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University Examinations 2015/2016

SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR IN ANIMAL HEALTH AND PRODUCTION

AAP 3202: ANIMAL METABOLISM AND ENZYMOLOGY

DATE: NOVEMBER 2015

TIME: 2 HOURS

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

QUESTION ONE (30 MARKS)

- a) Outline the basic steps in the citric acid cycle? (4 Marks)
- b) The glycolysis pathway consist of 10 reactions. List the enzymes involved in the first 4 reactions of glycolysis (4 Marks)
- c) Define the term enzyme kinetics (2 Marks)
- d) Differentiate between anabolic and catabolic pathways and indicate their importance (4 Marks)
- e) State six products generated in TCA cycle (3 Marks)
- f) Regulation of glucose metabolism takes place in two organs. Name the organs and list the enzymes involves in each of the organs (5 Marks)
- g) List the characteristic features of enzymes (4 Marks)
- h) List the four processes of protein biosynthesis (4 Marks)

QUESTION TWO (20 MARKS)

- a) Name the regulatory enzymes in glycolysis. What are the characteristic features of these enzymes (5 Marks)
- b) How is the regulation of glycolysis achieved (15 Marks)

QUESTION THREE (20 MARKS)

- a) Differentiate between glycolysis and gluconeogenesis (5Marks)
- b) Discuss the important factors involved in the control of glycogenesis (15 Marks)

QUESTION FOUR (20 MARKS)

- a) Describe the process of oxidative phosphorylation and indicate overall function and where it occurs (10 Marks)
- b) Discuss two ways by which enzyme reactions can be accelerated (10 Marks)