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University Examinations 2024/2025

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE CERTIFICATE IN AGRICULTURE

AAC 1203: BOTANY

DATE: DECEMBER 2024 **TIME: 1½ HOURS**

INSTRUCTIONS: *Answer question **one** and any other **two** questions*

QUESTION ONE (30 MARKS)

a) Highlight two types of roots in plants (2 marks)

b) Outline four types of specialized stems in plants (4 marks)

c) Give four functions of leaves in plants (4 marks)

d) Describe DNA Replication (2 marks)

e) Highlight two principles of binomial nomenclature (2 marks)

f) State the role of m-RNA? (2 marks)

g) Define cell division and give two examples of cell division cycles (4 marks)

h) Using examples differentiate between somatic cells and germs cell (4 marks)

i) Distinguish between;

a) Prokaryotes and eukaryotes (2 marks)

b) Haploid and diploid (2 marks)

c) Plant anatomy and plant morphology (2 marks)

QUESTION TWO (15 MARKS)

a) Describe meiosis in plants (6 marks)

b) Discuss the significance of mitosis in plants (3 marks)

c) Highlight the three similarities and three differences between mitosis and meiosis (6 marks)

QUESTION THREE (15 MARKS)

a) Write short notes on the following.

i. Lamarck's theory (1809) (5 marks)

ii. Darwin's theory of natural selection (1859) (8 marks)

b) Give two main functions of a stem in plants (2 marks)

QUESTION FOUR (15 MARKS)

a) Describe the internal structure of a plant leaf (4 marks)

b) Discuss using a diagram where applicable;

i. Two specialized stems in plants (4 marks)

ii. Anatomy of a monocot and a dicot root (4 marks)

c) Describe three leaf modifications in plants (3 marks)