



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 204: PLANT ECOLOGY

DATE: AUGUST 14, 2014

TIME: 11.00AM-1.00PM

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. The outer layer of the endosperm is called

- Scutellum
- Ovary
- Tapetum
- Aleurone

2. Which of the following is not a type of fruit

- Drupe
- Hesperidium
- Berry
- Cones

3. Eukaryotic DNA contains

- Peptidoglycan
- Starch
- Esters
- Histones

4. Substances move from cell to cell through openings known as

- Cell membranes
- Stomata
- Vacuoles
- Plasmodesmata

5. Lateral roots originate from

- Root cap
- Cortex
- Phloem
- Pericycle

6. The principal tissues of plants include the following except

- Ground tissue
- Vascular tissue
- Dermal tissue
- Reproductive tissue

7. Scelereids and fibres are components of

- Parenchyma
- Collenchyma
- Epidermis
- Scelerenchyma

8. The glucose polysaccharide deposited in pores of injured sieve elements is known as

- Cytoskeleton
- Peptidoglycan
- Sucrose
- Callose

9. Which of the following replaces the epidermis during secondary growth

- Trichomes
- Sclereids
- Companion cells
- Periderm

10. Old wood that is dark is known as

- Compression wood
- Tension wood
- Sap wood
- Heart wood

11. The antenna complex and reaction centre make up the

- Calvin cycle
- Krebs cycle
- Glycolysis
- Photosystems

12. Plants in which phosphoenolpyruvate is carboxylated to form a four carbon compound using the enzyme PEP carboxylase are known as

- C3 plants
- CAM plants
- Hydrophytes
- C4 plants

13. Release of water droplets through small openings on leaves is known as

- Transpiration
- Osmosis
- Diffusion
- Guttation

14. The main sugar translocated in the phloem is

- Glucose
- Maltose
- Lactose
- Sucrose

15. Carbohydrates are actively loaded into sieve tubes through a mechanism known as

- Cohesion
- Adhesion
- Transpiration
- Chemiosmosis

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. Illustrate the structure of a root and indicate the different zones of differentiation.

17. Describe secondary growth in stems using a chart.

18. State the function of 5 micronutrients in plants.

19. Describe the transpiration-cohesion theory.

20. Outline four ways in which seeds are adaptively important.

21. Describe glycolysis.

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 three main tissue systems in plants.

23. Describe secondary growth in roots.

24. Using illustrations describe the following:

a) Photosystem I and II

b) Calvin cycle

---END---