

BACHELOR OF PHARMACY HONOURS
FMU3300 - BIOCHEMISTRY
FINAL EXAMINATION
DURATION: THREE (03) HOURS

DATE: 07TH SEPTEMBER 2023

TIME: 1.30 P.M. – 4.30 P.M.

Part B- Short Answer Questions (20 Marks)

01. Following questions are based on the β oxidation of Myristic acid.



1.1 How many acetyl CoA molecules will be produced during this process? (02 marks)

.....

1.2 How long chain fatty acids get transferred across the mitochondrial membrane? (02 marks)

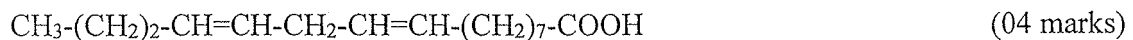
.....

1.3 Why myristic acid is amphipathic in character? (02 marks)

.....

.....

1.4 Name the following fatty acid according to both omega (ω) and delta (Δ) systems.



(ω) system:

(Δ) system:

02.

2.1 Write three (03) types of enzyme inhibitors. (03 marks)

I.....

II.....

III.....

2.2 List four (04) factors that affect the rate of an enzyme activity. (04 marks)

I.....

II.....

III.....

IV.....

2.3 Write three (03) main differences of enzymes compare to other forms of catalysts. (03 marks)

I.....

II.....

III.....

Part C- Structured Essay Questions (60 Marks)

01. Glycolytic pathway is one of the body's important metabolic pathways.

- 1.1 Using a diagram explain the entry of fructose to the glycolytic pathway. (08 marks)
 1.2 Name the energy sources produced during the glycolytic pathway. (02 marks)
 1.3 Explain why lactate is formed in anaerobic glycolysis. (05 marks)

02.

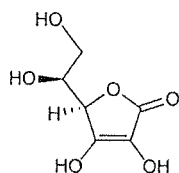
- 2.1 List four (04) levels of protein organizations. (04 marks)
 2.2 Give two (02) examples for structural proteins. (02 marks)
 2.3 Define the term protein denaturation. (03 marks)
 2.4 Using a single graph, draw the oxygen affinity curves for both hemoglobin and myoglobin. (06 marks)

03.

- 3.1 Give three (03) main groups of endocrine hormones. (06 marks)
 3.2 "Cortisol is diabetogenic". Explain this statement. (04 marks)
 3.3 List important features of tetra-iodo thyronine (T₄) and tri-iodo thyronine (T₃) that are involved during the mechanism of thyroid hormone. (05 marks)

04.

- 4.1 What are vitamins? (03 marks)
 4.2 What are vitamers? (03 marks)
 4.3 Name the vitamers of vitamin A. (03 marks)
 4.4 Vitamin C is an antioxidant. Justify this statement using a chemical reaction. (06 marks)



Vitamin C