

THE OPEN UNIVERSITY OF SRI LANKA

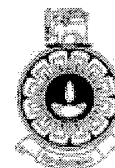
B.Sc. DEGREE PROGRAMME – LEVEL 5

FINAL EXAMINATION - 2013/2014

BOTANY

BOU 3100/BTU 3101/BTE 5101- ENVIRONMENTAL AND APPLIED MICROBIOLOGY

DURATION – TWO (02) HOURS



---

Date – 13<sup>th</sup> November 2014

Time – 9.30 a.m. – 11.30 a.m.

---

ANSWER ANY FOUR (04) QUESTIONS.

1. (a). In what ways microorganisms contribute to soil fertility?  
(b). With the help of suitable named examples and diagrams, explain how soil microorganisms resist unfavourable environmental conditions.
  
2. (a). What are the sources of potable water?  
(b). Explain the microbiological indicators that are used to determine the sanitary quality of potable water.  
(c). List the characteristic features of an indicator organism used in sanitary water testing procedures.
  
3. Write short notes of any three (03) of the following.
  - (a). Activated sludge process in sewage treatment
  - (b). Preservation of food by high temperature or heat
  - (c). Normal flora of human body
  - (d). Living reservoirs of infection
  
4. (a). List the factors that influence the growth of microorganisms in food.  
(b). List various types of spoilage that can occur in meat. For each type of spoilage,
  - (i). Name the causative microorganism/s
  - (ii). Give biochemical/physiological changes that can occur in each type of spoilage.

5. (a). Give a brief account on starter microorganisms used in the production of different fermented milks indicating their key roles.
  - (b). Outline briefly the steps in cheese production and discuss the role of microorganisms involved.
  - (c). Differentiate between top fermentation and bottom fermentation in beer production.
- 
6. Differentiate between the following.
    - (a). Primary immune response and secondary immune response
    - (b). Acquired immunity and innate immunity
    - (c). Antigens and antibodies

*-Copyrights Reserved-*