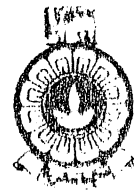


THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. / B.Ed. DEGREE PROGRAMME - LEVEL 04
BTU 2104 / BTE 4104 / BTI 4104 – PRINCIPLES OF MICROBIOLOGY



OPEN BOOK TEST - 2006/2007

DURATION – ONE (01) HOUR

Reg. No.

Date : 17 . 07. 2006

Time 4.00 – 5.00 p.m.

Answer All Questions.

Questions should be answered on the question paper itself.



01. What is meant by the following?

a. Virions

.....

.....

b. Phage typing

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.....

c. Lysogenic conversion

.....

.....

02. Indicate **five (05)** ways by which viruses differ from other micro organisms.

i.

ii.

iii.

iv.

v.

03. Design a suitable experiment to compare the concentrations of two given virus samples isolated from Tobacco plants showing local lesions.

a. Write the stepwise procedure.

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b. What is the principle behind the experiment you designed?

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c. How do you minimize the errors in the experiment?

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04. a. What is meant by genetic homology?

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- b. Study of genetic homology in bacteria has gained increasing importance during the past few years. Give reasons.

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- c. Give **three (03)** methods of studying genetic homology in bacteria.

i.....

ii.....

iii.....

- d. Briefly explain **one (01)** of the methods you mentioned in Part (c) above.

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05. Distinguish between the following.

- a. Spontaneous generation and biogenesis

Spontaneous generation

Biogenesis

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b. Photosynthesis in bacteria and green algae

In bacteria

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In green algae

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c. Lytic phages and temperate phages

Lytic phages

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Temperate phages

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06. Give reasons for the following.

a. Bacterial cultures in Petri dishes are always incubated in an inverted position.

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b. Fungal cultures when incubated for more than one week are wrapped in sterile polythene bags.

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- c. While pouring agar plates, temperature of the medium should not be allowed to drop below 40 - 45C.

- d. Gram's stain procedure is valid only for cultures which are 24 hours old or younger.

07. Indicate the basic theory behind the following methods of sterilization.

- a. Use of an oven

- b. Use of an autoclave

- c. Tyndallisation

- d. Filtration



08. Indicate the function of the following during Gram Staining.

a. Crystal violet

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b. Gram's Iodine

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c. 95% alcohol

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d. Safranin

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