



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Third Semester, B.E. - Civil Engineering

Semester End Examination; Dec. - 2014

Applied Engineering Geology

Time: 3 hrs

Max. Marks: 100

Note: i) Answer **FIVE** full questions, selecting **ONE** full question from each Unit.
ii) Assume suitable missing data if any.

Unit - I

1. a. What is Geology? Briefly explain its important branches 6
- b. What is Seismology? Explain with a neat sketch the different parts of internal structure of the Earth. Add a note on Seismic waves role in understanding the structure and composition of the earth. 14
2. What is mineralogy? Explain how the physical properties of minerals are useful in their identification in the field with mineral examples. 20

Unit - II

3. a. What are igneous rocks? Explain with sketches the concordent and discordent igneous intrusive bodies. 14
- b. What is texture? Explain with sketches equigranular and inequigranular textures of igneous rocks. 6
4. Explain the following: 20
 - i) Epigene and Hypogene Geological Agents
 - ii) Preventive measures to Landslides.
 - iii) Soil Profile with a neat sketch
 - iv) Importance of weathering of rocks.

Unit - III

5. Explain the following with neat sketches: 20
 - i) Horst and Graben structure.
 - ii) Compass clinometers and its uses
 - iii) A typical fold and its parts.
 - iv) Angular unconformity and Disconformity
6. What is a DAM? With what purpose it will be constructed? Explain in detail the geological investigations of a good dam site. 20

Unit - IV

7. a. Write a note on hydrological cycle. 5
- b. Explain in detail the vertical distribution of ground water. 10
- c. Write a note on artificial recharge of ground water in rain water harvesting. 5
8. a. Explain briefly the causes and effects of Earthquakes. 10
- b. Types of soil erosion and its preventive measures. 10

Unit - V

9. a. Classification of rocks based on aquifer characters 10
- b. Impact of mining on Geo- Environment. 10
10. a. Geo-physical prospecting for ground water. 10
- b. Application of remote sensing in Civil Engineering practice. 10