Sample

00131

THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL LABORATORY SCIENCES
ACADEMIC YEAR 2018/2019 – SEMESTER II

BACHELOR OF MEDICAL LABORATORY SCIENCES (BMLS) HONOURS
MDU4303 – CLINICAL BIOCHEMISTRY II – LEVEL4
NBT I DURATION: 1 HOUR AND 30 MINUTES

DATE: 08TH JULY 2019 TIME: 3.00 PM – 4.30 PM

Registration No: .....

IMPORTANT INSTRUCTIONS/ INFORMATIONS TO CANDIDATES

- This question paper consists of **11 pages** with **10 Multiple Choice Questions (Part A), 04 Structured Essay Questions (Part B)** and **01 Essay Question (Part C).**
- Write your Registration Number in the space provided.
- Answer **ALL** questions.
- **Multiple Choice Questions (Part A):** Indicate the best answer for each question in the answer sheet provided by placing a cross (X) in **INK** in the relevant cage. (answers in pencil will **NOT** be marked)
- **Structured Essay Questions (Part B):** Write answers within the space provided.
- **Essay Questions (Part C):** Write answers within the space provided.
- Do not remove any page/part of this question paper from the examination hall.
- Mobile phones and any other electronic equipment are **NOT** allowed. Leave them outside.

PART B – Structured Essay Questions

1. Disorders of carbohydrate metabolism are rare and belong to the category of inborn errors of metabolism.

1.1. What is an inborn error of metabolism? (4 marks)

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1.2. Write **One (01)** example for a defected enzyme for each of the following inborn error of carbohydrate metabolism. (4 marks)

Inborn error of carbohydrate metabolism	**Example for a defected enzyme**
Disorders of fructose metabolism	.....
Disorders of pyruvate metabolism	.....

1.3. List **Three (03)** organs which are affected in glycogen storage diseases. (3 marks)

a) .....

b) .....

c) .....

1.4. Briefly describe pathophysiology of glycogen storage disease. (5 marks)

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1.5. List **Two (02)** symptoms of glycogen storage diseases. (4 marks)

a) .....

b) .....

(Total: 20 marks)

2. Diabetes mellitus is a chronic disease which could be either inherited and/or acquired. It is characterized by an elevation of fasting blood glucose.

2.1. What is the major defect in diabetes mellitus? (4 marks)

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2.2. What is "Insulin resistance"? (2 marks)

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2.3. Briefly describe the development of following consequences due to hyperglycemia in diabetes mellitus.

2.3.1. Polyuria (5 marks)

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2.3.2. Polydipsia (5 marks)

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2.3.3. Formation of glycated hemoglobin (4 marks)

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(Total: 20 marks)

3. Disorders of lipid and lipoprotein metabolism are mostly correlated with atherogenesis which is associated with coronary heart disease (CHD) and peripheral vascular diseases.

3.1. List **Five (05)** parameters which are measured to diagnose disorders of lipid and lipoprotein metabolism (05 marks)

a) .....

b) .....

c) .....

d) .....

e) .....

3.2. Give **Three (03)** examples for disorders of lipoprotein metabolism and fill the given table accordingly. (9 marks)

Diagnosis	**Abnormal Lipid changes**	**Abnormal Lipoproteins changes**
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3.3. Briefly describe how atherosclerosis can lead to myocardial infarction.

(6 marks)

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(Total: 20 marks)

4. Laboratory investigations are carried out to diagnose disorders of metabolism. Some investigations are done routinely in the clinical setup and some investigations are carried out at research level.

4.1. list biochemical investigations which are used to detect sugars in urine samples. (3 marks)

4.1.1. Glucose - .....

4.1.2. Fructose - .....

4.1.3. Galactose - .....

4.2. Briefly describe the application of paper chromatography in detection of urinary sugars? (3 marks)

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4.3. Write a short note on "measurement of apolipoproteins". (14 marks)

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(Total: 20 marks)

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PART C – Essay Questions

1. Write an essay on "diabetic foot disease". (10 marks)

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MDU4303 – CLINICAL BIOCHEMISTRY I – LEVEL5
NBT I
REGISTRATION NO: .....

ANSWER SHEET FOR PART A

Q. No.	(A)	(B)	(C)	(D)
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3				
4				
5				
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7				
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