

III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
ENGINEERING GEOLOGY
(CIVIL ENGINEERING)

Time: 3hours

Max.Marks:80

Answer any FIVE questions
All questions carry equal marks

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1. Explain the importance of physical, structural geology & petrology in civil Engineering? [16]
2. Explain the structural composition for the following minerals. [16]
 - a) Feldspar
 - b) Quartz
 - c) Kyanite
 - d) Garnet.
- 3.a) Define Dyke ? Explain different types of dykes with neat sketches ? [8+8]
b) Explain textures of igneous and metamorphic rocks ?
- 4.a) Explain in detail regarding sub-classification of folds based on position of axial plane ? [8+8]
b) What is a joint? Explain the geometry of discontinuities of joints?
- 5.a) Explain in detail various seismic belts of India?
b) Explain the precautions to be taken for the construction of buildings in seismic areas ? [8+8]
6. Explain the following: [16]
 - a) Equipotential method
 - b) Wenner method
 - c) Resistivity traversing method
 - d) Self potential method.
- 7.a) Explain in detail regarding the factors that are governing for the reservoir selection site ? [8+8]
b) What should be the geology of reservoir area? Explain in detail?
8. Describe the geologic parameters of rock tunneling? [16]

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1. Explain the weathering properties for different types of rocks ? [16]
2. Explain the study of minerals in identification with different methods for any five minerals ? [16]
3. Explain the cataclastic, porphyroclastic, maculose structures in rocks with neat sketches ? [16]
- 4.a) Explain the following types of faults
 - i) Dip – slip
 - ii) Reverse fault
 - iii) Oblique slip fault
- b) Explain the criteria for the identification of fault ? [8+8]
5. Explain the origin and occurrence of ground water in detail with neat sketches? [8+8]
- 6.a) Explain the geophysical studies by seismic and radiometric methods in detail?
- b) What are the fundamental aspects of rock mechanics and environmental Geology? [8+8]
7. Explain the various problems that come across while constructing the concrete and earth dams? [16]
8. Explain in detail purposes of tunneling & also effects of tunneling on the ground. [16]

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Code.No: 07A50905

R07

SET-3

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Time: 3hours**Max.Marks:80**

Answer any FIVE questions
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- - -

1. Define Engineering Geology? How the geological drawbacks play a major role in construction failures? [16]
2. Explain in detail for the following minerals
a) Oxide minerals
b) Carbonate minerals. [16]
3. Explain in detail regarding structures of sedimentary rocks? [16]
4. Explain the broad classification of folds with neat sketches and also causes of folding ? [16]
5. Write short notes on:
a) Water table
b) Springs
c) Cone of depression
d) Shield areas and seismic belts. [16]
6. Explain various electrical methods associated with geophysical studies? [16]
- 7.a) Define Dam? Explain briefly various types of Dams?
b) What are the different geological investigations to be considered for a reservoir construction? [16]
8. Explain the role of Geological considerations for the construction of tunnels in detail? [16]

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SET-4

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Time: 3hours**Max.Marks:80**

Answer any FIVE questions
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- 1.a) What are the geological parameters in Civil engineering structures?
- b) Explain the importance of physical geology, petrology and structural geology? [8+8]
2. Define Minerals? Briefly explain about
 - a) Silicate group
 - b) Felspar group
 - c) Pyroxene group. [16]
3. Describe the rocks derived from Magma and lava and also their types in detail? [16]
4. Define Fault? Explain the effects of faulting with neat diagram? [16]
5. Explain various causes and effects of Earth quakes? [16]
6. Explain various seismic methods associated with geophysical studies? [16]
7. What should be the objectives and geological characteristics for investigation for the selection of Dam construction? [16]
8. Write a brief notes on:
 - a) Purposes of Tunneling
 - b) Effects of tunneling on the ground
 - c) Lining in Tunnels. [16]

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