

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**P.O. Box 972-60200 – Meru-Kenya.**

**Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411**

**Fax: 064-30321**

**Website:** [**www.must.ac.ke**](http://www.must.ac.ke) **Email:** [**info@must.ac.ke**](mailto:info@must.ac.ke)

**University Examinations 2016/2017**

SECOND YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ANIMAL HEALTH PROTECTION.

**AAP 3202/SHV 3250: ANIMAL METABOLISM AND ENZYMOLOGY**

**DATE: DECEMBER, 2016 TIME: 2 HOURS**

**INSTRUCTIONS: -** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Explain the meaning of the following terms;
2. Metabolism (2 marks)
3. Rate of enzymatic reaction (2 marks)
4. Outline ketone body metabolism (3 marks)
5. Outline the digestion and utilization of nucleic acids (2 marks)
6. Describe the structure and function of each of the following blood cells (6 marks)
7. Monocytes
8. Macrophages
9. Explain briefly how the concentration of certain metabolic intermediate regulate glycolysis (6 marks)
10. Describe the koshland “induced fit” hypothesis (4 marks)
11. Describe the action of glycogen in the body during a short fast (5 marks)

**QUESTION TWO (20 MARKS)**

Explain with illustration -oxidation in living organisms. (20 marks)

**QUESTION THREE (20 MARKS)**

Describe the TCA cycle and how it is regulated in the cell. (20 marks)

**QUESTION FOUR (20 MARKS)**

Describe gluconegenesis and how it is regulated in the cell. (20 marks)

**QUESTION FIVE (20 MARKS)**

Describe the metabolism of purines and pyrimidines in the cell and show how they fed TCA cycle. (20 marks)