



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

BMLS

ABT 4202 : METABOLISM OF BIOMOLECULES- PAPER ONE

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- a) Give four functions of Metabolism (4 marks)
- b) State three common ways metabolic pathways are regulated (3 marks)
- c) List three fates of acetyl COA (3 marks)
- d) Describe the formation of the first substrate used in lipogenesis pathway (4 marks)
- e) Explain the dangers associated with prolonged ketosis (3 marks)
- f) Outline the steps in the formation of a nucleotide (4 marks)
- g) Explain the process involved in the formation of pyruvate from glycine (3 marks)
- h) Highlight the importance of the citric acid cycle (3 marks)
- i) Explain the effects of high cholesterol levels (3 marks)

Question TWO

- i) Discuss the energy investment phase of glycolysis (8 marks)
- ii) Describe in details four fates of pyruvate (12 marks)

Question THREE

- i) Describe the reactions involved in fatty acid synthesis (14 marks)
- ii) Discuss the carnitine shuttle and state its role (6 marks)

Question FOUR

Discuss the process of gluconeogenesis and give its importance (20 marks)

Question FIVE

Discuss the secondary structure of DNA (15 marks)

Explain how free purines are converted back to nucleotides (5 marks)