

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI.  
SCHOOL OF AGRICULTURE & AGRICULTURAL TECHNOLOGY,  
DEPARTMENT OF ANIMAL SCIENCE & TECHNOLOGY  
2008/2009 RAIN SEMESTER EXAMINATION

**AST 508: PASTURE MANAGEMENT AND UTILIZATION**

Time Allowed: 3 hours.

**INSTRUCTION:** Answer five questions, at least two from each section.

**SECTION A**

(1a). Outline the characteristics of grasses and legumes that help them adapt in the environment.

(b). Browse plants and pastures are valuable not only in crop production but also in Animal Production. Discuss.

(2a). List the different vegetative zones of Nigeria stating the main features of each zone.

(b). Write short notes on:

- i. Short term pasture or leys
- ii. Companion pasture with field crops
- iii. Companion pastures with Tree Crops.
- iv. Improved pastures.

3a) Why is drought feeding very important in livestock feeding.

b) Compare standing hay with cut hay, and state how each of them can

- i) Be prepared.
- ii) Fed to the animals.

**SECTION B**

(4a). As one animal unit is 400kg steer and one dry sheep equivalent is 40kg Merino wether, show by equation the animal unit values of the following

- i. Calf
- ii. Breeding cow
- iii. Weaner (8-12months) (Cattle)
- iv. Ram
- v. One breeding ewe
- vi. Lamb (up to 2 teeth)

(4b). As the Manager of Kwudi Cattle Ranch, Gwazo, what are the advantages and disadvantages you would derive from grazing two named species of animals together.

(5). The piece of land in FUTO Farm mapped out for establishing pasture with the seeds of a leguminous plant, when surveyed, was discovered to be circular in shape. If the midpoint of the circumference of the land is 2000m and the spacing of the pasture seed is 1m by 50cm,

(a). Calculate the population of the legume planted at 1 seed per stand.

(b). If the germination efficiency is 70%, calculate the expected plant population.

### **SECTION C**

(6a). Forage conservation as hay is necessary to preserve digestible nutrients as efficiently as possible. Outline 5 changes during haymaking that could affect its nutritive value. (5 marks)

(b). Define the following terms:

i. Fodder.

ii. Palatability

iii. Carrying capacity.

iv. Stocking rate

v. Woody species

vi. Herbaceous species. (6 marks)

(c). Appropriate combination of superior forage species of grasses and legumes for optimum animal production cannot be overemphasized. Outline 5 economic importances of tropical forages. (5 marks).

(d). Briefly describe four (4) methods of forage processing that could improve the utilization and feeding value of dry forages. (4 marks).

7a. Describe the stages in the ensiling process (5 marks)

b. Outline and explain the critical factors necessary for good preservation in silage making. (3marks).

c. Explain why tropical plants do not make good silages. (2marks)

d. Additives influence the course of silage fermentation. Describe two types of silage additives and give 2 examples of each. (4marks)

e. Outline the potential losses in feed energy during the ensiling process. (6 marks)