



Uva Wellassa University, Sri Lanka
End Semester Examination – February/ March 2011
MRT 331-3 Applied Geophysics and
Engineering Geology



Part B

Time: One (01) hour

Total 03 Questions

Answer two (02) questions including question 01

Answer Part B in a separate answer book

01) Answer either "i" or "ii"

(i) With the aid of appropriate diagrams where necessary, answer the followings;

- a) Define what is soil.
- b) Briefly describe the index properties of soil.
- c) What is SPT? Briefly describe it.
- d) Describe void ratio, degree of saturation, moisture content, dry unit weight and saturated unit weight.

(ii) Answer the followings;

- a) Describe how you would carry out a complete particle size analysis test.
- b) What are the parameters you would measure during the test?
- c) With the use of appropriate diagrams, explain CC and CU.
- d) Sketch out the particle size distribution curves for glacial till, beach sand, alluvial sand and aeolian sand. Using the degree of sorting and grading, explain the graphs for each type of soil.
- e) Describe a simple soil classification system based on the particle size variation.

02) Answer all sections;

(i) Briefly describe the various site investigation techniques you have learnt.

- (ii) List the various information to be gathered during these site investigations.
- (iii) What is grouting? Explain briefly
- (iv) Giving suitable examples describe various grouting techniques.
- (v) Briefly explain what is water pressure test?

03) Answer all sections;

- (i) What is soil consistency?
- (ii) Describe the laboratory tests to determine the soil consistency.
- (iii) Briefly explain what is ground improvement.
- (iv) Giving appropriate examples, briefly describe various ground improvement techniques.

(Total 100 marks)