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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)

**B.Tech II Year II Semester Regular Examinations October-2022**

**ENGINEERING GEOLOGY**

(Civil Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

**UNIT-I**

- 1 a Explain the brief study of case histories of failure of some civil engineering constructions due to some geological drawbacks. L2 6M
- b Write in detail about the structure of the earth and composition with a neat diagram. L2 6M

**OR**

- 2 a Discuss the Importance of Weathering with reference to dams, reservoirs, tunnels and bridge. L4 6M
- b What are the types of geological agents? Describe briefly the natural agencies. L3 6M

**UNIT-II**

- 3 a What are the various physical properties useful to identify a mineral. Describe any three in detail. L2 6M
- b Name at least four clay minerals and their important engineering properties. L4 6M

**OR**

- 4 a Write physical properties of Garnet and Hematite minerals. L2 6M
- b Describe Moh's scale of hardness for minerals and cleavage properties to identify a mineral in hand specimen. L2 6M

**UNIT-III**

- 5 a How would you differentiate between igneous rock, metamorphic rock and sedimentary rock on the basis of structure and texture? L4 6M
- b What is metamorphism? Discuss the various agents of metamorphism? L1 6M

**OR**

- 6 a Write an essay on engineering properties distribution and uses of granite. L3 6M
- b What are extrusive and intrusive igneous rocks? Describe their salient features? L3 6M

**UNIT-IV**

- 7 a Explain the different types of folds with the help of neat sketches. L4 6M
- b What are joints? Discuss the various types of joints. L2 6M

**OR**

- 8 a How geological investigations are conducted for subsurface investigations using magnetic methods. L3 6M
- b Write principles of various Geophysical methods used in site investigation. L2 6M

**UNIT-V**

- 9 a What are the precautionary measures taken in the construction of buildings in earthquake prone zones. L2 6M
- b Explain the engineering significance of ground water. L2 6M

**OR**

- 10 a Explain the geological factors influencing water tightness and life of reservoirs. L2 6M
- b Describe the geological consideration for successful tunneling. L2 6M

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