

**DAG 088/DAH 089**



*University of choice*

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)  
SCHOOL OF AGRICULTURE, VETERINARY SCIENCES AND  
TECHNOLOGY (SAVET)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
YEAR THREE SEMESTER 1 2023/2024 ACADEMIC YEAR**

**MAIN EXAMS  
OF  
DIPLOMA IN GENERAL AGRICULTURE AND HORTICULTURE)**

**COURSE CODE: DAG 088/DAH 089**

**COURSE TITLE: FARM STRUCTURES**

**DATE: 5.12.23**

**TIME: 8-10AM**

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**INSTRUCTIONS TO CANDIDATES**

This paper is divided into two sections, **A and B**. Answer ALL Questions in SECTION A and any Two in SECTION B

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over

**SECTION A: ANSWER ALL QUESTIONS (40 MARKS)**

**Q1.A.)i** Which are the two factors that are very important for consideration in any design of farm buildings? **(2 marks)**

ii. Discuss the following loads on farm buildings?

1) Pressures exerted by fluids **(2 marks)**

2) Wind loads **(2 marks)**

iii. With the aid of a diagram determine the width of the foundation footing providing proportion for a wall or pier in a farm building **(4 marks)**

**B.) i.)** Define the following

a) Concrete floors in a farm building **(2 marks)**

b) Concrete Masonry in a farm building **(2marks)**

ii.) Why are window sills important in farm structures / buildings? Give two reasons. **(6 marks)**

**C.)** Using hand sketches draw the following types of roof trusses in a farm structure

1) Fink trusses **(3 marks)**

2) Belgian trusses **(3 marks)**

ii) Why is temperature the most important environmental factor in poultry housing?

**(4 marks)**

**D. i)** Give the three stages in structural design of a farm structure.

**(3 marks)**

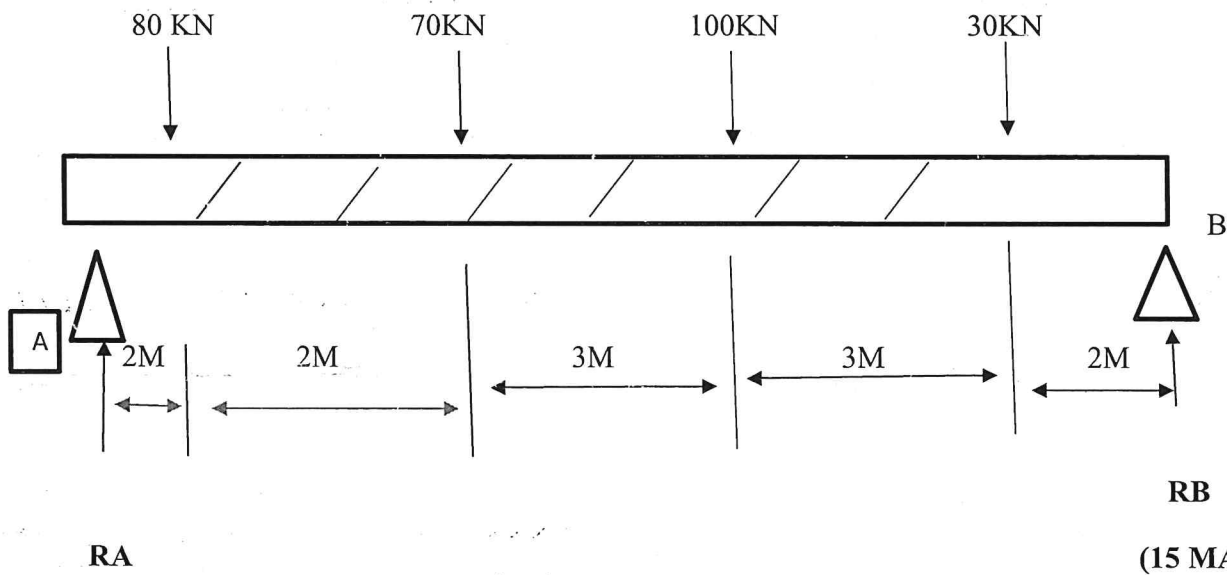
ii) Name three examples of natural cements and one example of artificial cement. **(7 marks)**

**SECTION ANSWER ANY TWO QUESTIONS (36 MARKS)**

**Q2.** Your company has won a tender to construct farm buildings for an NGO in your local area. Discuss the advantages of using earth as a building material compared to other building materials  
**(15 marks)**

**Q3.** In an agricultural set-up, farm structures are placed in groups based on their utilization. Using classifications come up with a table showing this.  
**(15 marks)**

**Q4.** In a goat shed floor shown below, several goats sleep on the floor and extent various weights at different points. For the floor to be at equilibrium, calculate the moments of the forces about points RA and RB



**Q5.** Farm fencing is adopted to enclose the farm to distinguish the boundaries and to prevent trees passing of animals etc. Discuss.  
**(15 MARKS)**

