



**UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER**

PROGRAMME: BSC ABE II

COURSE CODE: ABE 202

TITLE OF PAPER: ENGINEERING DRAWING

TIME ALLOWED: TWO (2) HOURS

**SPECIAL MATERIAL REQUIRED: BASIC DRAWING
INSTRUMENTS**

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO
OTHER QUESTIONS.**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN
GRANTED BY THE CHIEF INVIGILATOR**

QUESTION 1

- a) Which drawing in Figure 1 represents First Angle projection? [2 marks]

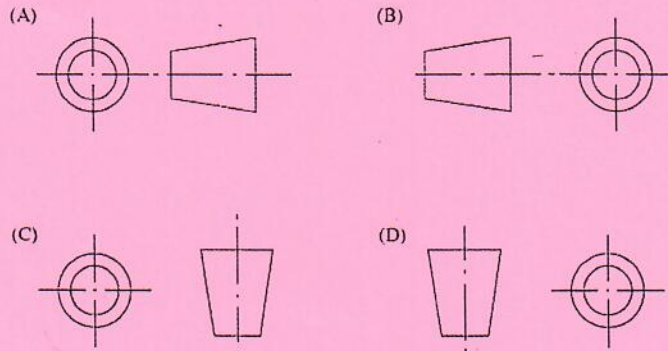


Figure 1 Possible presentation of a symbol for first angle projection.

- b) Which distance of the step block in Figure 2 is correctly dimensioned? [2 marks]

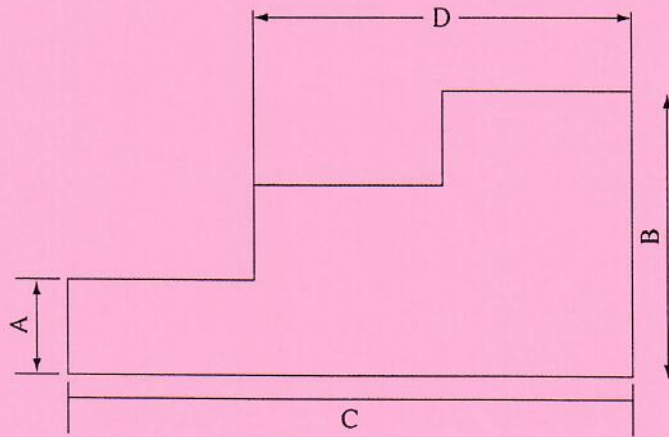


Figure 2 Dimensioning of a step block

c) Fill in missing information about Figure 3 in the sections that follow:

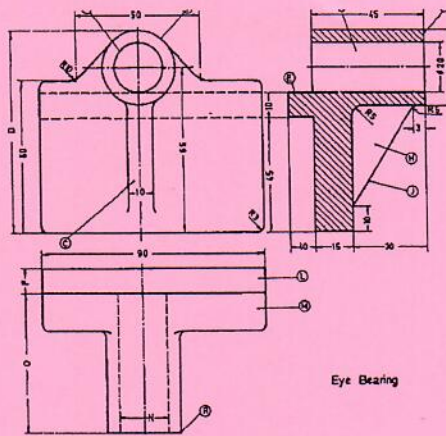


Figure 3 A bearing eye

- i) Surface "C" (front view) is represented in the side view by line..... [2 marks]
- ii) Surface "E" (side view) is represented in the plan view by..... [2 marks]
- iii) Dimension "D" (front view) is.....mm. [2 marks]
- iv) Dimension "P" (plan view) is..... mm. [2 marks]
- v) Dimension "O" (plan view) is... ..mm [2 marks]
- vi) The angle of projection used is angle projection. [2 marks]

d) Identify the correct sectional side view of the orthographic views of a ring-jaw in Figure 4 [2 marks]

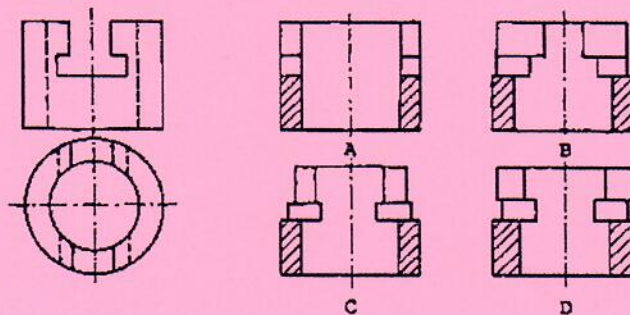


Figure 4 Front and plan of a ring-jaw bracket sectioned in the side view

- e) If you look in the direction of the arrow of the work-piece in Figure 5, which view represents it correctly? [2 marks]

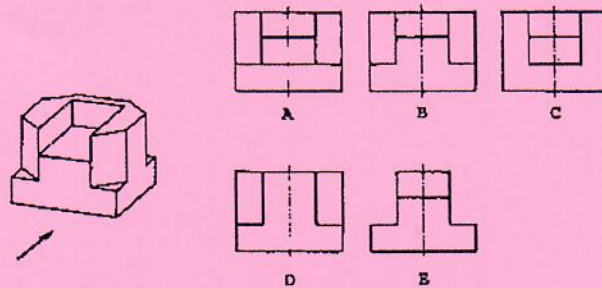


Figure 5 Work-piece viewed from the front.

- f) If you look in the direction of the arrow of the work-piece in Figure 6, which view represents it correctly? [2 marks]

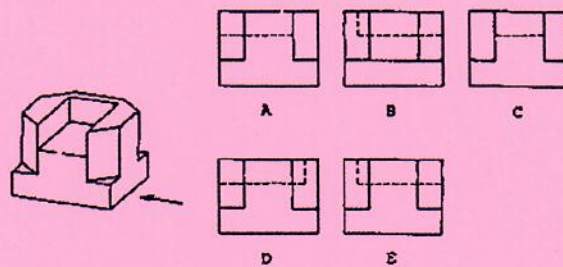


Figure 6 Work-piece viewed from the side.

- g) Sketch orthographic views of Figure 7 in first angle projection on the sheet provided. Include all hidden details. [18 marks]

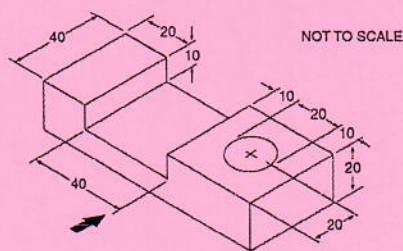


Figure 7 An engineering block

SECTION II ANSWER ANY TWO QUESTIONS

QUESTION 2

- a) A drawing of a machine block is shown in Figure 8. Sketch the isometric of the block.

[20 marks]

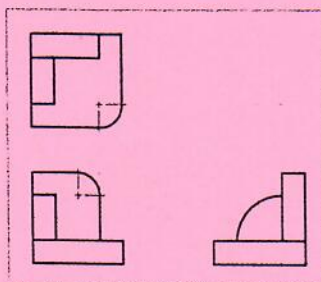


Figure 8 An orthographic view of a blacksmith support block.

- b) Engineering drawing is made up of graphics language and word language. Briefly explain what the two languages describe on an engineering drawing



[10 marks]

QUESTION 3

- a) Distinguish between detail and assembly drawings? [6 marks]
- b) What is the group name given to the drawings in a) above? [4 marks]
- c) Name the three major categories of information included in a title block of a drawing. [12 marks]
- d) List any four types of sections of drawings [8 marks]

QUESTION 4

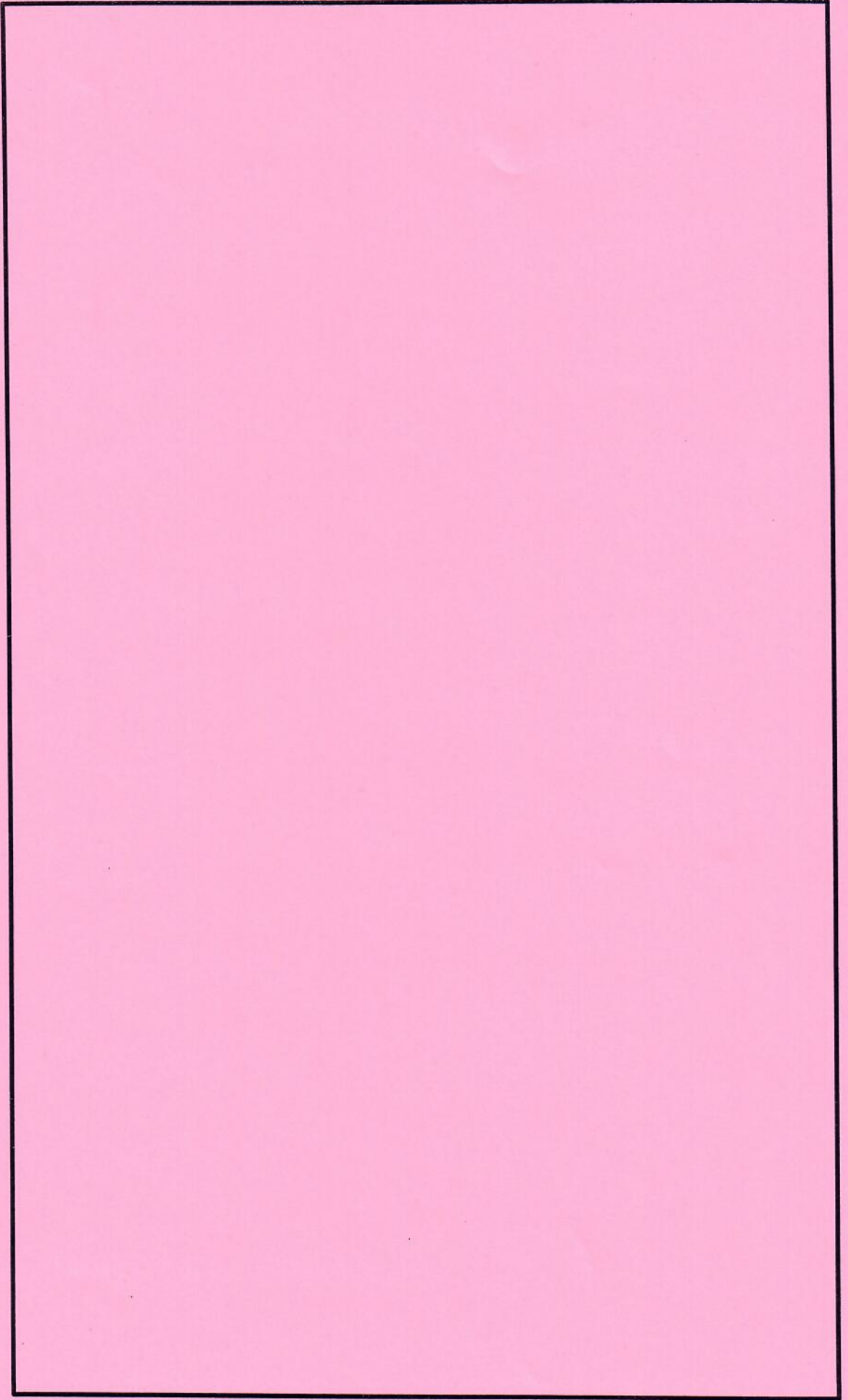
- a) Distinguish between baseline and continuous dimensions. . [4 marks]
- b) Table 1 shows a list of some line types and their typical application in engineering drawing. Second row has been completed as an example. Complete the table filling in missing information [16 marks]

	Line type	image	Typical applications
1			Visible outlines, general details, existing buildings.
2	Continuous-thin		Dimension lines, extension lines, projection lines, hatching lines, etc.
3	Continuous-thin, ruled with zig zag		Break lines, other than on an axis
4	Dashed -thin		
5			Symmetry, path of motion, centre of circle,
6	Chain-thin, thick at the ends		

- c) Why is it necessary to draw auxiliary views in the production of drawings? [2 marks]
- d) What are primary auxiliary views? [2 marks]
- e) Name the common primary auxiliary views. [6 marks]

QUESTION 1g

CANDIDATE NUMBER _____



QUESTION 2a CANDIDATE NUMBER _____

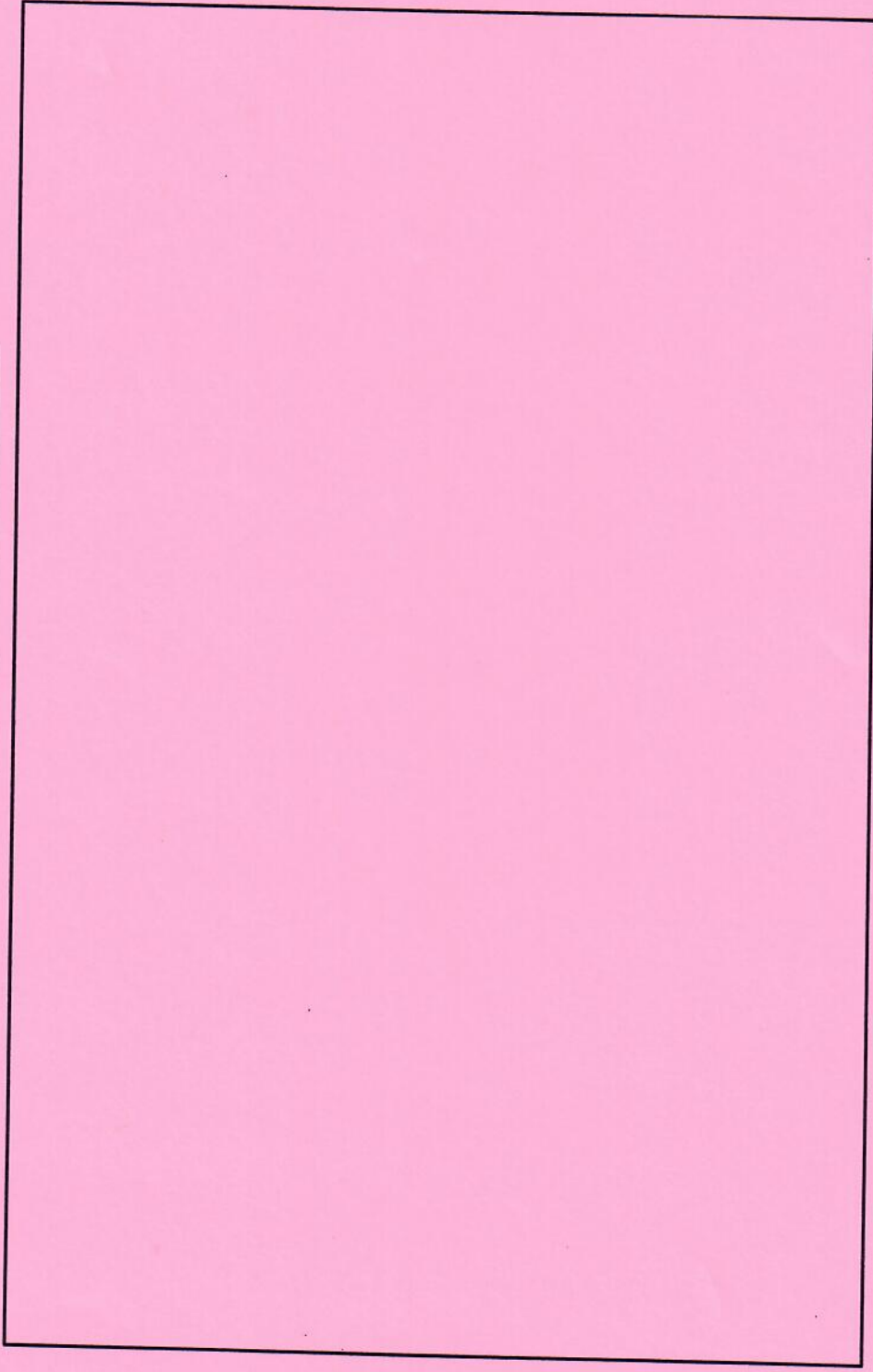


Figure 8 An isometric drawing of a blacksmith support block

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