

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF
BACHELOR OF EDUCATION SCIENCE AND BACHELOR OF SCIENCE**

BOTA 322: PLANT GROWTH AND DEVELOPMENT

STREAMS: BED (SCIE) BSC

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 10/12/2014

8.30 AM – 10.30 AM

INSTRUCTIONS:

Answer All Questions in Section A and Two Questions in Section B

Section A: Short answer Questions (30 marks)

1. Describe the life cycle of angiosperms [5 marks]
2. (a) Highlight four events that precede seed germination. [2 marks]
(b) List the roles of the following genes in plant growth
 - (i) SHOOT MERISTEMLESS (STM) [1 mark]
 - (ii) CLAVATA [1 mark]
 - (iii) WUSHEL [1 mark]
3. Outline five roles of phytochromes in plant growth. [5 marks]
4. Describe the shoot apical meristem (SAM) [5 marks]
5. Explain the process of double fertilization in flowering plants. [5 marks]
6. What are the mechanisms of geotropic response in plants? [5 marks]

Section B: Essay Questions (40 marks)

7. Write an essay on the role of auxins in directing plant growth and form.
8. Discuss the role of biotechnology in modern agriculture

9. (a) Describe the formation of male gamete in plant. [10 marks]
- (b) Discuss factors that determine pattern of organ initiation in plant.
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