



The Open University of Sri Lanka
 Faculty of Engineering Technology
 Bachelor of Science in Industrial Studies Program
 Final Examination- 2011/2012
 AEX3232 Plant and Soil Science

Date : 29-02-2010
 Time : 0930-1230
 Duration : Three (03) hours

SECTION 2: Answer any four (04) questions.

1. (a) List five (05) physical properties of soil.
 (b) Discuss the importance of each of the property you mentioned above to have better plant growth.
2. (a) What are the processes involved in developing organic matter in soil?
 (b) Why is C:N ratio of soil important?
 (c) Briefly explain the factors affecting the organic content of a particular soil.
3. (a) What are essential elements?
 (b) Nitrogen (N), Phosphorous (P) and Potassium (K) are required in different quantities by different growth stages of a particular plant. Comment on the requirement of N, P and K at vegetative and flowering stages with reasons.
 (c) Illustrate graphically the relationship between phosphorus adsorption and its concentration.
4. Write short notes on the following topics.
 - a) Soil texture
 - b) N cycle
 - c) Soil profile
 - d) Layerage
 - e) Soil air
5. Write an essay on "Rice breeding in Sri Lanka".
6. (a) If you apply 100kg of straw to your field and if you want to reduce the C/N ratio of straw from 80 to 10, how much of inorganic nitrogen will you have to apply?
 (b) Calculate the N factor for the above.
 (c) Name two (02) nitrogen fertilizers and state their importance as a source of inorganic nitrogen.

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