



EMBU UNIVERSITY COLLEGE

(A Constituent College of the University of Nairobi)

2015/2016 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(AGRICULTURE) AND BACHELOR OF SCIENCE (RANGE MANAGEMENT)

ACS 207/ACP 203: PASTURES AND FODDER PRODUCTION

DATE: APRIL 5, 2016

TIME: 08:30-10:30

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions

QUESTION ONE

a) Define the following terms as used in pasture and fodder production

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|-----------------|-----------|
| i) Grassland | (2 Marks) |
| ii) Forage | (2 Marks) |
| iii) Green chop | (2 Marks) |
| iv) "Grasslike" | (2 Marks) |
| v) Mast | (2 Marks) |

b) A graduate student of Embu University College has been invited for an interview for the position of the manager of Eastern Ranch which has a size of 600 hectares. Of these 600 hectares, 500 hectares consist of paddocked grassland. Assist him to answer the following interview questions;

- i) What method of grazing management would you employ to ensure sustainable production? Explain your answer. (4 Marks)

- ii) Explain how he would sample the pasture in the ranch in order to determine the pasture yield. (4 Marks)
- iii) If an area of 1m^2 of the pastureland yields 0.8 kgs of forage, what would be the yield of the 500 hectares? (4 Marks)
- iv) Explain what steps he needs to take to ensure continuous productivity of animals throughout the year. (4 Marks)
- v) The owner of the ranch would want to sow some *Leucena leucocephala* seeds in order to establish a fodder woodlot in one of the paddocks. Mention any four methods of seed treatment that he would employ to ensure successful germination. (4 Marks)

QUESTION TWO

- a) Describe the economic importance of grasslands to man (8 Marks)
- b) Differentiate between C3 (Cool season) and C4 (Warm season) crops (12 Marks)

QUESTION THREE

- a) “Kenya’s rangelands are often degraded”. Discuss the possible reasons for pasture degradation or low productivity? (8 Marks)
- b) You are the manager of Embu Highland Dairy farm and you have grown napier grass which is intended for use as silage. Discuss the procedure that would lead to successful silage conservation in a pit silo. (12 Marks)

QUESTION FOUR

- a) “It is cheaper to renovate a pasture than establishing a new one”. What factors should a Manager consider before deciding on establishing or renovating a pasture? (8 Marks)
- b) You are the Livestock production officer in your sub county. The members of Mifugo dairy Cooperative society have come seeking advice on how to establish a pasture in the farm that they purchased last year. Discuss the factors that you will advice them to consider to ensure a successful pasture establishment. (12 Marks)

QUESTION FIVE

a) Forages can be grown as monocultures or mixtures. What are the advantages of mixed forages? (12 Marks)

b) Legume seed inoculation is very important for successful legume grass pastures. Discuss the key guide to successful inoculation? (8 Marks)

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