



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

AGN 111: INTRODUCTION TO TECHNICAL DRAWING

DATE: 11/11/2020

TIME: 2.00-4.00 PM

INSTRUCTIONS

- Answer your questions in the drawing papers provided
- This paper contains five questions.
- Answer question one [compulsory] and any other two questions
- Allow $1\frac{1}{2}$ hours for question 1 and 45 minutes for each of the other two questions.
- All dimensions are in millimetres unless otherwise stated.
- Construction lines should be faint and should not be erased.
- Accuracy and good line work are essential.

QUESTION ONE (30 MARKS)

- a) The **Figure Q1(a)** shows isometric view of a **Support Bracket**. Draw, using first angle projection, the following views: **Front**, **Top** and **left side views**. Front view is indicated by the arrow X. Include all hidden details, show dimensions and projection

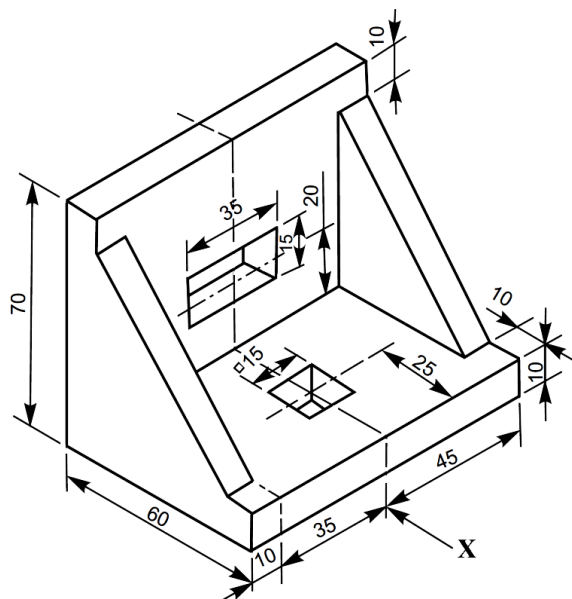


Figure Q1(a)

symbol.

- b) Draw, full size, an isometric projection of the component shown in **Figure 1(b)** below. Point A is to be the lowest point of the projection. Hidden details are not to be shown. Indicate necessary dimensions.

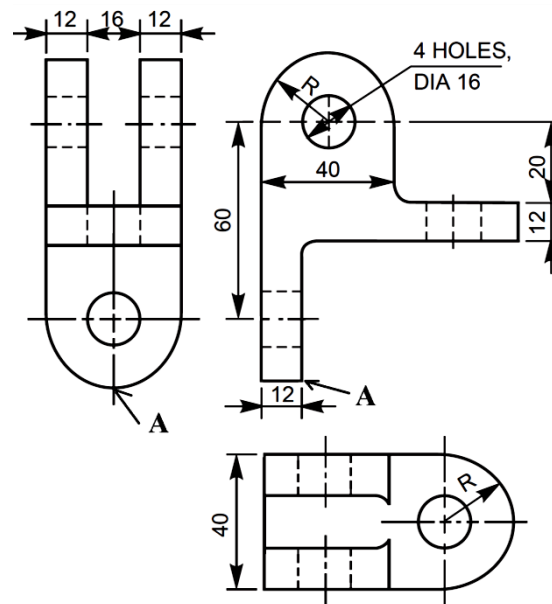


Figure Q1(b)

QUESTION TWO (20 MARKS)

Figure below shows two views of a small casting. Draw, full size, an oblique projection of the casting with face A towards you.

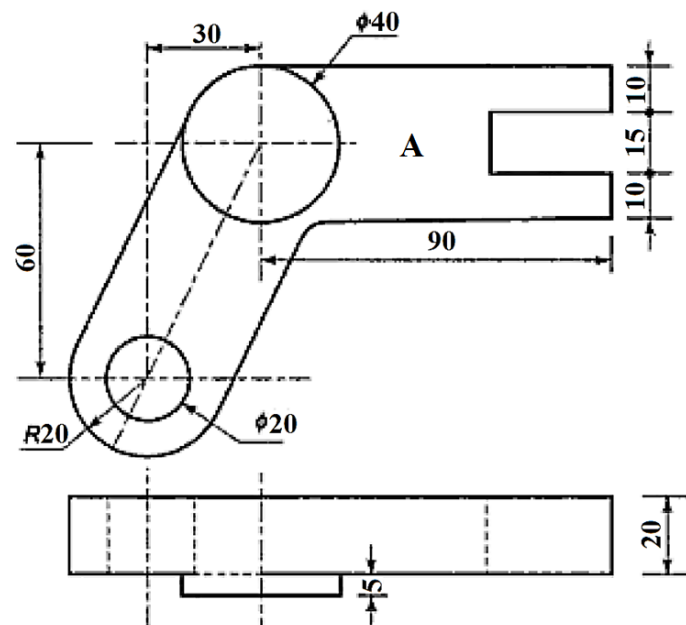


Figure Q2

QUESTION THREE (20 MARKS)

Use free hand sketching to reproduce an isometric view of the smallholder zero-grazing system shown in **Figure Q3**. No hidden details are required.

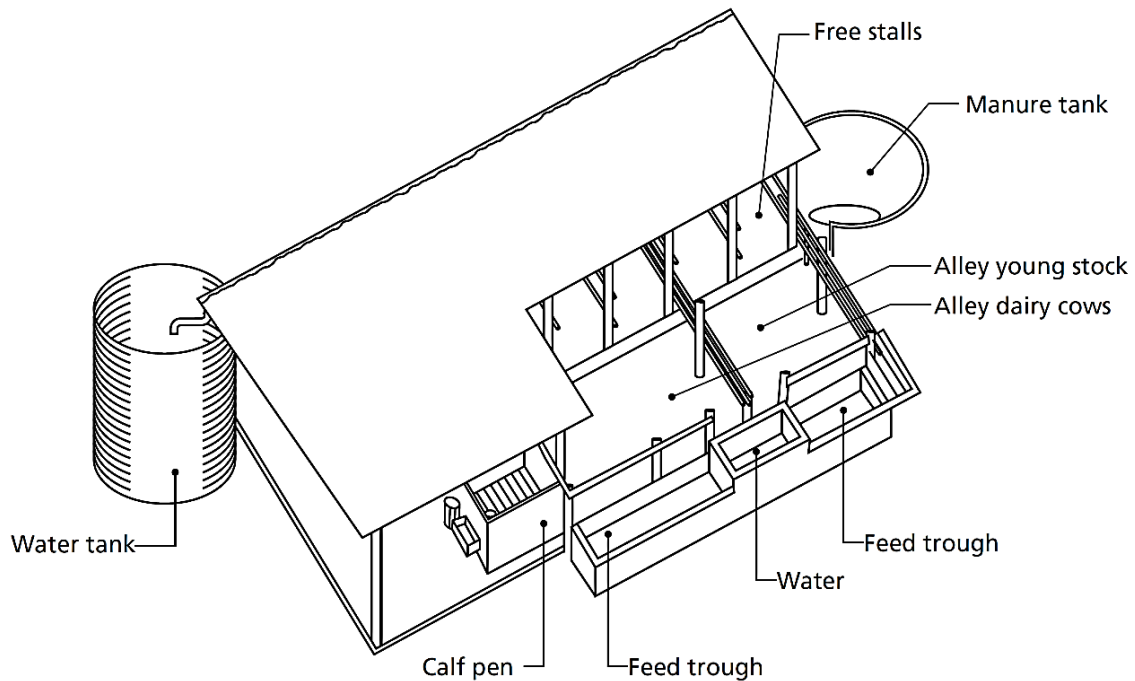


Figure Q3

QUESTION FOUR (20 MARKS)

Following the information of a farm house given below, produce a floor plan view.

- Draw a 12000 x 14000mm house, with 3 beds rooms, 2 bathrooms, kitchen, living and dining room.
- The entrance double door and single door are 1600 x 2400mm and 1000 x 2400mm respectively, internal doors are 900 x 2100mm, big windows are 1500 x 1500mm and the small ones are 600 x 900mm.

The scale is 1/ 100 and all the dimensions in mm.

Fully dimension the drawing.

Use appropriate scale and standard symbols for any other features of the house.

QUESTION FIVE (20 MARKS)

Drawing **Figure Q5** shows an isometric projection of a small farm building. Reproduce the Front, plan, right side and left side elevation in *first angle projection* to an approximate scale of 1:100. Front view is indicated by the arrow. Fully dimension your drawing.

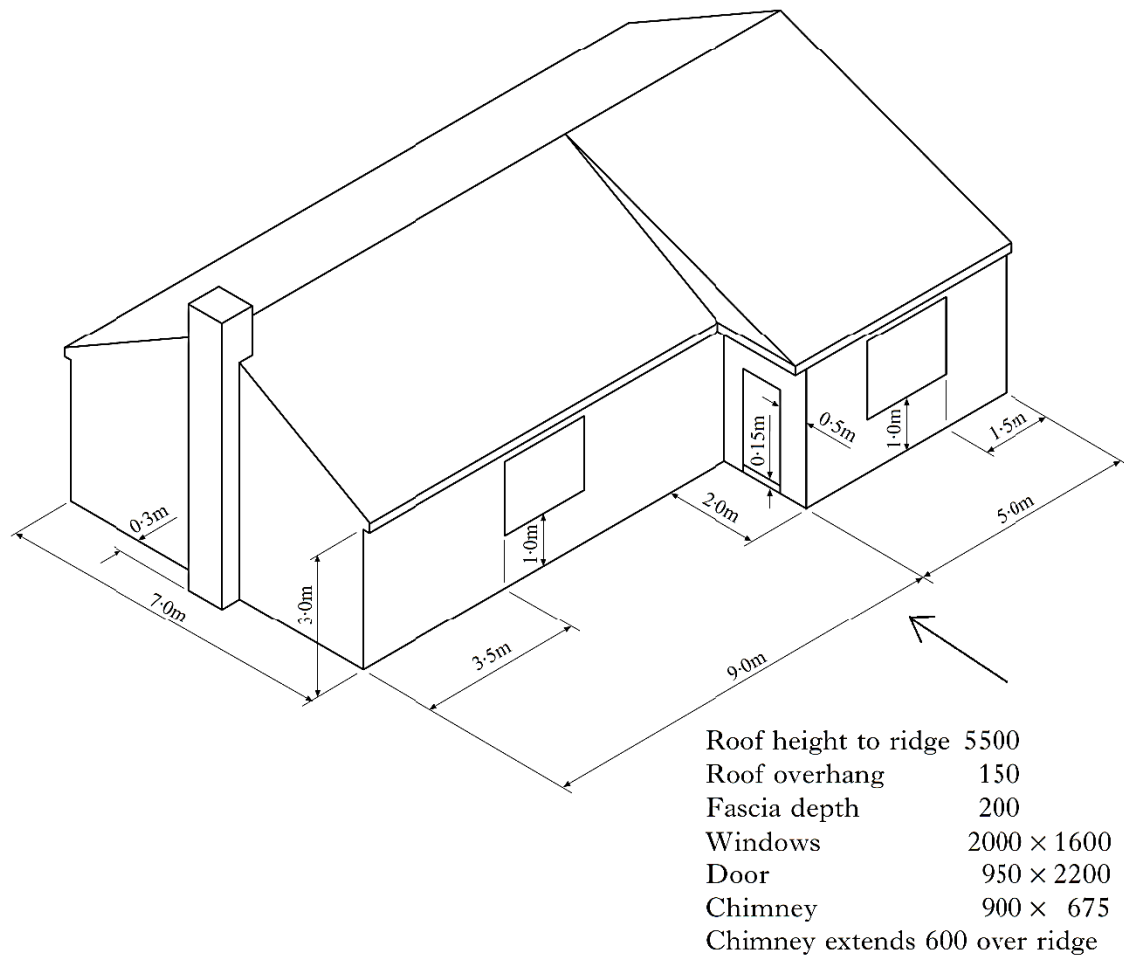


Figure Q5