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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 - 2016/Jan - 2017

Applied Engineering Geology

Time: 3 hrs

Max. Marks: 100

Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.

UNIT - I

- 1 a. Explain the role of geology in the field of Civil Engineering. 6
- b. With a neat sketch, explain the internal structure of the earth on different unconformities. 8
- c. What is texture? Describe the textures of igneous rocks. 6
- 2 a. Briefly describe the various branches of geology. 6
- b. Explain the primary structures of sedimentary rocks with neat sketch. 7
- c. What is metamorphism? Describe the types of metamorphism with examples. 7

UNIT - II

- 3 a. Write a brief note on epigene and hypogene geological agents with examples. 4
- b. What are landslides? Write a note on causes and preventive measures of landslides. 10
- c. Briefly explain earthquake waves. 6
- 4 a. What is an earthquake? Briefly explain effects and precautionary measures of earthquake. 12
- b. What is an epicenter? Write a note on seismograph with a diagram. 8

UNIT - III

- 5 a. What are faults? Add note on Horst and Graben. How do you identify faults in the field? 12
- b. What are unconformities? Explain types of unconformities. 8
- 6 a. Write short note on Dip and Strike with a sketch. 6
- b. What are folds? Add a note on anticlinal fold and synclinal fold with neat sketch. 6
- c. What is joint? With neat sketch explain any three kinds of joints. 8

UNIT - IV

- 7 a. Describe how geological investigation is carried out for selection of sites for dams foundation? 10
- b. With a neat sketch, add a note on tunneling through folded strata. 10
- 8 a. Discuss briefly the geological consideration in selecting site for reservoirs. 10
- b. What is reservoir silting? Add a note on its preventive measures. 10

Contd.....2

UNIT - V

- 9 a. What is an aquifer? Add a note on confined and unconfined aquifer with a neat sketch. 10
- b. With a neat sketch, give a brief note on hydrological cycle. 5
- c. What is remote sensing? Describe the application of remote sensing in the field of civil engineering. 5
- 10a. What is groundwater? Describe how groundwater is prospected by electrical resistivity method? 10
- b. Explain GPS and its uses. 5
- c. What is GIS? Write its uses in Civil Engineering. 5

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