

The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc/ B. Ed Degree Programme



Department	: Botany
Level	: 05
Name of the Examination	: Final Examination
Course Code and Title	: BYU5304/BYE5304/BOU5304/BOE5304
Academic Year	: 2019/20
Date	: 14.02.2021
Time	: 1.30 p.m. – 3.30p.m.
Duration	: 2hrs

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **06** questions in **01** page.
3. Answer any **04** questions only. All questions carry equal marks.
4. Answers for each question should commence from a new page.
5. Draw fully labelled diagrams where necessary
6. Involvement of any activity that is considered as an exam offence will lead to punishment.
7. Use blue or black ink to answer the questions.
8. Clearly state your index number in your answer script

Answer any four (04) questions.

1. a. Draw a fully labelled soil profile diagram indicating different horizons. (5 min)
b. Distinguish between eluvial and illuvial horizons in a soil profile. (10min)
c. Briefly explain how time and topography influence soil formation and soil development. (15min)
2. a. Write a brief note on soil texture, its development and significance. (10min)
b. Briefly explain the importance of soil aeration on plant growth with suitable examples. (20min)
3. a. With the help of suitable examples, explain how hydrocarbons are decomposed by soil microorganisms. (5min)
b. The soil organic matter is supposed to be having colloidal properties. How does colloidal properties enhance the productivity of a soil? (08min)
c. How does the application of green manures affect conserving plant nutrients and protecting the soil surface? (12min)
4. a. Discuss the methods available to control wind erosion. (10min)
b. Write an essay on inorganic fertilisers indicating the importance, losses after application and the evaluation of their efficiency. (20 min)
5. a. How do acidic and saline soils develop? (8min)
b. Write an essay on "improvement of acidic and saline soils through soil amelioration" indicating effects and management practices. (22min)
6. Write short notes on any two (02) of the following. (15min each)
 - a. Chemical weathering during soil formation
 - b. Measurement of soil porosity
 - c. Effects of aeration and temperature on the abundance and distribution of soil microorganisms