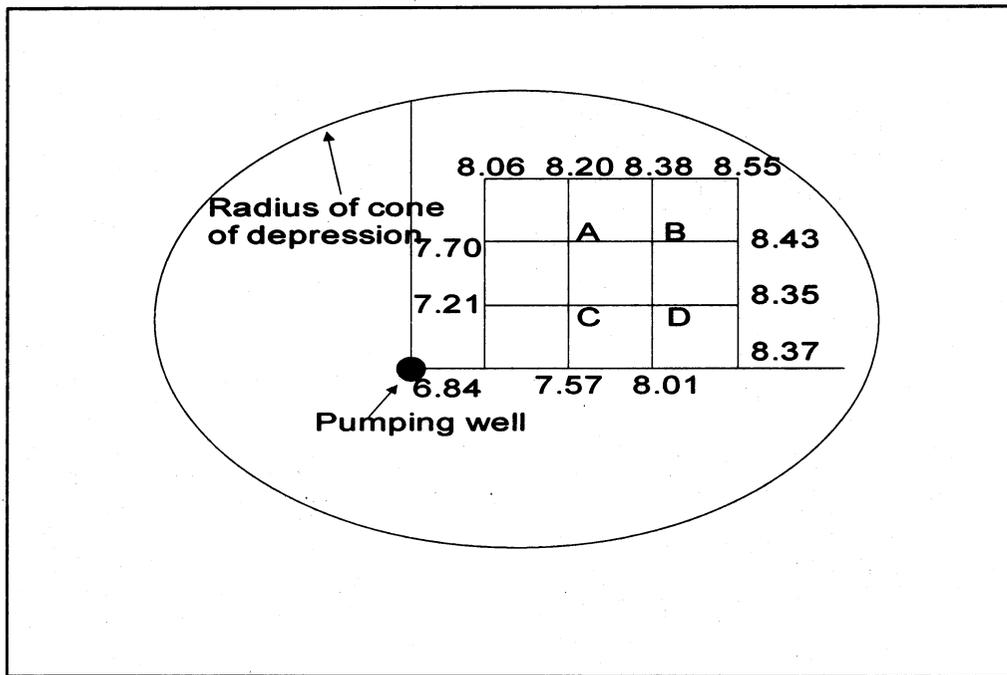


End Semester Examination (ES2102- Hydrology and Geomorphology)

Duration: 3 hours

Max. Marks- 50

- Ques.-1. Define various types of Morains in a glacier environment and how the past climate can be reconstructed using these. Explain the following- (i) Regelation (ii) Flute [4+2]
- Ques.-2. Explain and draw neat diagrams of various types of dunes in an arid environment. [5]
- Ques.-3. How does wave erosion work on irregular rocky coast? What is long shore current and name various landforms made by that. [2+3]
- Ques.-4. Define Thermal Remnant Magnetization and Detrital Remnant Magnetization in Paleomagnetic dating methods. Explain basic principle of Amino acid racemization method. Explain the assumption and problems associated with this method. [2+2+2]
- Ques.-5. Explain the basic principle of Fission Track dating. How exhumation rate is calculated using this. What are the problems in applying this dating method [3+2+1]
- Ques.-6. Explain the factors controlling the explosive nature of volcanoes. Explain the difference between shield volcanoes and Lava domes. Define – (i) Pahoehoe lava (ii) Pillow Lava [3+2+2]
- Ques.-7. Find out the hydraulic heads at A,B,C and D with finite difference method. [4]



- Ques.-8. Discuss the mobilization process of arsenic into groundwater. [3]
- Ques.-9. What is apparent resistivity? If the apparent resistivity of an aquifer is ρ_a , current passing through the aquifer material is I , and voltage drop v measured at a distance r from the current source, find out the relation among ρ_a, I, r and v . [1+3]
- Ques.-10. a) How Helium-Tritium method can be used to understand the age of water? b) How to find out active aquifer? [2+2]