

NATIONAL UNIVERSITY OF LESOTHO

FACULTY OF AGRICULTURE

B.Sc. AGRICULTURE EXAMINATION

CPS 2501– BASIC FARM ENGINEERING

JANUARY 2024

MARKS: 100

TIME: 3 HRS

INSTRUCTIONS: **Answer all questions.**

Number your answers correctly.

QUESTION 1

- a). Define measurement in technical drawing
- b). Explain two systems used in measurements
- c). Mention five (5) engineering drawing equipment
- d). What are the most important guidelines for dimensioning
- e). Explain what isometric and orthographic drawing are

(10)

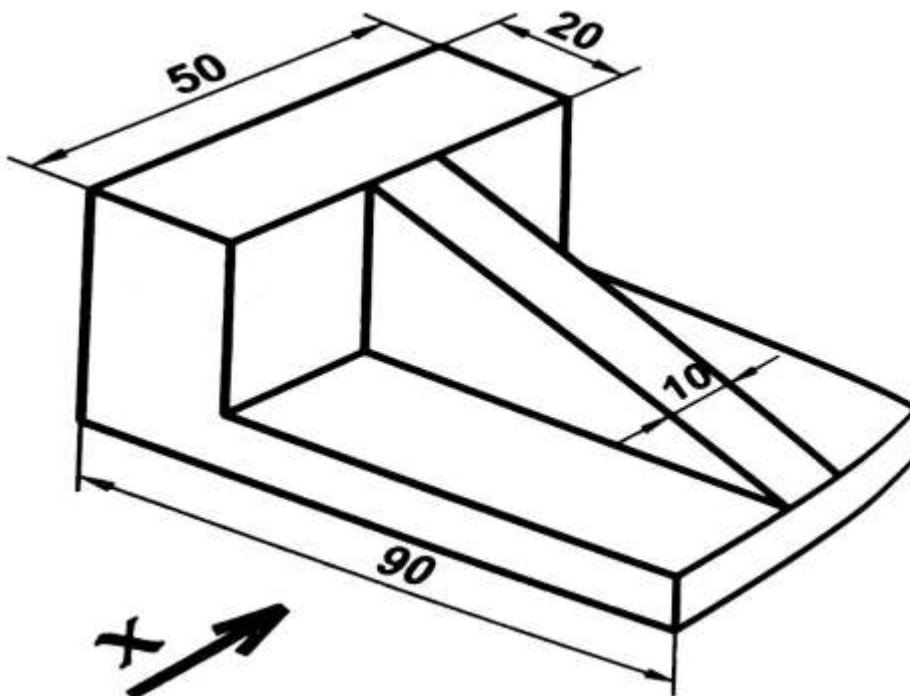
QUESTION 2

List five safety precautions that need to be observed when working in a carpentry and/mechanical workshop.

(10)

QUESTION 3

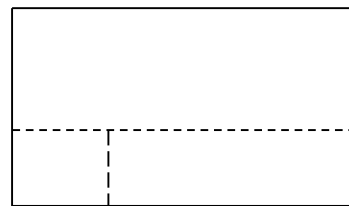
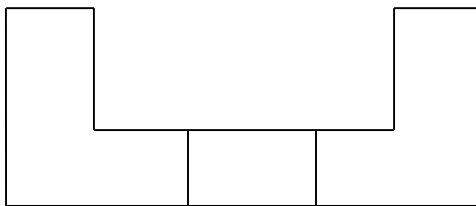
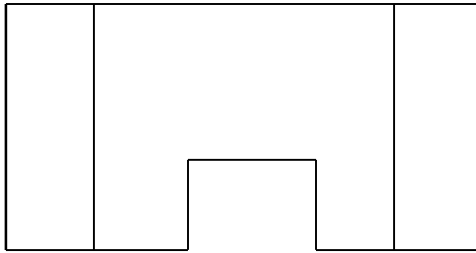
Draw the orthographic view of the diagram below (ignore the measurements):



(15)

QUESTION 4

Draw the isometric view of the diagram below:



(15)

QUESTION 5

The following message was sent to you as extension personnel by a farmer:

*"I wish to plan a farmstead where I will carry on farming activities; I request assistance as to how I should **plan** the farmstead. I am going to engage in the production of fruits and vegetable; livestock (piggery, poultry; dairy cows) and off course also I will stay on the farmstead".*

You are to outline all issues this farmer should take into consideration when planning his farmstead. And also provide him with a model farmstead sketch which can give him an idea as to how it should look like.

(10)

QUESTION 6

Describe how two-stroke and four-stroke engines work, outlining the key differences between the two.

(20)

QUESTION 7

Outline how metals are classified, giving examples of each type.

(10)

QUESTION 8

With the help of a drawing outline the steps for constructing foundation of a house

(10)