

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF CERTIFICATE
IN ANIMAL HEALTH

AGEN 00134: FARM STRUCTURES AND MACHINERY

STREAMS: CERT. ANHE (Y1S2)

TIME: 2 HOURS

DAY/DATE: TUESDAY 05/12/2017

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS:

- THIS PAPER CONTAINS SEVEN QUESTIONS
- ANSWER ALL QUESTIONS IN SECTION A AND ANY OTHER TWO IN SECTION B

SECTION A

QUESTION ONE

- (a) Explain THREE ways in which soil stabilization increases the soils resistance to destructive weather conditions when soil is used as a wall building material. [6 marks]
- (b) Give FOUR advantages of earth as a wall building material. [4 marks]

QUESTION TWO

- (a) Describe THREE types of wood preservatives. [6 marks]
- (b) Describe the following wood characteristics
- (i) Hardness [2 marks]
 - (ii) Warping [2 marks]

QUESTION THREE

- (a) With the aid of a diagram show the basic parts of a dairy cow zero grazing unit. [4 marks]
- (b) Explain the importance of the “slump test” in wet concrete mix, and with the aid of a diagram show how the slump test is done. [6 marks]

QUESTION FOUR

- (a) Name THREE types of mowers used to cut grass in hay making. [3 marks]
- (b) Discuss the importance of hay conditioning. [2 marks]
- (c) With the aid of a diagram, show the direction of the flow of chopped materials through a forage chopper (harvester). [5 marks]

SECTION B

QUESTION FIVE

- (a) List six main chemical components of standard Portland cement, and indicate the percentages of each. [6 marks]
- (b) Name FIVE desirable properties of concrete as a construction material. [5 marks]
- (c) Describe the following structures used in livestock management on a farm.
 - (i) Cattle crush [2 marks]
 - (ii) Cattle race [2 marks]

QUESTION SIX

- (a) Give two main objectives of fencing on a farm. [2 marks]
- (b) With the aid of a diagram, show the basic parts of slatted or wire floor chicken housing system. (Give the appropriate dimensions). [8 marks]
- (c)
 - (i) Name TWO main drying systems for drying grain or other crop on a farm. [2 marks]
 - (ii) If 400 kg of wheat at 30% moisture content, determine the weight of the dried wheat. [3 marks]

QUESTION SEVEN

- (a) Describe FIVE desirable characteristics for roof surfacing materials for pitched roofs. [5 marks]
- (b) With the aid of a diagram, name the basic parts of a truss used for pitched roofs. [3 marks]
- (c)
 - (i) Describe the method for hand mixing recommended on small concrete jobs. [4 marks]
 - (ii) Explain the importance of a foundation footing in buildings. [3 marks]