



ELIZADE UNIVERSITY

FACULTY OF BASIC AND APPLIED SCIENCES

DEPARTMENT: PHYSICAL AND CHEMICAL SCIENCES

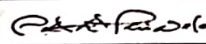
PROGRAMME: BIOCHEMISTRY EXAM TITLE: DEGREE EXAMINATION

COURSE CODE & TITLE: BCH 409 – INTERMEDIARY METABOLISM

TIME ALLOWED: 2 hrs

SEMESTER/SESSION: FIRST / 2020/2021

INSTRUCTIONS: Write your matriculation number on the cover page of the exam booklet.


HOD's SIGNATURE

Attempt any three (3) of the five (5) questions

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|------|---|------------|
| (1a) | Define the term allosteric enzymes and state their properties. | [8 marks] |
| (1b) | Using two examples of metabolic pathways; explain feedback inhibition. | [12 marks] |
| (2a) | With named examples; give four functions of proteins | [8 marks] |
| (2b) | Explain the four enzymatic steps in urea cycle that takes place in the liver mitochondria | [8 marks] |
| 2c) | Write short note on Glucose-6-phosphate dehydrogenase (G6PD) deficiency | [4 marks] |
| 3a) | Briefly explain the metabolic processes involved in the formation of lipids from carbohydrates. | [6 marks] |
| 3b) | With the aid of a well labeled diagram, describe negative gene regulation using lactose operon. | [14 marks] |
| (4a) | Describe the metabolism of the amino acid tyrosine. | [9 marks] |
| (4b) | Briefly describe five (5) inborn errors of amino acid metabolism. | [5 marks] |
| (4c) | Giving correct example in each case, describe the six top level classification of enzymes. | [6 marks] |
| (4d) | Briefly describe metabolic regulation in relation to glucose demand. | [5 marks] |
| (5a) | Briefly differentiate between the Induced fit and Lock and key hypothesis. | [5 marks] |
| (5b) | With the aid of a well labeled diagram, describe enzyme-substrate complex in the last step of the glycolytic pathway. | [5 marks] |
| (5c) | With the aid of appropriate mechanism of action, extensively describe the role of inhibitors on the action of any three (3) of the following enzymes: | |
| | (i) Acetylcholinesterase | [5 marks] |
| | (ii) HMG CoA Reductase | [5 marks] |
| | (iii) Angiotensin-1 Converting Enzyme | [5 marks] |
| | (iv) α -Glucosidase | [5 marks] |