Hall Ticket Number:

file-2

CE222(R20)

B.TECH. DEGREE EXAMINATION, OCTOBER-2022

Semester IV [Second Year] (Regular)

ENGINEERING GEOLOGY

Time: Three hours | Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following in brief:
   (a) List the branches of Geology. CO1
   (b) Define a mineral. CO1
   (c) What is Exfoliation? CO1
   (d) What is the difference between structure and texture? CO2
   (e) What are different types of metamorphism? CO2
   (f) What are the essential minerals present in Dolerite? CO2
   (g) What is outcrop? CO3
   (h) Explain how folds are formed. CO3
   (i) What is seismic belt? CO3
   (j) What is the principle of electrical resistivity method? CO4
   (k) What are the conditions for lining of tunnels? CO4
   (l) What is the purpose of Geological investigations? CO4
   (m) What are different types of dams? CO4
   (n) List different methods of grouting. CO4

UNIT – I

2. (a) Explain the importance of geology in Civil Engineering. (7M) CO1
   (b) What are different types of weathering and explain physical weathering? (7M) CO1

(OR)

3. What are the physical properties of mineral used in identification of a mineral? CO1

UNIT – II

4.	(a)	Explain rock cycle.	(7M)	CO2
	(b)	Explain the properties of basalt and conglomerate.	(7M)	CO2

(OR)

5.	(a)	What are different textures of metamorphic rocks?	(7M)	CO2
	(b)	Explain the properties of schist and shale.	(7M)	CO2

UNIT – III

6.	(a)	What is a fold? What are its different types?	(7M)	CO3
	(b)	Explain effects of fold in civil engineering structure.	(7M)	CO3

(OR)

7.	(a)	What is a fault? Explain its parts with a neat sketch.	(7M)	CO3
	(b)	Explain strike and dip with a neat sketch.	(7M)	CO3

UNIT – IV

8.	(a)	Briefly explain lithological considerations for successful dam.	(7M)	CO4
	(b)	What is grouting? What are the various types of grouting materials?	(7M)	CO4

(OR)

9.	(a)	Explain the importance of Geophysical studies.	(7M)	CO4
	(b)	Write a detailed note on Seismic refraction method of exploration.	(7M)	CO4

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Hall Ticket Number:

CE222 (R20)

B.TECH. DEGREE EXAMINATION, JANUARY-2023

Semester IV [Second Year] (Supplementary)

ENGINEERING GEOLOGY

Time: Three hours | Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following:
   (a) What is weathering? CO1
   (b) What is petrology? CO1
   (c) Explain the action of ice in physical weathering. CO1
   (d) Draw the rock cycle. CO2
   (e) What is vesicular structure? CO2
   (f) What are melanocratic and leucocratic type of igneous rocks? CO2
   (g) List different types of seismic waves. CO3
   (h) Explain how folds are formed. CO3
   (i) List different types of unconformities. CO3
   (j) What is the principle of seismic refraction method? CO4
   (k) What is rock bolting? CO4
   (l) What are different materials used in grouting? CO4
   (m) What is over break? CO4
   (n) Mention any four purposes of tunnelling. CO4

UNIT – I

2. (a) Explain different branches of geology. (7M) CO1
   (b) Explain different types of chemical weathering. (7M) CO1

(OR)

3. Explain the properties of feldspar, calcite and quartz. CO1

UNIT – II

4. (a) Explain geological classification of rocks. (7M) CO2
   (b) Explain the properties of sandstone and marble. (7M) CO2

(OR)

5. (a) Explain different structures of igneous rocks. (7M) CO2
   (b) Explain the properties of granite and limestone. (7M) CO2

UNIT – III

6. (a) Explain different types of faults. (7M) CO3
   (b) Explain the following terms: (7M) CO3
   (i) Outcrop
   (ii) Fold
   (iii) Joint

(OR)

7. (a) Explain the causes and effects of earthquake. (7M) CO3
   (b) Explain the preventive measures of landslides. (7M) CO3

UNIT – IV

8. (a) Write a note on geological consideration in Tunnelling. (7M) CO4
   (b) Explain the methods of grouting used for site improvement. (7M) CO4

(OR)

9. What are the general considerations in the selection of a Dam site? Explain. CO4

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Hall Ticket Number:

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CE222 (R20)

B.TECH. DEGREE EXAMINATION, JULY-2023

Semester IV [Second Year] (Regular & Supplementary)

ENGINEERING GEOLOGY

Time: Three hours | Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following:
   (a) What is the work done by the geological agents? CO1
   (b) What is the importance of habit in mineral identification? CO1
   (c) Define erosion. CO1
   (d) What is denudation? CO1
   (e) Sketch and label the rock cycle. CO2
   (f) List the concordant bodies. CO2
   (g) Why rocks undergo metamorphism? CO2
   (h) What is the composition of Granite? CO2
   (i) What is the importance of secondary structures? CO3
   (j) Define hade. CO3
   (k) Compare fault and joint. CO3
   (l) What is a Geophysical anomaly? CO4
   (m) What is the importance of Geophysical methods? CO4
   (n) What are the types of dams? CO4

UNIT – I

2. (a) Explain the importance of Geology in Civil Engineering. (7M) CO1
   (b) Explain the erosion process carried by a stream. (7M) CO1

(OR)

3. What are the available methods for mineral identification? With suitable examples explain the minerals identification through physical properties. CO1

UNIT – II

4. Classify the rocks with suitable examples. CO2

(OR)

5. List the megascopic properties , mode of origin and uses of CO2
   (i) Granite
   (ii) Dolerite
   (iii) Laterite
   (iv) Sand stone
   (v) Lime Stone
   (vi) Marble

UNIT – III

6. (a) Explain seismic belts and seismic shields. (7M) CO3
   (b) What is an unconformity? Explain the types of unconformities. (7M) CO3

(OR)

7. With suitable sketches classify the folds. CO3

UNIT – IV

8. Explain the electrical resistivity methods and its applications. CO4

(OR)

9. (a) Illustrate the methods of Grouting. (7M) CO4
   (b) Summarize the Geological considerations for Tunneling. (7M) CO4

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Hall Ticket Number:

CE222 (R20)

B.TECH. DEGREE EXAMINATION, NOVEMBER-2023

Semester IV [Second Year] (Supplementary)

ENGINEERING GEOLOGY

Time: Three hours | Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following:

(a)	Define erosion?	CO1
(b)	What are the products of weathering?	CO1
(c)	Define cleavage?	CO1
(d)	Explain the conditions promote cavitation?	CO1
(e)	Give two examples for each category of rocks?	CO2
(f)	List the structures in igneous rocks?	CO2
(g)	What is the significance of textures in rocks?	CO2
(h)	What is stratification? Name the rocks exhibit stratification?	CO2
(i)	Define strike and dip?	CO3
(j)	Define unconformity?	CO3
(k)	What is an outcrop?	CO3
(l)	What is a geophysical anomaly?	CO4
(m)	Compare intensity and magnitude of earthquake?	CO4
(n)	List the causes for over break?	CO4

UNIT – I

2. (a) Explain the branches of Geology and their importance. (7M) CO1
   (b) List the physical properties of (i) Feldspar (ii) Quartz (iii) Hematite (iv) Olivine (7M) CO1

(OR)

3. Explain the process of weathering in rocks. CO1

UNIT – II

4. (a) Discuss the structures in igneous rocks with suitable illustrations. (7M) CO2
   (b) Explain the structures in sedimentary rocks. (7M) CO2

(OR)

5. What is rock? Give the Geological classification of Rocks. CO2

UNIT – III

6. (a) Explain the causes and mitigation measures to prevent landslides. (7M) CO3
   (b) Define intensity and magnitude. (7M) CO3

(OR)

7. Discuss the classification faults with neat sketches. CO3

UNIT – IV

8. (a) Explain the importance of geophysical methods of investigation. (7M) CO4
   (b) Summarize the Seismic refraction method. (7M) CO4

(OR)

9. (a) Explain the geological consideration for the selection of a dam site. (7M) CO4
   (b) Explain (i) Effects of tunneling on ground (ii) Rock bolting (7M) CO4

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Hall Ticket Number:

CE222 (R20)

B.TECH. DEGREE EXAMINATION, MAY-2024

Semester IV [Second Year] (Regular & Supplementary)

ENGINEERING GEOLOGY

Time: Three hours | Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following:

(a)	List the branches of Geology.	CO1
(b)	What is petrology?	CO1
(c)	Explain the action of ice in physical weathering.	CO1
(d)	What is the difference between structure and texture?	CO2
(e)	What is columnar structure in Igneous rock?	CO2
(f)	What are the essential minerals present in Dolerite?	CO2
(g)	What is outcrop?	CO3
(h)	Explain how folds are formed?	CO3
(i)	What is seismic belt?	CO3
(j)	State the principle of electrical resistivity method.	CO4
(k)	Why lining is necessary for tunnelling?	CO4
(l)	What is the purpose of Geological investigations?	CO4
(m)	What are different types of dams?	CO4
(n)	List different methods of grouting.	CO4

UNIT – I

2. (a) Explain the importance of geology in Civil Engineering. (7M) CO1
   (b) Explain the properties of Muscovite and Biotite mica. (7M) CO1

(OR)

3. What are the physical properties of mineral used in identification of a mineral? Explain. CO1

Hall Ticket Number:

CE222 (R20)

B.TECH. DEGREE EXAMINATION, MAY-2024

Semester IV [Second Year] (Regular & Supplementary)

ENGINEERING GEOLOGY

Time: Three hours

Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following:
   (a) List the branches of Geology. CO1
   (b) What is petrology? CO1
   (c) Explain the action of ice in physical weathering. CO1
   (d) What is the difference between structure and texture? CO2
   (e) What is columnar structure in Igneous rock? CO2
   (f) What are the essential minerals present in Dolerite? CO2
   (g) What is outcrop? CO3
   (h) Explain how folds are formed? CO3
   (i) What is seismic belt? CO3
   (j) State the principle of electrical resistivity method. CO4
   (k) Why lining is necessary for tunnelling? CO4
   (l) What is the purpose of Geological investigations? CO4
   (m) What are different types of dams? CO4
   (n) List different methods of grouting. CO4

UNIT – I

2. (a) Explain the importance of geology in Civil Engineering. (7M) CO1
   (b) Explain the properties of Muscovite and Biotite mica. (7M) CO1

(OR)

3. What are the physical properties of mineral used in identification of a mineral? Explain. CO1

UNIT – II

4. (a) Explain geological classification of rocks. (7M) CO2
   (b) Explain the properties of schist and shale. (7M) CO2

(OR)

5. (a) Explain different textures of igneous rocks. (7M) CO2
   (b) Explain the properties of granite and Gneisses. (7M) CO2

UNIT – III

6. (a) What is unconformity and explain its types and effects. (7M) CO3
   (b) Explain the following terms: (7M) CO3
   (i) Outcrop
   (ii) Fold
   (iii) Joint

(OR)

7. (a) Explain the causes and effects of earthquake. (7M) CO3
   (b) Explain the preventive measures for landslides. (7M) CO3

UNIT – IV

8. (a) Write a detailed note on seismic refraction method of exploration. (7M) CO4
   (b) Explain the methods of grouting used for site improvement. (7M) CO4

(OR)

9. What are the geological considerations for a successful tunnelling? Explain. CO4

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