



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN FOOD TECHNOLOGY AND QUALITY

ASSURANCE

ABT 4202: BIOCHEMISTRY II

END OF SEMESTER EXAMINATION

ORDINARY EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

DATE: DECEMBER 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of SIX questions. Attempt Choose instruction.

Do not write on the question paper.

Question ONE

a) Differentiate between;

- i. Catabolism and anabolism (2 marks)
- ii. Glycogenolysis and glycogenesis (2 marks)
- iii. Saturated fatty acids and Unsaturated fatty acids (2 marks)

b) Name;

- i. Any two sources of Acetyl COA (2 marks)
- ii. Two fates of Acetyl COA (2 marks)

- c) Discuss the clinical significance of carnitine deficiency (6 marks)
- d) Outline the Cori cycle (6 marks)
- e) Explain the functions of TCA cycle (5 marks)
- f) State the three steps involved in the biosynthesis of fatty acids from Acetyl COA (3 marks)

Question TWO

- a) Outline the function of the various types of photosystems in chloroplasts (6 marks)
- b) Describe the glyoxylate cycle in converting the carbon of stored lipids into glucose in germinating seeds (14 marks)

Question THREE

- a) Describe the by-pass reactions in gluconeogenesis (12 marks)
- b) Illustrate how the following metabolites enter the gluconeogenesis pathway
 - i. Amino acids (4 marks)
 - ii. Glycerol (4 marks)

Question FOUR

- a) Describe the regulation of nucleotide biosynthesis through feedback inhibition (11 marks)
- b) Explain the biosynthesis of purine nucleotides through salvage pathways (9 marks)

Question FIVE

Using illustrations, discuss the fates of pyruvate (20 marks)