



MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL STUDIES

FIRST SEMESTER EXAMINATION FOR BACHELOR OF ENVIRONMENTAL
STUDIES (COMMUNITY DEVELOPMENT & COMMUNITY RESOURCE
CONSERVATION)

ENS 132: ENVIRONMENTAL BIOLOGY

Date: 7/12/2016

Time: 11:00 – 1:00 PM

INSTRUCTIONS:

Answer **ALL** questions in section A and any other **TWO** in section B

SECTION A (COMPULSORY)

QUESTION ON (30 MARKS)

- a) Explain the following terms as used in Environmental Biology
- i) Plant embryogenesis (2 marks)
 - ii) Biosystematics (2 marks)
 - iii) Morphogenesis (2 marks)
 - iv) Developmental anatomy (2 marks)
 - v) Parasitic plants (2 marks)
- b) Outline the various applications of somatic embryogenesis. (5 marks)
- c) Explain the significance of biosystematics knowledge of living organisms to humanity (4 marks)
- d) With aid of a diagram, describe the stages of complete metamorphosis in a named insect. (8 marks)

e) Explain any THREE effects of parasites on wildlife. (3 marks)

SECTION B: ANSWER ANY OTHER TWO QUESTIONS

QUESTION TWO

Explain FIVE plant responses towards environmental stimuli. (20 marks)

QUESTION THREE

Using a diagram, describe the structures and functions of various components of a eukaryotic cell. (20 marks)

QUESTION FOUR

Describe the molecular and cellular mechanisms of morphogenesis. (20 marks)

QUESTION FIVE

Explain various classifications of proteins based on their biological functions. (20 marks)