

The Open University of Sri Lanka
Advanced Certificate in Laboratory Technology
Course Unit: Laboratory Techniques in Biology
Course Code: PSC 2321
NBT – I – 2011/2012
Duration: 01 hour



Registration No:

.....
24.11.2012

Time: 3.00 pm – 4.00 pm
.....

ANSWER ALL QUESTIONS IN BOTH PARTS, PART (A) AND PART (B).

PART (A) consists of **twenty (20)** multiple choice questions. Answer all the questions. The answers should be indicated in the annexed sheet by placing a cross (X) in the relevant cage.

PART (B) consists of **two (02)** structured essay type questions for which answers should be written in the space given in the question paper itself.

Please handover Part A question paper along with Part B.

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Answer sheet for Part. A

Q. Nos	a	b	c	d
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2				
3				
4				
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20				

PART B

Botany

1)

a.

- (i) Draw a typical growth curve of a bacterium growing in a batch culture and label the growth phases.

- ii) Briefly explain what happens during each phase.

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- b) Some of the nutritional requirements for bacterial growth are listed below. State in which form the following could be obtained from the culture medium.

Nitrogen

Oxygen

Carbon

Sulfur

Phosphorus

- c) List five (5) environmental factors that influence the growth of bacteria.

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- d) The solid media are commonly used to isolate single colonies of bacteria.

- i) What is the common substance that can be used to solidify the culture medium?

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ii) What is the source of the substrate you mentioned in (d) i?

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iii). List the properties of a good solidifying agent.

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e) What is the difference between a selective medium and a general purpose culture medium?

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Zoology

(2)

2.1. Define the following terms.

(a). Polarizer

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(b). Analyzer

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2.2. Explain the following terms.

(a) Isotropic substances

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(b) Anisotropic substances

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(c) Achromatic objective

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2.3. If you are asked to prepare a stained permanent slide of a bunch of salivary glands of a cockroach, what is the substance you will use to stain the specimen?

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2.4. What is/are the function/s of a tissue mordant?

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a) Name two (2) commonly used tissue mordants in histological techniques.

1.....

2.....

2.5. What are the differences between the transmission electron microscope (TEM) and scanning transmission electron (STEM) microscope?

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2.6. Explain the function/s of the following.

(a).Coagulating fixative:

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(b) Double staining:

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(c). Camera Lucida

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(d) Tissue fixatives

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(e) Oil emersion lens

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2. 7. Define polarized light

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2.8. What kind of materials gives no reaction to polarized light?

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