

THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. / B.Ed. DEGREE PROGRAMME - LEVEL 04
BTU 2104 / BTE 4104 / BTI 4104 – PRINCIPLES OF MICROBIOLOGY
OPEN BOOK TEST - 2008/2009



DURATION – ONE (01) HOUR

Reg. No.

Date : 15.09.2008

Time 4.00 - 5.00 p.m.

Answer All Questions.

Questions should be answered on the question paper itself.

01. 'Microorganisms are ideal tools for the investigation of biological phenomena'. Give **three (03)** reasons.

i.....

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ii.....

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iii.....

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02. Give all the different modes of nutrition in each of the following groups of microorganisms.

i. Fungi -

ii. Bacteria -

iii. Viruses -

iv. Algae -

03. a. What is an endospore?

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- b. Give **two (02)** important characters of endospore-forming bacteria.

i.....

ii.....

c. Name **two (02)** bacterial genera producing endospores.

i.....

ii.....

d. Outline how bacteria can be grouped based on the shape and position of endospore.

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04. Suppose, you have been given a broth culture of a bacterium in the laboratory. Answer the following questions.

a. Name a suitable method to observe the motility of bacteria under the microscope.

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b. Briefly outline the method mentioned in part (a).

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c. What is the stain you can use to make the bacterial cells more visible?

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d. Name the most suitable type of microscope to be used to observe the bacterial cells more clearly.

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05. a. Name **two (02)** physical methods used to enumerate viruses.

i.....

ii.....

b. Give one disadvantage of each method.

i.....

ii.....

06. Distinguish between the following.

a. Natural and synthetic media used in microbiology

Natural media

Synthetic media

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b. General purpose and enriched media

General purpose media

Enriched media

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c. Spontaneous generation and biogenesis

Spontaneous generation

Biogenesis

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07. a. What is meant by the following in microbiology?
- i. Asepsis -
 - ii. Contaminants -
 - iii. Pure culture -
 - iv. Stock culture -
- b. What are the sources of external contamination in a laboratory?
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- c. Indicate **three (03)** steps you would follow to prevent contamination of bacterial cultures in the laboratory.
- i.....
 - ii.....
 - iii.....
08. a. What is meant by sterilization?
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- b. Indicate the methods you would follow to sterilize the following in the laboratory.
- i. Glass petridishes -
 - ii. Plastic petridishes -
 - iii. Inoculating loops -
 - iv. Potato Dextrose Agar -
 - v. Blood agar -

c. Give the precautions you should take when the autoclave is used for sterilization.

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