

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DIPLOMA IN ANIMAL HEALTH AND
DIPLOMA IN AGRICULTURAL EDUCATION**

AGEN 0241/0342: FARM STRUCTURES

STREAMS: DIP. ANHE/AGEN (Y3S2)

TIME: 2 HOURS

DAY/DATE: TUESDAY 09/04/2024

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS

- This paper contains SEVEN questions
- Answer ALL questions in section A and any other TWO question in section B

SECTION A (40 MARKS)

QUESTION ONE

- a) Name THREE types of natural stones used in building construction (3 marks)
- b) Describe FOUR types of defects in wood to watch for in selecting timber for a construction job (4 marks)
- c) Describe the following types of nails used in building construction:
 - i Concrete nails (1 mark)
 - ii Clout nails (1 mark)
 - iii Roofing nails (1 mark)

QUESTION TWO

- (a) List THREE functions of paints (3 marks)
- (b) Describe THREE types of paints used on building surfaces (6 marks)
- (c) Describe the term "batching" as used in concrete mix (1 mark)

QUESTION THREE

- a) Discuss the importance of drawings in building construction (5 marks)
- b) Draw a structural framework of a truss and indicate the members subjected to compression stress and the members subjected to tensile stress (5 marks)

QUESTION FOUR

- (a) Discuss FIVE advantages of galvanized steel sheets as a building roofing material (5 marks)
- (b) Briefly describe the general housing requirements for cattle (5 marks)

SECTION B

QUESTION FIVE (15 MARKS)

- a) A dairy farmer is to construct a concrete floor slab using naturally moist aggregates and adding 62 litres of water. The nominal mix is 1:3:5 cement-sand-ballast. Determine the following:
 - (i) The volume of the aggregate in the mix (2 marks)
 - (ii) The weight of aggregates in the mix (2 marks)
 - (iii) The amount of water contained in the mix (4 marks)
- b) With the aid of a diagram, name the basic parts of a sheep/goat pen (house) with gumple rails instead of masonry walls for better ventilation (5 marks)

QUESTION SIX (15 MARKS)

- a) List FIVE types of wire fences commonly used in livestock management (5 marks)
- b) (i) Draw and explain the purpose of a man pass on a fence (3 marks)
(ii) Explain two functions of ventilation in farm buildings (2 marks)
- c) Briefly describe FIVE functional requirements for different rooms and spaces in a family house (5 marks)

QUESTION SEVEN (15 MARKS)

- a) Illustrate zone planning when planning farmstead on a new farm (5 marks)
 - b) Describe FIVE factors to consider in farmstead planning (5 marks)
 - c) List FIVE environmental factors that affect the physiological functions of domestic Animals. (5 marks)
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