

FACULTY OF ENGINEERING
B.E. 2/4 (Civil) (Semester – I) (New) (Main) Examination, December 2011
ENGINEERING GEOLOGY

Time : 3 Hours]

[Max. Marks : 75

Note : Answer *all* questions from Part A, answer *any five* questions from Part B.

PART – A

(25 Marks)

1. What is a Rock ?
2. Write the mineral composition and specific gravity and water absorption of Granite and lime stone.
3. Define fracture and fault.
4. Define porosity and permeability.
5. Describe Schlumberger configuration.
6. Explain the use of RQD in strength determination.
7. Write about shape and surface texture of coarse aggregate.
8. Explain lining, pay line and over break of tunnels.
9. Write analysis of dam failures in the past.
10. Give any two reasons for Tsunami.

PART – B

(50 Marks)

11. Describe the identification characteristics, engineering properties and constructional use of :
 - a) Granite
 - b) Basalt
 - c) Sandstone
 - d) Marble.
12. Explain the following :
 - a) Master and mural joints
 - b) Normal and reverse fault
 - c) Domes and basins
 - d) Horst and Graben.



13. a) How do you determine grade of rock weathering by petro-graphic and rock testing ?
b) Describe the most dominant soil types of India.
14. a) What are aquifers ? Describe different types of aquifers.
b) The water table levels in two observation wells 350 m apart are +210.5 and +206.25m respectively. If the hydraulic conductivity and porosity of the aquifer are 12.5 m/day and 15%. What is the actual velocity of flow in the aquifer ?
15. a) Write notes on :
1) Wash boring
2) Adits and shafts
3) Auger boring
4) Core barrels.
b) Write about Highway and runway aggregates.
16. a) Discuss the index properties of rocks to select good building stones.
b) Illustrate the foundation geology of any one Indian dam site.
17. a) Explain the main causes of landslides.
b) Describe the mitigation measures of earth quakes.