

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF
BACHELOR OF SCIENCE AGRICULTURAL, BACHELOR OF ANIMAL SCIENCE,
BACHELOR OF SCIENCE HORTICULTURE MANAGEMENT, BACHELOR OF
EDUCATION SCIENCE, BACHELOR OF SCIENCE AGRICULTURAL EDUCATION
AND EXTENSION, BACHELOR OF SCIENCE WILDLIFE AND ENTERPRISE
MANAGEMENT, BACHELOR OF SCIENCE ECOTOURISM MANAGEMENT,
BACHELOR OF SCIENCE ENVIRONMENTAL SCIENCE, BACHELOR OF SCIENCE
NATURAL RESOURCE MANAGEMENT, BACHELOR OF SCIENCE FOOD SCIENCE
AND TECHNOLOGY, BACHELOR OF SCIENCE AGRICULTURE ECONOMICS**

BOTA 101: GENERAL BOTANY

**STREAMS: BSC (AGRIC), ANSC, HORT, BED (SCI), BSC (AGED), WIEM, ECOT,
ENSC, NARE, FD (SCI) & TECH, AGECE YISI** **TIME: 2 HOURS**

DAY/DATE: FRIDAY 19/12/2014

8.30 AM – 10.30 AM

INSTRUCTIONS:

Answer All Questions in Section A and One Question in Section B

SECTION A: 50 MARKS

1. (a) Explain the following terms in relation to bacteria. [3 marks]
 - (i) Facultative anaerobes
 - (ii) Obligate anaerobes
 - (iii) Prokaryotic cell
- (b) List four groups of bacteria based on temperature requirements. [4 marks]
2. (a) Explain how fungi obtain their nutrition [1 mark]
- (b) List three major groups of fungi. [3 marks]
3. (a) Explain three categories of algae that occupy unusual habitats. [3 marks]
- (b) List three characteristics of bryophytes. [3 marks]

4. (a) Describe the lichen symbiosis [3 marks]
(b) Give the economic importance of lichens [3 marks]
5. (a) List the functions of the following parts of a root. [4 marks]
(i) Epidermis
(ii) Cortex
(b) List three differences between monocot and dicot stems. [3 marks]
6. (a) Name two types of inflorescence [2 marks]
(b) Explain three types of placentation in an ovary of a flower. [3 marks]
7. (a) Differentiate between symport and antiport systems in facilitated diffusion. [2 marks]
(b) List three physical properties of water that help in driving the ascent of xylem sap during transpiration. [3 marks]
8. (a) Name two photosystems in plants and give their peak light absorbance. [2 marks]
(b) Name two products of photosynthesis [2 marks]
9. (a) List three stages of respiration [3 marks]
(b) Explain the difference between growth and differentiation in plants. [2 marks]

SECTION B: 20 MARKS: ANSWER ONE QUESTION ONLY

10. Discuss the economic importance of the following groups of plants
(i) Fungi [10 marks]
(ii) Algae [10 marks]
11. Describe the synthesis of ATP and NADPH during the light reactions of photosynthesis using an illustration. [20 marks]
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