



**UNIVERSITY OF ESWATINI  
FINAL EXAMINATION PAPER**

**PROGRAMME: BSC ABE. II**

**COURSE CODE: ABE203**

**TITLE OF PAPER: ENGINEERING DRAWING**

**TIME ALLOWED: TWO (2) HOURS**

**SPECIAL MATERIAL REQUIRED: DRAWING EQUIPMENT**

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

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GRANTED BY THE CHIEF INVIGILATOR**

## SECTION I COMPULSORY

## QUESTION 1 [40 marks]

- a) Discuss the effectiveness of engineering drawing to describe objects when compared to word language. [6 marks]
- b) What are the two elements that constitute the language of engineering drawing? [4 marks]
- c) A house whose dimensions are 25 m long, 15 m wide and 3.5 m high is to be drawn on an A3 drawing paper. Determine the scale that would be used to draw the orthographic presentation of the house (include all steps used to determine the scale) [10 marks]
- d) Figure 1a shows a pictorial view of a door stop.
- (i) Fill in the missing lines in the orthographic projection of the door stop shown in Figure 1b on page 5 [14 marks]
- (ii) Sketch the symbol for the Angle of Projection used for the orthographic projection [6 marks]

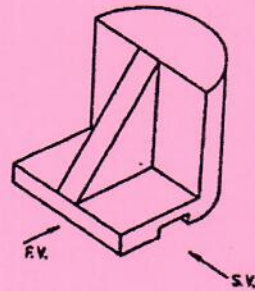


Figure 1a Pictorial view of a door stop.

## SECTION II ANSWER ANY TWO QUESTIONS

## QUESTION 2 [30 marks]

- a) Using 'Windows' and 'AutoCAD' to clarify your answer distinguish between Computer Operating software and Computer Application software. [6 marks]



- b) What does a computer aided drafting (CAD) system consist of? [8 marks]
- c) What advantages does a CAD system offer over traditional drawing techniques? [8 marks]
- d) Figure 2 shows a design workstation as used in a CAD system.
  - i) What is the function of a design workstation? [4 marks]
  - ii) What are the two key categories of devices that must be at a design workstation? [4 marks]

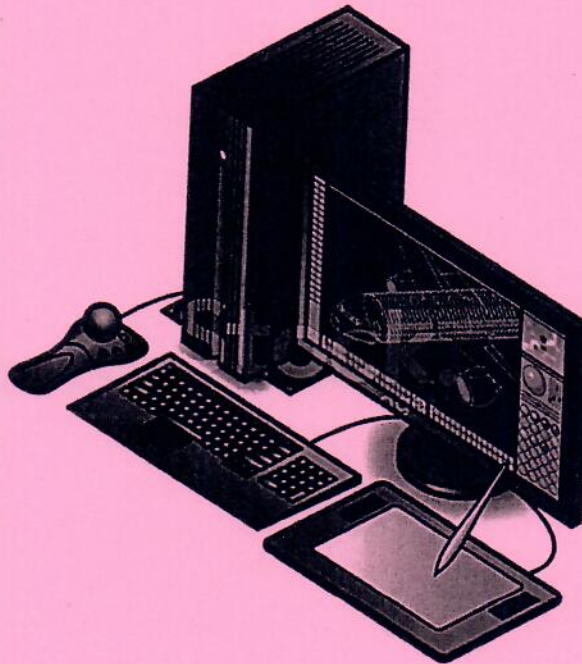


Figure 2 A typical workstation for a drawing office using CAD.

**QUESTION 3 [30 marks]**

Draw the orthographic views of the holding block shown in Figure 3 using First angle projection. Indicate the symbol for the convention used.

[30 marks]

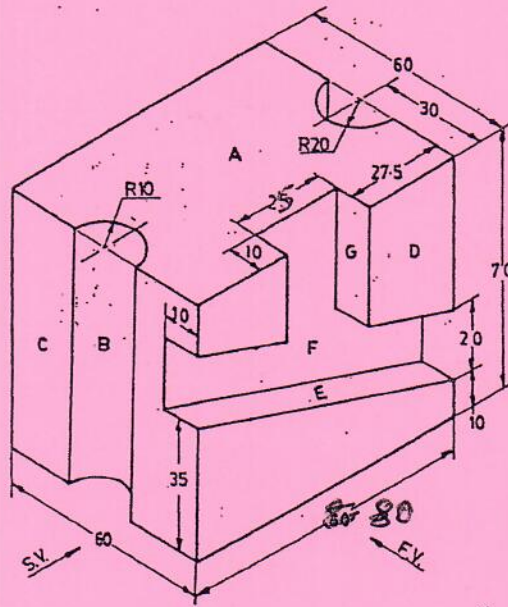


Figure 3 A tool holding block

**QUESTION 4 [30 marks]**

- a) (i) What is a primary auxiliary view? [5 marks]
- (ii) Name any three common primary auxiliary views. [6 marks]
- (iii) Are orthographic projections of Figure 3 sufficient for production of the block or is it necessary to draw auxiliary views? [3 marks]

Give reasons for your answer. [6 marks]

- b) Explain the significance of sectioning in the construction of buildings. [4 marks]
- c) State any three common types of sectioning. [6 marks]



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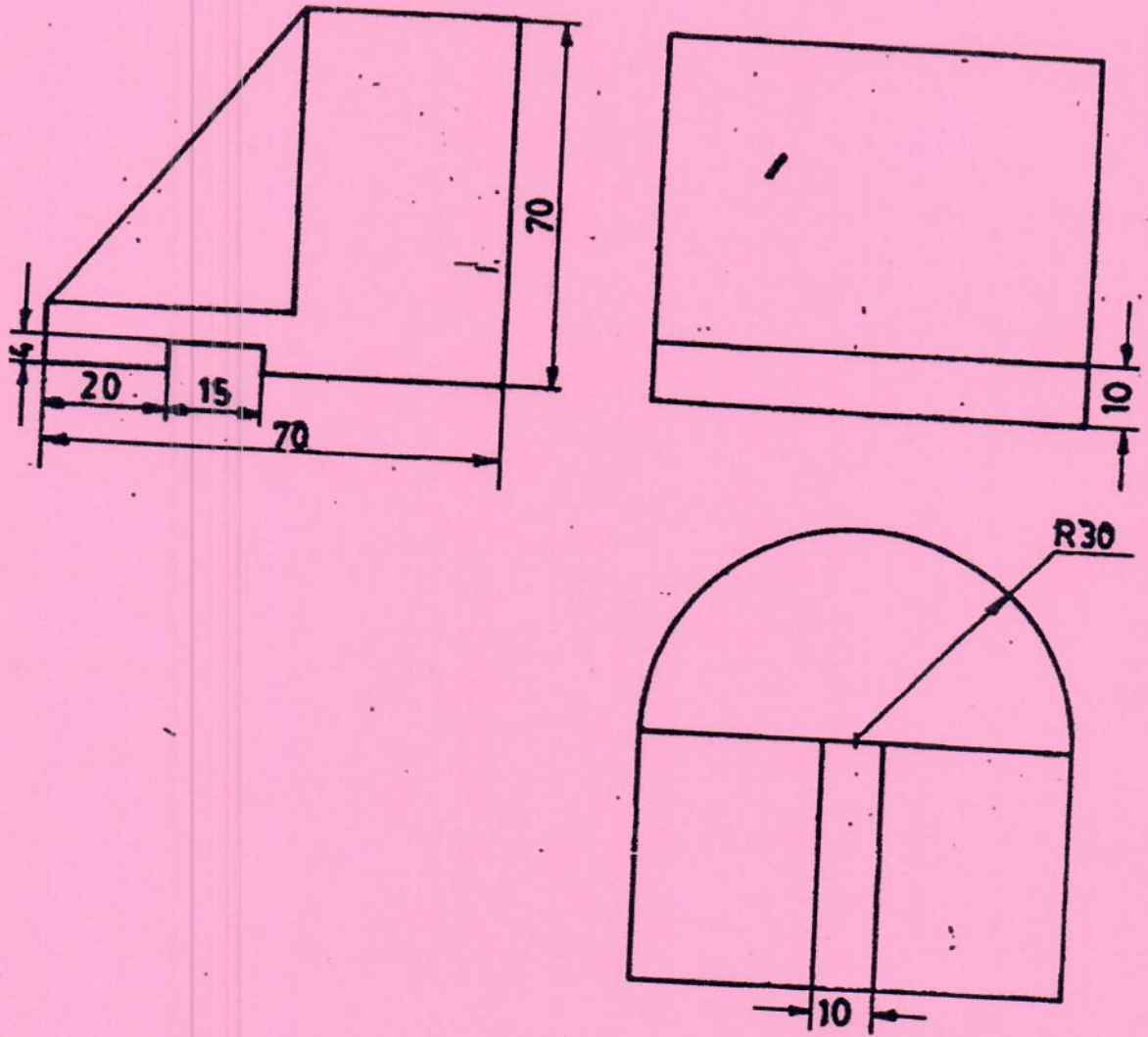


Figure 1b Orthographic projection of a door stop with missing lines