



MURANG' A UNIVERSITY COLLEGE

(A Constituent College of Jomo Kenyatta University College of Technology)

SCHOOL OF PURE AND APPLIED SCIENCES

TAXONOMY , ECOLOGY , SOIL STUDY EXAMINATION

AS/BIO/12D 14D

ASB 1107

JULY /AUGUST 2015

DATE: 31ST MARCH 2015

TIME 3HRS

SECTION A

Answer all questions in this section

1. a) Define what is a species and give the specific name of man (2 marks)
b) Name the system that is used to give animals scientific names (2 marks).
2. Name the two phyla of the Eubacterium and give an example of an organism in each (2 marks)
b)List four characteristics of the phyla Eubacterium (2 marks)
3. Classify the following organisms into kingdom, sub phylum and class.
Lycopodium
Coniferous trees
Maize
Ferns
4. a)Name the divisions of the kingdom fungi. Give an example in each division (2 marks)
b)Explain the characteristics which are used to classify the fungi into their respective divisions (2 marks).

5. Describe the properties of horizon B soil profile (4 marks)
6. Distinguish between chronosequence and salinization in soil forming process (4 marks)
7. Define the following terms as used in ecology (4mks)
 - Ecosystem
 - Ecological niche
 - Carrying capacity
 - Synecology
8. Differentiate between the main types of ecological pyramids (4mks)
9. Identify the classes of vascular and avascular plants (4 marks)
10. differentiate between the following types of classification (4 marks)
 - a) Artificial
 - b) Phylogenic

SECTION B

Answer any three question from this section

11. a) Outline the life cycle of the club moss *lycopodium spp.* (10 marks)
- b) Expalin the role of the gametophyte in the spermatophyta. (10 marks)
12. a) Name any two phyla of the kingdom protocista. (2 marks)
- b) State three general characteristics of the four phyla of the kingdom fungi. Give an example of an organism in each phyla. (15 marks)
- c) State three importances of the organisms in kindom fungi (3 marks)
13. Illustrating your answer with a simple food chain, explain the various trophic levels within an ecosystem (20mks)
14. Describe five different types of biotic interactions within an ecosystem (20mks)
15. Explain the role of the following factors in soil formation (20mks)
 - Living organisms
 - Climate
16. Explain the importance of the following soil physical properties to plant growth (20mks)
 - Soil porosity
 - Soil structure
 - Soil consistency
 - Soil colour