

CHUKA



UNIVERSITY

COLLEGE

UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE (HORTICULTURE) AND
BACHELOR OF SCIENCE (AGRICULTURAL EDUCATION AND EXTENSION**

AGEN 111: INTRODUCTION TO ENGINEERING DRAWING

STREAMS: B.Sc. (HORT) & AGED Y1S1

TIME: 3 HOURS

DAY/DATE: WEDNESDAY 19/12/2012

8.30 A.M – 11.30 A.M

INSTRUCTIONS:

1. This paper contains FOUR questions. Answer Question **ONE** and **ANY OTHER TWO** questions.
2. Neatness and good linework are essential.

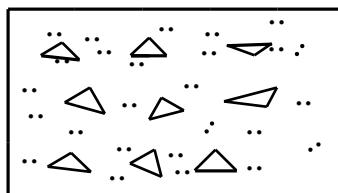
SECTION A (40 MARKS)


This question is compulsory.

QUESTION 1

1. (a) (i) Define the term Engineering Drawing. [2 marks]
- (ii) State **TWO** forms of representing Engineering Drawings. [1 mark]
- (iii) Outline **THREE** precautions that should be taken into consideration when using Drawing instruments. [3 marks]
- (b) Explain the meaning of the following symbols as used in Engineering Drawing.

(i)



(ii) 

- (c) (i) Construct a Rectangle ABCD of diagonal 97mm and one side 43mm.
Measure and state the length of the other side. [4 marks]
- (i) Construct a rhombus whose diagonal is 67mm. Measure and state the sides of the rhombus. [4 marks]
- (ii) In a circle of diameter 87mm, construct a regular Heptagon. Measure and state the lengths of the sides of the Heptagon. [4 marks]
- (d) (i) Two views of a shaped block drawn in third Angle Projection in Fig. 1.
Sketch in good proportion an oblique view of the block with XY as the lowest edge. [3 marks]

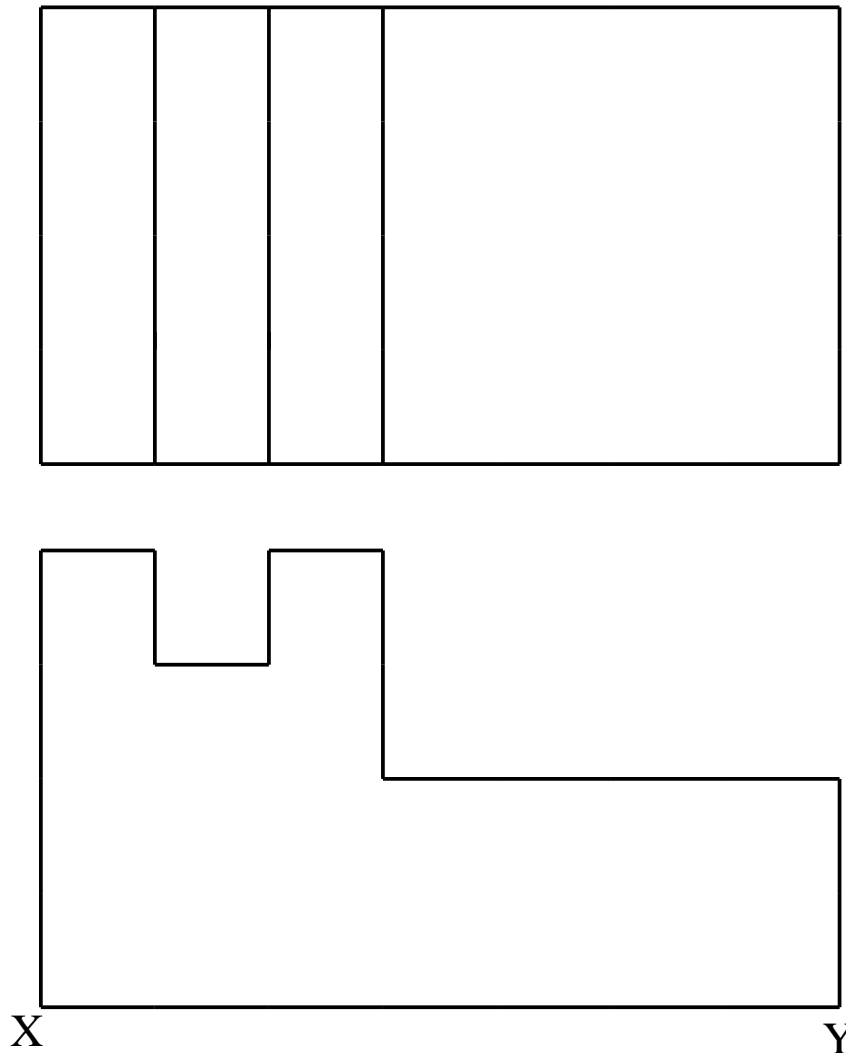


Fig.1

- (ii) Fig.2 shows two views drawn in First Angle projection. Sketch an isometric view with X as the lowest point. [3 marks]

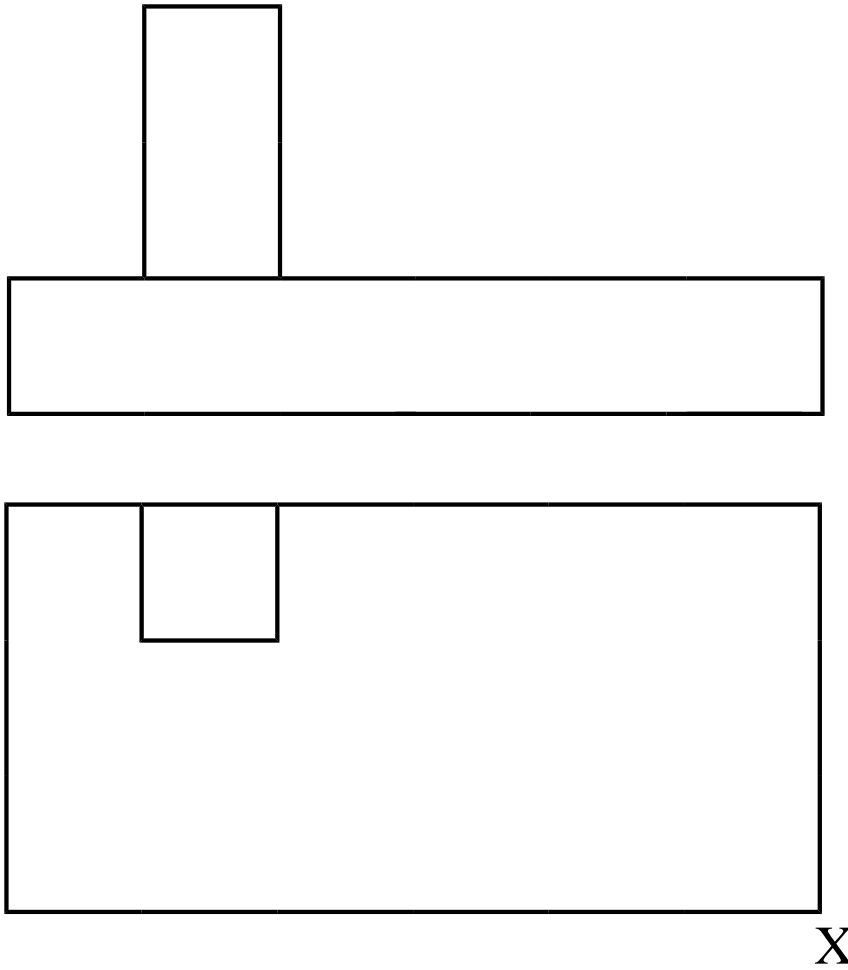


Fig. 2

- (iii) Fig.3 shows a pictorial block. Sketch by proper projecting the three orthographic views in third Angle Projection. [6 marks]

(e) Fig.4 shows a floor plan of a farm house with a gable roof. To a scale of 1:100 draw the following views.

- (i) Front elevation
- (ii) Left hand side elevation

[8 marks]

Fig. 4

Specifications:

- Floor to wall palte – 2500mm
- Roof Pitch 30° material GCI

Window	Width	Height
W1	1200	1000
W2	110	1100
W3	1200	600
Door size		
D1	1000	2000
D2	900	2000

QUESTION 2

2. The drawing in Fig. 5 represents the views of a shaped block drawn in First Angle projection. Draw an isometric view with X as the lowest edge. [15 marks]

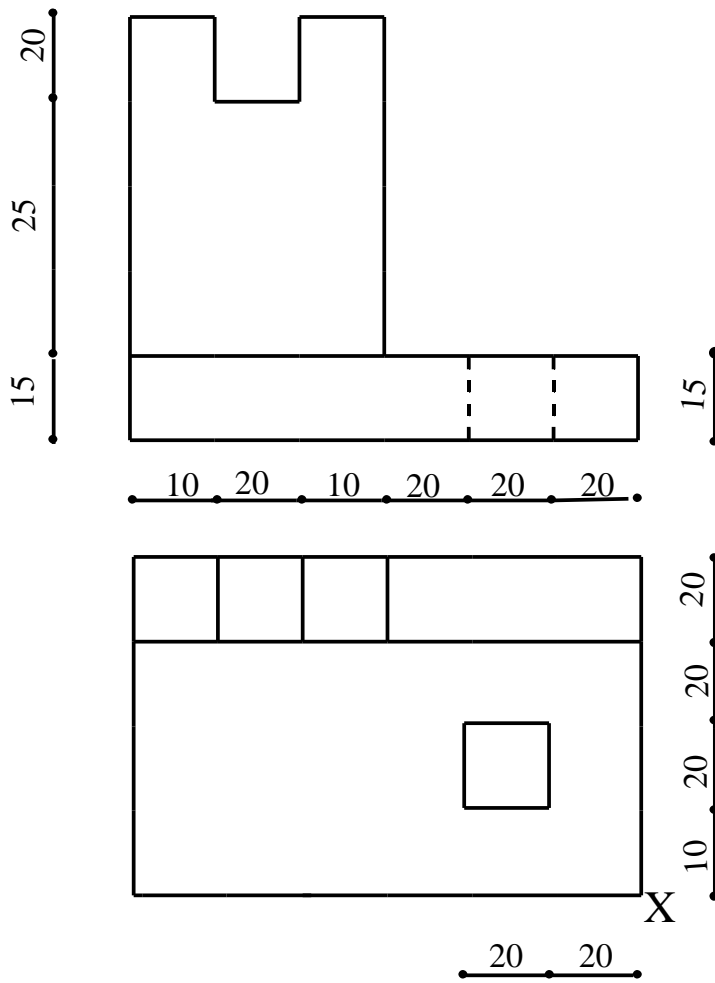


Fig.5

QUESTION 3

Fig.6 shows a pictorial drawing of a shaped block, draw in First Angle Projection the following views,

- (i) Front elevation in the direction of arrow A,
- (ii) End elevation in the direction of arrow B, and
- (iii) A plan.

Insert FOUR leading dimensions.

[15 marks]

Fig. 6

QUESTION 4

Fig.7 shows a floor plan of a farm house constructed using natural stones. To a scale of 1:25 draw a vertical section X – X from foundation to the wall plate. [15 marks]

Fig.7

Specifications:

Foundation depth	850mm
+ strip foundation	600 x 200mm
Hardcore	150 mm
Blinding	50mm
Oversite concrete	100mm
Screed	50mm
External walls	225mm

(Block work)	
Floor to wall plate	2700mm
Wall plate	100 x 75
W1	1200 x 900
W2	900 x 900
D	900 x 2000

225 4000 225