



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER EXAMINATIONS
SPECIAL/SUPPLEMENTARY EXAMINATION**

**FOR THE DEGREE OF B.Sc. IN:
BSC AGRICULTURE EDUCATION AND EXTENSION**

COURSE CODE: ACR 204

COURSE TITLE: PASTURE AND FODDER CROPS

DATE: 26TH

TIME: 8-10AM

INSTRUCTIONS TO CANDIDATES

Answer ALL questions in section A and any TWO in section B

SECTION A: Answer all questions (30 Marks)

1. Phenotypic characteristics can assist pasture scientists to differentiate between grass and legume species. Name and illustrate the stem growth habit and inflorescence of the forage species.

(a) Napier grass (2 marks)

(b) Lucerne (2 marks)

2. Briefly outline FIVE economic and ecological uses of grasses in the agricultural systems (5 marks).

3. (a) state THREE advantages of intercropping desmodium with maize on smallholder farms (3 marks)

(a) Briefly describe two planting pattern you would use when intercropping desmodium with Napier grass (2 marks)

4. (i) List SIX improved ley grasses recommended for cultivation in Zone II (cold and wet humid) and Zone III (sub humid savanna zone) (3 marks)

(ii) List THREE natural grass and THREE legumes dominant in the zone IV (semi-arid regions) of Kenya (3 marks)

5. Briefly describe the process followed when making HAY from Rhodes grass (5 marks)

6. With reasons briefly discuss the importance of Nitrogen and Phosphate fertilizer in pasture management. (5 marks)

SECTION B: Answer any two questions (40 marks)

7. Making SILAGE is one of the ways of conserving fodder without losing much of its quality.

(a) Describe the steps to be followed by a farmer when making using pit silo method. (12 marks)

(b) Discuss in detail the reasons why forage conservation is not widely adopted by small-scale dairy farmers. (8 marks)

8. (a) Discuss in detail the potential effects of climate on forage production. (10 marks)

(b) Describe TWO technologies that can assist farmers increase forage yields in the face of climate change (10 marks)

9. Napier grass in western Kenya is threatened by Napier stunt disease that leads to low productivity. Discuss the disease in terms (i) causal agents (ii) mode of spread of the disease (iii) symptoms and (iv) methods of controlling the disease. (20 marks)