Take Home Test
Duration: To be submitted within 7-days from the examination date.
Matric No:

Section A
Answer only FOUR QUESTIONS between Questions 1 to 10.

1. Describe and give example of what is meant by: (10 marks)
   a) mineral soils  
   b) organic soils

2. Explain in detail about illuviation and eluviation processes in E horizon. (10 marks)

3. Give definition of primary and secondary minerals. Explain about the formation of these minerals and give example of each mineral. (10 marks)

4. What is meant by Carbon:Nitrogen (C:N) ratio in agriculture? (10 marks)

5. Describe the soil classification system used in Peninsular Malaysia. (10 marks)

6. List down the advantages and disadvantages of gypsum and ground magnesium lime (GML) as soil fertilizer. (10 marks)

7. Select one of the soil-forming factors and explain their importance in soil formation of Peninsular Malaysia. (10 marks)

8. Describe what is meant by residuum, alluvium and colluvium soil. (10 marks)

9. What are the differences between highland soils and lowlands soils? Give example of area for your answer. (10 marks)

10. Igneous, sedimentary and metamorphic rocks. Give example and explain in detail what you understand about these rocks. (10 marks)

Section B
Answer all questions in this section.

11. In the determination of the lime requirement in the laboratory, 5 mL of 0.04 N Ca(OH)$_2$ is required to increase the pH of 10 g of soil from pH 4.5 to 5.5.

   a) For 1 hectare of land ($2.5 \times 10^6$ kg of soil), how much Ca(OH)$_2$ in tonnes/ha is required? (12 marks)

   b) How much lime in the form of CaCO$_3$ in tonnes/ha is required? (3 marks)

12. Sandy soils are characterized with high sand content (>95% sand), thus it has loose structure, high porosity, low water holding capacity and CEC value of less than 1 cmol./kg. Suggest a methodology to improve the sandy soils. (15 marks)