1+1]
3. What are the physical properties of minerals? [2]
4. What is the stage of deformation? Describe types of unconformity. Mention any two civil engineering significance of marble. [1.5+1.5+1]
5. Define attitude of bedrock. Determine the strike direction of bedding plane of Limestone bedrock, which dips towards N31°W. [1+4]
6. a) Mention the difference between weathering and erosion? What are the different geological agents? [2+2]
b) What are different volcanic materials? What are the basis on which volcanoes are classified? [2+2]
7. a) How do you differentiate fault and joint? How is sedimentary rock formed? [2+2]
b) Describe the texture of sedimentary rocks. [4]
8. Write short notes on: (any three) [3×3]
 - a) Geology Terai Zone
 - b) Forms of Igneous Rock
 - c) Crust
 - d) Main Frontal Thrust
