



MURANG'A UNIVERSITY COLLEGE

(A Constituent College of Jomo Kenyatta University Of Agriculture and Technology)

DIPLOMA IN APPLIED BIOLOGY
SCHOOL OF PURE AND APPLIED SCIENCES
CLASS: AS/BIO/13D
COURSE CODE: ASB 1307
**TAXONOMY ECOLOGY, SOIL STUDY, MUSEUM HERBARIUM AQUARIUM
AND VIVARIUM**
DATE: 24TH JULY 2015

TIME 3 HOURS

Instructions to Candidates

This paper consists of two sections; A and B. Answer ALL questions in section A and any THREE questions from section B. Each question in section A carries 4 marks while each question in section B carries 20 marks

SECTION A (60 Marks)

1. Differentiate between Coniferata and Angiospermae (4 marks)
2. Explain the advantages of the pyramid of energy (4 marks)
3. Differentiate between scyphozoan and Anthozoa (4 marks)
4. Draw a labeled diagram of the hydra (4 marks)
5. Differentiate between inter-specific and intra- specific competition (4 marks)
6. Compare and contrast Trematoda and Cestoda (4 marks)
7. State any four distinguishing characteristics of the phylum Arthropoda (4 marks)
8. Describe an ecosystem (4marks)
9. Outline notes you need to take during specimen collection for a pharmaceutical company herbarium (4marks)

10. With aid of diagrams show different types of leaf margins (4 marks)
11. Describe factor for consideration in establishing an outdoor aquarium in a university (4 marks)

SECTION B (60 MARKS)

12. a) State the general characteristics of each of the three classes of the phylum platyhelminthes. Give a specific genus in each class (12 marks)
- b) Distinguish between Monocotyledonae and Dicotyledonae (8 marks)
13. Describe the distributions of organisms in a lake (20 marks)
14. Explain binomial nomenclature (7 marks)
- Construct a simple dichotomous key for the following
- Grasshopper, Mosquito, spider, termite, beetle, using the following features
- Wings, legs, body parts, moth parts (13 marks)
14. Discuss plant press procedure (20 marks)
15. Discuss the following aquarium fish diseases (20 marks)
- a. Columnaris
 - b. Tuberculosis
 - c. Fish vibriosis
 - d. Ick-ick (white spot disease)