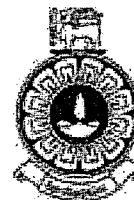


THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. / B.Ed. DEGREE PROGRAMME – LEVEL 04
BOU2103/BOE4103- PRINCIPLES OF MICROBIOLOGY
FINAL EXAMINATION – 2016/2017
DURATION: TWO (02) HOURS.



DATE : 05th August 2017

TIME : 9.30 a.m. – 11.30 a.m.

ANSWER ANY FOUR QUESTIONS. USE FULLY LABELLED DIAGRAMS WHERE NECESSARY.

1. a) Describe the procedures used for sterilizing liquids in a microbiology laboratory. Your answer should include type of equipment, safety precautions and merits and demerits.
b) Describe the procedure for estimating Coliform bacteria in a water sample.
2. a) Describe the lytic cycle of replication of a bacteriophage virus using a fully labeled diagram (no description is necessary).
b) Write a comprehensive account on transduction as a means of creating genetic variability in bacteria.
3. Write short notes on the following
 - a) The structure and symmetry of viruses.
 - b) Louis Pasteur's contribution to microbiology
 - c) Phototrophic bacteria
4. Write a comprehensive account on the energy generation processes of organotrophic bacteria.
5. a) List the different methods used to cultivate obligate parasitic microorganisms and name one example microorganism (bacteria/ fungi/ virus etc) against each of the methods.
b) What are the essential constituents of a culture medium.
c) Discuss how environmental factors affect the growth of microorganisms.
6. a) Draw and briefly describe the different phases in a typical growth curve of a bacterium growing within a closed system.
b) Discuss the cell characters and biochemical characters used in the systematic examination of bacteria.