



THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME

BOTANY – LEVEL 05

FINAL EXAMINATION – 2017/18

BYU5304/BOU3104/BYE5304/BOE5104 – SOILS AND PLANT GROWTH

DURATION – TWO HOURS

Date – 8th April 2019

Time – 1.30 p.m. – 3.30 p.m.

Answer any four (04) questions.

1.
 - a. What are minerals? (05min)
 - b. Distinguish between weathering and soil genesis. (05min)
 - c. Give two reasons why clay minerals are important. (05min)
 - d. Explain briefly the factors affecting weathering of minerals. (15 min)
2.
 - a. Discuss the importance of soil aeration to have proper plant growth. (20min)
 - b. What are the measures that can be employed to enhance aeration in soil? (05 min)
 - c. What is the relationship between bulk density and soil aeration? (05 min)
3.
 - a. What are the biological functions of organic matter in soil. (05min)
 - b. With the help of your knowledge on cycling of nutrients, explain consciously the contributions of soil microorganisms in nutrient cycling with the help of three (03) biogeochemical cycles. (25min)
4. Write an essay on “Agro forestry practices for erosion control”. (30min)
5.
 - a. What is meant by “cation exchange”? (05 min)
 - b. “Cation Exchange Capacity is considered as the key indicator about the Chemical fertility of a soil” Comment. (15 min)
 - c. Write a brief note on “Soil Organic Nitrogen” indicating its availability and limitations. (10 min)
6. Write short notes on any two (02) of the following. (15min each)
 - a. Soil development in relation to topography
 - b. Effects of fertilizers on the physical and chemical properties of soil
 - c. Factors affecting on the retention of Phosphorus in soil