

Reg. No. _____



UNIVERSITY OF EMBU

2017/2018 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(ENVIRONMENTAL CONSERVATION AND NATURAL RESOURCES
MANAGEMENT) AND BACHELOR OF SCIENCE (MICROBIOLOGY AND
BIOTECHNOLOGY)**

SBT 201: GYMNOSPERM AND ANGIOSPERM TAXONOMY

DATE: APRIL 10, 2018

TIME: 2:00-4:00PM

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

SECTION A: Multiple Choice Questions (1 Mark each)

Please tick in the box opposite the correct answer.

1. Classification of organisms based on evolutionary as well as genetic relationships is called
 - Numerical
 - Phenetics
 - Biosystematics
 - Cladistics
2. The botanist said to be the founder of the concept of modern genera was
 - Carolus Linnaeus
 - Joseph Pitton de Tournefort
 - Caesalpinus
 - John Ray

3. Pollination of flowers by bees is known as

Anthralophily

Mellitophily

Phalaenophily

Entomorphily

4. Dioscorides is famous for classifying plants according to

Their shape

Their size

Their uses

The flower colour

5. Plant taxonomy is seen as a synthetic science because

It is the first branch of botany

Many early botanist were involved

It is relatively new

It uses data from many other fields

6. Classification based on a few characters is

Natural

Phylogenetic

Artificial

None of the above

7. Which one of the following is a characteristic of compound flowers?

Have one lamina

Have several leaflets

Have serrated margin

Are lobed

8. Palynology is the study of

- Petals
- Past events
- Pollens
- Botanical techniques

9. Perigynous ovary is one in which

- The ovary is fused with other floral parts
- The ovary is located below the receptacle
- The ovary is located above the receptacle
- Ovary is invisible

10. Plant anatomy refer to

- Outward appearance of the plants
- Internal structure of the plant
- The genotype of the plant
- None of the above

11. Pollen data useful at all levels of the taxonomic hierarchy include

- The size
- Surface sculpturing
- Aperture
- The color

12. Plants whose reproductive structures are located in the same plant are referred to as

- Bisexual
- Homogenous
- Protandry
- Monoecious

13. In angiosperm, characters of flowers are used in classification because

- Flowers are attractive
- Flowers are large
- Characters of flowers are conservative
- None of the above

14. Indefinite stamens are found in the family

- Malvaceae
- Graminae
- Labiatae
- Cruciferae

15. Species are considered as

- Real basic unit of classification
- The lowest units of classification
- Artificial concept of human mind which cannot be defined in absolute terms
- Real units of classification devised by taxonomists

SECTION B: SHORT ANSWER QUESTIONS (5 Marks Each)

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

16. a) Explain the meaning of character trait as used in classification.

b) Explain the importance of taxonomic characters.

17. Outline the importance of plant taxonomy.

18. Compare the physiological features of wind and insect pollinated flowers

19. Differentiate the two main breeding systems in flowering plants.

20. Explain how one would prepare and mount a plant specimen.

21. a). Explain the “doctrine of signatures”.

b) Explain why you think it is of no value to modern taxonomy?

SECTION C: ESSAY QUESTIONS (25 Marks Each)

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

22. Explain the sources of taxonomic characters
23. “The history of plant classification would be incomplete without the name Carolus Linnaeus” Discuss the statement.
24. a) Distinguish the three types of classification systems (6 marks)
- b) Discuss the Hutchinson list of morphological characters trends in angiosperms regarding primitive and advanced characters (19 marks)

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