

Code No: 126DG**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech III Year II Semester Examinations, May – 2016****ENGINEERING GEOLOGY****(Civil and Environmental 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 sub questions.

PART - A**(25 Marks)**

- 1.a) Define the term 'weathering process'? [2]
- b) Explain the term Petrology. [3]
- c) What is a mineral? [2]
- d) What is cleavage? [3]
- e) Define the term unconformity? [2]
- f) What is the difference between anticline and syncline? [3]
- g) Explain the Geophysical gravity method. [2]
- h) Explain the Geophysical Geothermal method. [3]
- i) Explain the Geological considerations in the selection of Tunnels. [2]
- j) Explain the term Reservoir. [3]

PART-B**(50 Marks)**

- 2.a) Explain various geological factors that affect the Civil Engineering constructions with case studies.
- b) Define weathering. Discuss the ways how rocks can be weathered mechanically.
- c) What are the types of Geological agents? [4+3+3]

OR

- 3.a) What is the scope of geology in Civil Engineering?
- b) Explain in detail the process of weathering of rocks.
- c) What are the main and allied branches of Geology? Explain them. [3+3+4]

- 4.a) Describe the physical properties of the following minerals you could use to identify
i) Jasper ii) Asbestos
- b) Describe the physical properties of the following minerals you could use to identify
i) Kyanite ii) Hematite
- c) Write an essay on Igneous rocks with suitable examples. [3+3+4]

OR

- 5.a) Give salient features and economic importance of feldspar group of minerals.
- b) Briefly explain the Physical properties of Muscovite and Asbestos.
- c) Write an essay on Metamorphic rocks with suitable examples. [4+3+3]

- 6.a) What is a faulting? Describe the important types of faults?
b) Write an essay on Folds with suitable sketches.
c) What is the difference between Fault and Joint? [4+3+3]
- OR**
- 7.a) Discuss the causes and effects of earthquakes.
b) Describe the hazards of landslides. What are the causes of it? [5+5]
- 8.a) Define dam. How do you classify them? Analyze the dam failures in past.
b) How do you select a site to construct a dam, Explain? [5+5]
- OR**
- 9.a) Write the capacity, evaporation, water tightening, lithology and influence of geological structure for life of a Reservoir.
b) Write an essay on the electrical method of exploration. [6+4]
10. Define the term tunnel and give purposes of tunneling? Discuss in detail about the role of Geological considerations for proper tunneling. [10]
- OR**
11. Describe the different types of tunnels and their importance in public transportation and power utilities. [10]

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