

Code No: 115AA

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech III Year I Semester Examinations, February/March - 2016****ENGINEERING GEOLOGY****(Civil Engineering)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit.

Each question carries 10 marks and may have a, b, c as such questions.

**Part –A****(25 Marks)**

- |      |   |     |
|------|---|-----|
| 1.a) | Define the term of Erosion.                         | [2] |
| b)   | Define the term of Weathering.                      | [3] |
| c)   | Write the physical properties of minerals hardness. | [2] |
| d)   | Write short notes on Sand Stone.                    | [3] |
| e)   | Write short notes on Recumbent fold.                | [2] |
| f)   | Define the term ground water.                       | [3] |
| g)   | Explain the Geophysical electrical method.          | [2] |
| h)   | Explain the Geophysical Seismic method.             | [3] |
| i)   | What are tunnels?                                   | [2] |
| j)   | Explain the purpose of tunnels.                     | [3] |

**Part –B****(50 Marks)**

2. How is Geology related to engineering? Discuss the scope and application of the geological knowledge in planning and execution of civil engineering works. [10]

**OR**

3. Give different branches of Geology and their application to engineering. Discuss the important's of Geology in the field of civil engineering. [10]

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|------|---|---------|
| 4.a) | Write the physical properties of minerals with suitable examples. |         |
| b)   | Write short notes on Muscovite Mineral.                           |         |
| c)   | Explain Mode of formation of metamorphic rocks.                   | [3+3+4] |

**OR**

- |      |  |       |
|------|--|-------|
| 5.a) | What are the major difference dykes and sills? |       |
| b)   | Describe the classification of igneous rocks.  | [5+5] |

- |      |  |  |
|------|--|--|
| 6.a) | Define unconformity? Describe different types of unconformities.               |  |
| b)   | What is the difference between Fault and Joint?                                |  |
| c)   | What are the types of water under the zone of aeration and zone of saturation. |  |

[3+3+4]

**OR**

- 7.a) What is mass-wasting?  
b) Explain the various geological, geophysical, hydrological methods. For ground water exploration Techniques.  
c) What is a perched water table? [3+3+4]

- 8.a) Write the capacity, evaporation, water tightening, litho logy and influence of geological structure for life of Reservoir.  
b) What is multi-purpose dam? [5+5]

**OR**

- 9.a) Write an essay on the electrical method of exploration  
b) Analyze dam failures in past. How do you select a site to construct a dam, explain? [5+5]

10. Explain the importance of geological structures for successful tunneling with sketches. [10]

**OR**

11. Describe the different type's tunnels and their importance in public transportation and power utilities. [10]

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