



**ELIZADE UNIVERSITY**  
**FACULTY OF BASIC AND APPLIED SCIENCES**

**DEPARTMENT: PHYSICAL AND CHEMICAL SCIENCES**

**PROGRAMME: BIOCHEMISTRY EXAM TITLE: DEGREE EXAMINATION**

**COURSE CODE & TITLE: BCH 202 – General Biochemistry II**

**TIME ALLOWED: 2 Hrs 30 mins. SEMESTER/SESSION: 2<sup>nd</sup> SEMESTER/ 2020/2021**

**INSTRUCTIONS:** Write your matric number on the question paper and cover page of the exam. booklet.

Answer any **FOUR (4)** questions.

**HOD's SIGNATURE**

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|------|---|----------|
| (1a) | List three (3) enzyme complexes involved in electron transfer from NADH to Oxygen and their associated electron carriers.   | 10 marks |
| (1b) | Draw a simple scheme to illustrate how electrons are transferred from NADH to Oxygen  | 5 marks  |
|      |   |          |
| (2a) | What is Bioenergetics? State the 1 <sup>st</sup> and 2 <sup>nd</sup> Laws of Thermodynamics   | 9 marks  |
| (2b) | Give three (3) examples of a State Function. Define each State Function listed  | 6 marks  |
|      |   |          |
| (3a) | Differentiate between tricarboxylic acid cycle and the glyoxylate cycle.  | 10 marks |
| (3b) | List five (5) polysaccharides and state where they are found in living organism.  | 5 marks  |
|      |   |          |
| (4a) | Using a comparative pathway only, describe glycolysis and gluconeogenesis.  | 10 marks |
| (4b) | Describe the clinical significance of glycogenolysis in diabetes mellitus.  | 5 marks  |
|      |   |          |
| (5a) | Calculate the number of ATP generated per glucose molecule in cellular respiration  | 9 marks  |
| (5b) | State the fates of pyruvate under aerobic and anaerobic conditions  | 3 marks  |
| (5c) | Briefly, describe Cori cycle  | 3 marks  |
|      |   |          |
| (6a) | Describe the Pentose Phosphate Pathway  | 8 marks  |
| (6b) | State the primary functions of pentose phosphate pathway and describe how a defect in the metabolism of glucose in this pathway influences the development of two pathologies in humans | 7marks   |