B.E. (Civil Engineering) Third Semester (C.B.S.)

Engineering Geology

P. Pages : 2 **NIR/KW/18/3295**

Time : Three Hours Max. Marks : 80

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Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Describe various salient features of the plate tectonics and various types of plate margs along with suitable sketches. **7**

b) Describe the various physiographical and tectonic divisions of India. **6**

OR

2. Describe the various geological works of wind with respect to erosion transportation and deposition along with diagrams. **13**

3. What is a mineral? Describe various physical properties of minerals and write about any one method of determination of specific gravity of minerals with a diagram. **13**

OR

4. What is Rock cycle? Describe various agents of metamorphism and type of metamorphism. **13**

5. a) A fault plane in a valley slope is dipping at 1 in 5 along N30ºE. Find the directions in which its apparent dip is 1 in 7.5. Give procedure. State strike scale 1 unit = 1cm. **7**

b) A shale bed is exposed in a sloping ground 15º east. Its outcrop measures 500m and dip is 45º east. Find the true and vertical thickness of the shale bed scale 1cm = 100m. **7**

OR

6. What is a Fault structure? Describe different types of fault with suitable sketches. Add a note on its importance in civil engineering projects. **14**

7. What is an earthquake? Describe various causes of an earthquake. Add a note on seismic zones of India. **13**

OR

8. What is landslide? Describe various types of landslides along with diagrams. Add a note on their preventions. **13**

9. Differentiate between the following. **13**

a) Meteoric Water and Connate water.
b) Aquifer and Aquifuge
c) Confined Aquifer and Unconfined Aquifer.
d) Artesian well and flowing well.

OR

10. What are various geophysical methods of site investigation? Describe in detail about electrical resistivity method. **13**

11. Discuss various geological conditions which influences the selection and stability of a dam structure along with diagrams. **14**

OR

12. Write short notes on **any three.** **14**

a) RQD

b) Building stones.

c) Railway Ballasts

d) Tunnel lining.

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B.E. (Civil Engineering) Third Semester (C.B.S.)

Engineering Geology

P. Pages : 2 **NJR/KS/18/4350**

Time : Three Hours * 0 1 2 6 * Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What do you understand by plate Tectonics? Describe its salient features and various types of plate margins. **7**

b) Describe the interior of the earth with a neat sketch. **6**

OR

2. What is geomorphology? Describe the geological works of river with respect to erosion, transportation and deposition. **13**

3. Define a mineral. Describe various physical properties of minerals with suitable examples. **13**

OR

4. What are Igneous rocks? Discuss the formation of Igneous rocks. Add a note on various forms of Igneous rocks. **13**

5. a) A shale bed at a dam site is found its be dipping at 1 in 4 along N 65º E and 1 in 6 along N 15º W. Find the amount and direction of its true dip. Scale 1 unit = 1 Cm. **7**

b) A limestone bed dips at 30º West on a slope of 20º East. The width of its outcrop is 160m. Determine its true and vertical thickness. Scale 1 Cm = 40m. **7**

OR

6. What is a fold? Describe various types of fold. Add a note on their importance in civil engineering construction works. **14**

7. What are earthquakes? Discuss the tectonic causes of an earthquake. Add a note on seismic waves. **13**

OR

8. What are landslides? Discuss the causes of landslide. Add a note on the methods of their preventions. **13**

9. a) Describe various elements of Hydrologic cycle. Add a note on ground water zones. **7**

b) Differentiate between unconfined, confined and parched aquifers. **6**

OR

10. Enumerate various methods of geophysical investigation. Describe the seismic method of geophysical investigation in detail. **13**

11. Discuss the various geological conditions influence the stability of a dam structure. **14**

OR

12. Write short notes on the following. **14**

a) R.Q.D.

b) Railway Ballasts.

c) Overbreak.

d) Brazilian test.

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B.E. (Civil Engineering) Third Semester (C.B.S.)

Engineering Geology

P. Pages : 2 **NRJ/KW/17/4350**

Time : Three Hours Max. Marks : 80

Notes :
1. Solve Question 1 OR Questions No. 2.
2. Solve Question 3 OR Questions No. 4.
3. Solve Question 5 OR Questions No. 6.
4. Solve Question 7 OR Questions No. 8.
5. Solve Question 9 OR Questions No. 10.
6. Solve Question 11 OR Questions No. 12.
7. Assume suitable data whenever necessary.
8. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What is Plate tectonics? Describe the various types of plate margins. **7**

b) Describe the various physiographic division of India. **6**

OR

2. Give an account of the geological work of RIVER. Explain in detail important features of the landscape of River erosion and depositions. **13**

3. Describe the various physical properties and Industrial importance of rock forming minerals. **13**

OR

4. What are Igneous rock? How they are formed? Describe in detail the classification of Igneous rock. Add a note on its importance in civil engineering works. **13**

5. What are folds? Describe the classification of folds. Add a note on civil engineering consideration of fold in civil engineering works. **14**

OR

6. a) A sand stone bed in tunnel site is found to be dipping at 1 in 6 along S 65ºW and 1 in 8 along S 15ºE. Find the amount and direction of its true dip. State strike, Give procedure. Scale : 1 unit = 1cm. **7**

b) In a level gourd a lime stone formation is depping at 30º East with its outcrop 120m wide. Find out its true thickness and vertical thickness. Scale : 1cm = 40m, write procedure. **7**

7. a) What are land slides? How are they caused explain in details. **7**

b) Explain in details how land slides can be prevented. **6**

OR

8. a) What are the Earthquakes? Explain the various causes of Earthquakes. **6**

b) Define Intensity and seismic zone of India. Add a note on Earthquake resistance structures. **7**

9. Write notes on **any two.** **14**

a) Zones of ground water.
b) Hydrological cycle.
c) Confined and unconfined aquifers.

OR

10. What are the geophysical methods of investigation for civil engineering works. Explain seismic in detail. **14**

11. Write notes on. **13**

a) Building stones.

b) Seismic waves and magnitude of Earthquake.

c) Electrical Resistivity method of Exploration.

OR

12. Discuss the various Geological problem met during the construction of tunnel project. **13**

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B.E.Third Semester (Civil Engineering) (C.B.S.)

Engineering Geology

P. Pages : 1 **NKT/KS/17/7210**

Time : Three Hours Max. Marks : 80

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Notes : 1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What is stratigraphy? Discuss the principle of stratigraphic Co-relation. **7**

b) Discuss the physiographic and tectonic division of India. **7**

OR

2. Write short notes on following. **14**

a) Ox-bow lake. b) Sand dunes

c) Plate tectonics d) Products of volcano.

3. What is mineral? Describe the various physical properties that help in their identification. **13**

OR

4. What are igneous rocks? Describe the tabular classification of igneous rocks. **13**

5. What is fault? Describe the different types of fault with neat sketches. Add a note on engineering consideration of fault. **14**

OR

6. a) A limestone bed in a reservoir area is dipping at 1 in 5 along N 70ºE. Find its apparent dip along S 60ºE. Give procedure scale 1 unit = 1cm. **7**

b) A limestone bed is dipping at 25º East into a hill slope 20º West. Its out crop is 300m wide. Determine the true and vertical thickness of limestone. Write procedure. Scale 1 cm = 50m. **7**

7. What is earthquake? Describe the origin of earthquake. Add a note on seismic zones of India. **13**

OR

8. What are landslides? How are they caused? Describe the methods of preventing landslides. **13**

9. What is hydrological cycle? Describe the occurrence of ground water below the earths surface. **13**

OR

10. What is prospecting? Explain Electrical Resistivity method of geophysical exploration in detail. **13**

11. Discuss the brief account of the geological knowledge as applied in the construction of tunnels. **13**

OR

12. Discuss the geological conditions which lead to location, design and construction of a successful dam projects. **13**

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B.E. (Civil Engineering) Semester Third (C.B.S.)

Engineering Geology

P. Pages : 2 **KNT/KW/16/7210**

Time : Three Hours Max. Marks : 80

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Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. Give an account of the geological work of wind. Explain in detail important features of the landscape of wind erosion and deposition. **14**

OR

2. a) Describe the physiographic and tectonic divisions of India. **7**

b) What is stratigraphy ? Describe various principles of stratigraphic correlations. **7**

3. What is a mineral ? Describe different physical properties of minerals which help to identify them. **13**

OR

4. What are Igneous Rocks ? Discuss the formation of igneous rocks and tabular classification of igneous rocks. **13**

5. What are faults ? Discuss different types of faults and their significance in civil engineering construction work. **14**

OR

6. a) A limestone bed in a dam site is found to be dipping at 1 in 6 along S 65° W and 1 in 8 along S 15° E. Find the amount and direction of its true dip. scale 1 unit = 1 cm. **7**

b) A sandstone bed is exposed on a slope 20° East. The bed dips at 30° west and its outcrop is 160m wide. Determine its true and vertical thickness. Scale 1 cm = 40 m. **7**

7. What are Earthquakes ? Describe in brief the origin of an earthquakes and seismic zones of India. **13**

OR

8. What are landslides ? How are they caused ? Describe various methods of prevention of landslides. **13**

9. a) What is ground water ? Describe the occurrence of ground water below the earth's surface. **7**

b) Discuss that various hydrogeological conditions which are responsible for formation of water table well artesian well and flowing well. **6**

OR

10. What is geophysical prospecting ? Describe the electrical resistivity method of geophysical prospecting in detail. **13**

11. Discuss the geological conditions that influence the stability of a dam structure, with neat sketches. **13**

OR

12. Write short notes on : **13**

a) Building stones.

b) Rock Quality Designation. (R.Q.D.)

c) Railway ballasts.

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B.E. (Civil Engineering) Third Semester (C.B.S.)

Engineering Geology

P. Pages : 2 **TKN/KS/16/7298**

Time : Three Hours * 1 0 8 1 * Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Diagrams and chemical equations should be given whenever necessary.
11. Illustrate your answers whenever necessary with the help of neat sketches.
12. Use of non programmable calculator is permitted.

1. a) What is plate tectonics? Discuss its salient features and various types of plate margins. **7**

b) Describe various physiographic and tectonic divisions of India. **7**

OR

2. Describe in details the geological work of wind in respect of erosion, transportation and deposition. **13**

3. What is mineral? Describe in detail the physical properties of minerals with typical examples. **13**

OR

4. What are sedimentary rocks? How are they formed? Describe in detail the classification of sedimentary rocks. Add a note on its importance in civil engineering works. **13**

5. What are faults? Describe various types of faults and their importance in civil engineering projects. **14**

OR

6. a) A shale bed in a railway cutting is dipping at 1 in 3.5 along 545°w. Find the directions in which its dip is 1 in 6. State strike. Give procedure. Scale : 1 unit = 1cm. **7**

b) A limestone bed is dipping at 45° in a slope 15° west with its outcrop 200m wide. Find the true and vertical thickness of limestone bed. Write procedure. Scale 1 cm = 40m. **7**

7. What is an earthquake? Discuss various causes of earthquakes. Describe in brief the characteristics of various seismic waves. **13**

OR

8. What are landslides? How are they caused? Describe the various methods of prevention of landslides. **13**

9. a) What is hydrologic cycle? Describe various zones of groundwater. **7**

b) Differentiate between confined aquifer and unconfined aquifer with the help of neat sketches. **6**

OR

10. What are various geophysical methods of site investigation. Describe in details about electrical resistivity method. **13**

11. Discuss the following. **14**

a) Rock quality Designation (R. Q. D).

b) Building stone.

c) Railway Ballasts.

OR

12. a) Describe the problems that are met in construction of dam on inclined beds, folded rocks and faulted rocks. **7**

b) Discuss the problems that are ment in construction of tunnel in inclined beds and folded rocks. **7**

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Third Semester B. E. (Civil Engg.) (C.B.S.) Examination

ENGINEERING GEOLOGY

Time : Three Hours] [Max. Marks : 80

N. B. : (1) All questions carry equal marks.
(2) Answer Six questions. Q.1 or Q.2; Q.3 or Q.4; Q.5 or Q.6; Q.7 or Q.8; Q.9 or Q.10; Q.11 or Q.12.
(3) Assume suitable Data wherever necessary.
(4) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) What is plate Tectonics ? Describe various types of plate margins. 7

   (b) Discuss the principles of stratigraphic correlation. Add a note on physiographic divisions of India. 7

OR

2. Describe the geological work of wind with respect to erosion, transportation and deposition along with their features. Add a note on methods of control of sand migration in desert area. 14

3. What are rock forming minerals ? Describe various physical properties of minerals. 13

OR

4. What is Rock cycle? Describe the formation of sedimentary rocks. Add a note on structures of sedimentary rocks. 13

5. (a) A clay bed is dipping at a dam site at the rate of 1 in 4 along N 15^0 W. Find its apparent dip along N 50^0W. State strike. Scale 1 unit = 1 cm. 7

   (b) A limestone bed is dipping at 30^0 in a slope of 10^0 west with its outcrop 200 m wide. Find the true and vertical thickness of limestone. Scale 1 cm = 40 m. 7

OR

6. What is a fault ? Describe different types of faults with suitable sketches. Add a note on importance of fault structures in civil engineering works. 14

7. What are earthquakes ? Explain different types of seismic waves with the help of sketches. Add a note on seismic zones of India. 13

OR

8. (a) Describe various tectonic causes of an earthquake. 6

   (b) Differentiate between intensity and magnitude of an earthquake and give the modified Mercali Intensity Scale. 7

9. Differentiate between the following :—
   (a) Unconfined and confined aquifers.
   (b) Porosity and permeability.
   (c) Artesian well and flowing well. 13

OR

10. What do you understand by geophysical investigation ? Describe the most useful geophysical methods for site selection for a civil engineering project. 13

11. Describe various engineering properties of rocks. 13

OR

12. Describe the geological factors that influence the shape and design of a tunnel. 13