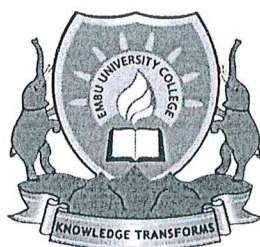


Reg. No.



EMBU UNIVERSITY COLLEGE

(A CONSTITUENT COLLEGE OF THE UNIVERSITY OF NAIROBI)

TRIMESTER EXAMINATIONS 2013/2014

SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

AND BACHELOR OF SCIENCE IN BIOLOGY

SBT 203: PLANT ECOLOGY

DATE: AUGUST 6, 2014

TIME: 8.30-10.30AM

INSTRUCTIONS:

Answer ALL Questions from SECTIONS A and B, and ONE Question selected from Section C.

SECTION A: Multiple Choice Questions (15 Minutes, 1 Mark each).

Please tick in the box opposite the correct answer.

1. Which of the following does not describe plant population distribution pattern

- Irregular
- Regular
- Random
- Clumped

2. An n-dimensional hypervolume refers to

- Niche
- Community
- Species
- Population

3. An interaction where one population affects another adversely but benefits itself from the interaction is known as

- Predation
- Competition
- Parasitism
- Neutralism

4. Which force drives natural selection

- Competition
- Herbivory
- Mutualism
- Parasitism

5. Which Principle states that two species with similar environmental requirements cannot coexist indefinitely in the same habitat

- Principle of competitive exclusion
- Darwinian principle
- Principle of competition
- Principle of Coexistence

6. The mycorrhizal fungi and plant roots are an example of which relationship

- Mutualism
- Ammensalism
- Neutralism
- Parasitism

7. Plant chemicals that interfere with an insect juvenile hormone that is essential to the insect's life cycle are known as

- Chromenes
- Tannins
- Phytoalexin
- Terpenoids

8. Quantitative characters of a plant community include the following except

- Physiognomy
- Frequency
- Density
- Abundance

9. The way in which plants of different species are arranged in different vertical layers in order to make full use of the available physical and physiological requirements is known as

- Stratification
- Layering
- Hybridization
- Phenology

10. On the basis of its percentage frequency, a species may belong to any of following presence classes except

- Absent
- Rare
- Seldom present
- Often present

11. The “climax forest type” is also known as

- Primary forest
- Secondary forest
- Successional forest
- Tertiary forests

12. Swamps are

- Wetlands with trees
- Wetlands without trees
- Saturated ground usually composed of accumulated undecayed vegetation
- Bogs fed by ground water and have a high mineral content

13. The high mountains of Ethiopia and tropical East Africa encompasses the

- Afro-alpine region
- Montane region
- Grasslands
- Shrublands

14. Which of the following is not an altitudinal zones in afro alpine ecosystems

- Arid zone
- Afro-montane zone
- Sub-alpine ericaceous zone
- Afro-alpine zone

15. Fire is a common feature in

- Shrublands
- Afro-alpine zones
- Marshes
- Bogs

SECTION B: SHORT ANSWER QUESTIONS (30 Minutes; 5 Marks Each)

Your answers should be brief and to the point (Use the examination answer book provided)

16. Differentiate between fundamental and realized niche.

17. Describe 3 types of small scale plant population distribution.

18. Explain the meaning of the following terms:

- a) Competition
- b) Predation
- c) Parasitism

19. Explain briefly using appropriate examples, the principle of competitive exclusion.

20. Describe mutualism in mycorrhizal fungi and plants.

21. Differentiate between primary and secondary forests.

SECTION C: ESSAY QUESTIONS (45 MINUTES; 25 MARKS EACH)

Write an essay on any ONE of the following topics (Use the examination answer book provided)

22. Discuss the analytical and synthetic characteristics of plant communities.

23. Discuss how humans affect plant populations.

24. Discuss using examples where appropriate, the chemicals that plants produce to deter herbivores and pathogens.

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