

**B.Tech. CIVIL ENGINEERING (BTCLEVI)**

**Term-End Examination**

**December, 2016**

**BICE-003 : ENGINEERING GEOLOGY**

*Time : 3 hours*

*Maximum Marks : 70*

---

**Note :** Attempt any *seven* questions. All questions carry equal marks.

---

1. What are the geological conditions that influence the design, stability and cost of a traffic tunnel in hilly regions ? 10
2. Write short notes on the following : 10
  - (a) River Valleys
  - (b) Reefs
  - (c) Dolines
  - (d) Escarpments
3. Explain in detail the difference between isometric systems and hexagonal systems of formation of minerals. 10
4. What are the different forces acting on a dam ? Explain the water pressure and uplift pressure. 10

5. Write short notes on the following : 10
- (a) Columnar Jointing
  - (b) Rift Valley
  - (c) Horst and Graben
  - (d) Joints in Rocks
6. Explain the terms "texture and structure" of rocks. What are the important textures of the metamorphic rocks and their causes of formation ? 10
7. Write down the stratigraphical order of Cuddapah system of Andhra in terms of series, aggregate thickness, main sub-division and lithology. 10
8. Identify and explain the crystallization system of the following minerals : 10
- (a) Beryl
  - (b) Gypsum
  - (c) Zircon
  - (d) Axinite
9. Discuss the engineering problems of marine erosion and deposition. How do these differ from those of streams ? 10
10. Discuss why rocks are desirable at sites for any type of engineering construction. 10
-