

The Open University of Sri Lanka  
Bachelor of Medical Laboratory Sciences (B.MLS)

MLU1247- General Microbiology  
Semester 01- Academic year 2015/2016



No Book Test 01

*Return your question paper with the answer sheet*

Date: 20.10.2015

Duration – 1 1/2 hours

Time: 01.30 p m - 03.00 p m

Registration No.....

Please read the following instructions carefully before you answer the paper.  
(100 marks)

**Part – A (20 marks)**

There are 10 multiple choice questions in this paper, each question with five responses. Select the **correct response** and mark in the given answer sheet.

**Part - B (10 marks)**

You are given 10 matching questions. Match the answers given in the column B with the descriptions given in the column A. Write the correct letter in the given space.

**Part C (40 marks)**

You are given 2 short answer questions. Each question contains four parts. Answer all the questions in given spaces.

**Part – D (30 marks)**

There is an one structured essay questions. The question contains five parts. Answer all the questions in given spaces.

**Good Luck!**

**Matching Questions**

- | A  |  | B                                 |
|----|--|-----------------------------------|
| 1  | The most common pathway for the oxidation of glucose   | -( ) a) Calvin-Benson             |
| 2  | The pathway is used to metabolize five-carbon sugars   | -( ) b) anaerobic respiration     |
| 3  | The mechanism that $O_2$ functions as the final electron acceptor.                                     | -( ) c) Glycolysis                |
| 4  | The pathway that the final electron acceptor is usually an inorganic molecule other than $O_2$         | -( ) d) Photo synthesis           |
| 5  | The pathway that decarboxylation of pyruvic acid produces one $CO_2$ molecule and one acetyl group     | -( ) e) Anabolism                 |
| 6  | The pathway which releases energy from sugars or other organic molecules by oxidation                  | -( ) f) pentose phosphate pathway |
| 7  | The mechanism of conversion of light energy from the sun into chemical energy                          | -( ) g) aerobic respiration       |
| 8  | The pathway which uses $CO_2$ to synthesize sugars   | -( ) h) Entner-Doudoroff pathway  |
| 9  | A alternative pathway to glycolysis  | -( ) i) Fermentation              |
| 10 | A series of chemical reactions in which simpler substances are combined to form more complex molecules | -( ) j) Kreb cycle                |

**(10 marks)**

**Short answer questions**

1.

a) Briefly describe the term “cellular respiration”

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( 06 marks)

b) Name two major categories of cellular respiration

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(06 marks)

c) Write two electron acceptor in cellular respiration

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(04 marks)

d) Name two alternative pathways for glycolysis

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( 04 marks)

2.

a) Write two basic shape of bacteria

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(4 marks)

b) Write two types of cell arrangements common for above (a) basic shapes

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( 4 marks)

c) Give four advantages to the bacterium from cell membrane

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(4 marks)

d) Write the principle behind Gram's stain procedure

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( 8 marks)

**Structured essay questions (30 marks)**

a) Compare genotype and phenotype

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( 5 marks)

b) Briefly explain the term "mutation"

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( 5 marks)

c) Name three types of mutations that can be occurred in DNA replication

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( 6 marks)

d) Briefly explain the effects of above mentioned (c) mutations in the protein synthesis

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( 6 marks)

Registration No:.....

e) Explain the role of RNA in protein synthesis

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(8 marks)

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