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## Third Semester B.E. Degree Examination, July/August 2021 Engineering Geology

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1
  - a. Discuss what you know about the internal constitution of Earth as revealed by the seismological evidences. (10 Marks)
  - b. Write a critical essay on the "Role of Geological investigations in Civil Engineering practice". (10 Marks)
  
- 2
  - a. Give an account of physical properties of minerals. (10 Marks)
  - b. Write the Luster, Cleavage, Hardness and Chemical composition of i) MILKY QUARTZ ii) ORTHOCLASE iii) GYPSUM and iv) CHALCOPYRITE. (10 Marks)
  
- 3
  - a. Classify and describe the different types of joints in a rock. (10 Marks)
  - b. Give a detailed classification of Igneous Rocks based on origin. (06 Marks)
  - c. Differentiate between Granite and Charnockite. (04 Marks)
  
- 4
  - a. Give a detailed classification of sedimentary rocks. (08 Marks)
  - b. Explain the types of Metamorphism. (06 Marks)
  - c. Differentiate between Gneissose structure and Schistose structure. (06 Marks)
  
- 5
  - a. Give a detailed account of types of Weathering. (10 Marks)
  - b. Discuss and describe the causes of earthquakes. (10 Marks)
  
- 6
  - a. Discuss the geomorphological aspects to be considered in the selection of site for dam. (07 Marks)
  - b. What do you understand by landslides? Discuss the conditions that favour them. (07 Marks)
  - c. Give an account of types of drainage patterns. (06 Marks)
  
- 7
  - a. Explain the components of hydro geological cycle, with neat sketch. (06 Marks)
  - b. Explain the types of aquifers, with neat diagram. (10 Marks)
  - c. Define i) Porosity ii) Permeability. (04 Marks)
  
- 8
  - a. Give a detailed account of Electrical resistivity method for ground water exploration by using Schlumberger configuration. (10 Marks)
  - b. Give a detailed account of Ground water recharge method. (10 Marks)
  
- 9
  - a. What do you understand by Remote Sensing? Differentiate between Active and Passive Remote sensing. (07 Marks)
  - b. Explain the Idealised remote sensing system, with neat sketch. (07 Marks)
  - c. Briefly explain the impact of mining and quarrying on environment. (06 Marks)
  
- 10
  - a. State the objectives of GIS. (06 Marks)
  - b. Write a note on Components of GIS. (06 Marks)
  - c. Write the applications of Remote sensing in Civil Engineering field. (08 Marks)