TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN APPLIED CHEMISTRY

ABT 4202: FUNDAMENTALS OF METABOLISM

END OF SEMESTER EXAMINATION

SERIES: Select seriesPickyear

TIME: 2HOURS

DATE: Pick DateSelect MonthPick Year

Instructions to Candidates
You should have the following for this examination
-Answer Booklet, examination pass and student ID
This paper consists of Choose No questions. AttemptChoose instruction.
Do not write on the question paper.

Question ONE

a). State the Laws of Thermodynamic.   **(2 marks)**

b). Define high energy molecules, and give five examples of the high energy compounds.

(5 marks)

c). Using structures, describe the fate of pyruvate.   **(5 marks)**

d). The Krebs cycle is controlled at three main points. Name the three points and the enzymes involved   **(3 marks)**

e). State the biochemical functions of nucleotides.   **(5 marks)**

f). Define the following terms and give example(s) in each case

   i) Glucogenic and Ketogenic amino acids   **(4 marks)**

   ii) Exergonic and Endergonic reactions   **(4 marks)**

iii) Substrate level phosphorylation **(2 marks)**

Question TWO

Describe the glycolytic pathway showing the site of activity of various enzymes.

(20 marks)

Question THREE

a). Describe the cholesterol biosynthesis. **(10 marks)**

b). Outline five functions of cholesterol. **(5 marks)**

c) Outline the biochemical importance's of nucleotides. **(5 marks)**

Question FOUR

a). Name the carbon skeleton formed from deaminations of various amino acids. **(10 marks)**

b). (i) Describe the urea cycle. **(7 marks)**

(ii) Outline the fate of urea in various vertebrates. **(3 marks)**

Question FIVE

a). Some anticancer drugs block the synthesis of DNA. Discuss (**10 marks)**

b). (i) Describe the effect that results to the disease arthritis (Gout) **(5 marks)**

(ii) Explain how the disease (gout) is cured/treated. **(5 marks)**