



STUDENT NUMBER

CENTRE NUMBER

HIGHER SCHOOL CERTIFICATE EXAMINATION

1997

INDUSTRIAL TECHNOLOGY

2 UNIT

SECTION III—DRAWING

*Total time allowed for Sections I, II, and III—One hour and a half
(Plus 5 minutes reading time)*

DIRECTIONS TO CANDIDATES

- Write your Student Number and Centre Number at the top right-hand corner of this page.
- Where appropriate, show working for solutions neatly and clearly.
- You may use Board-approved drawing instruments and calculators.

Section III—Drawing

- Attempt ALL questions.
- Answer questions in the spaces provided in this paper.

EXAMINER'S USE ONLY

Question			
13			
14			
15			

QUESTION 13. (5 marks)EXAMINER'S
USE ONLY

An exploded isometric drawing of a bottle capper casting and set screw is shown in Figure 1.

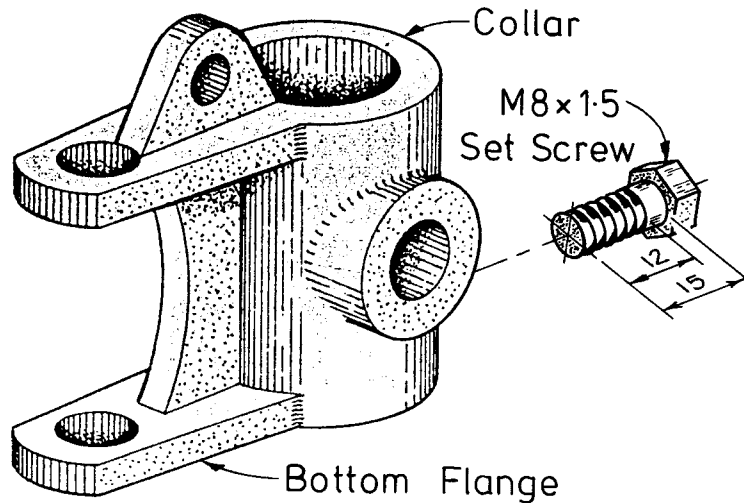
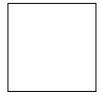
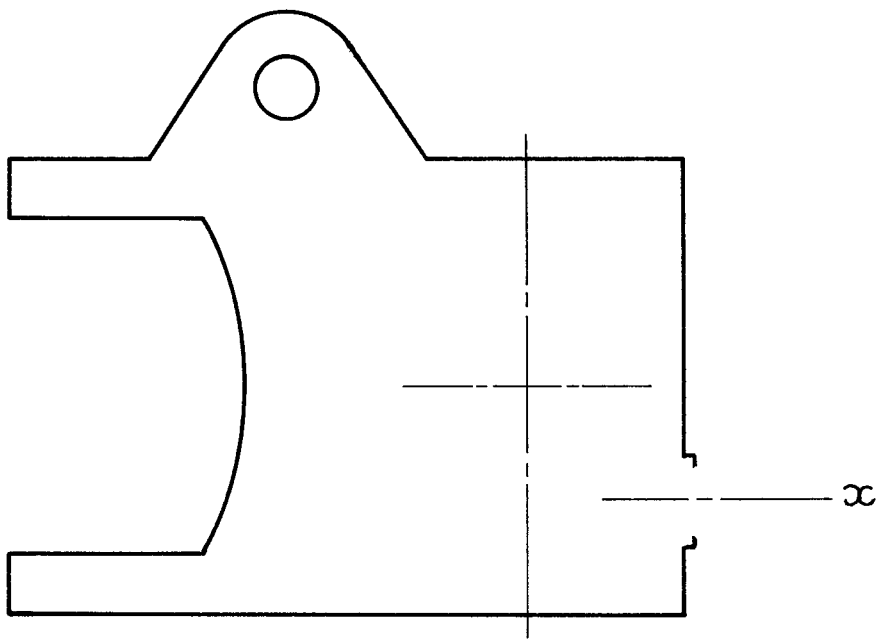
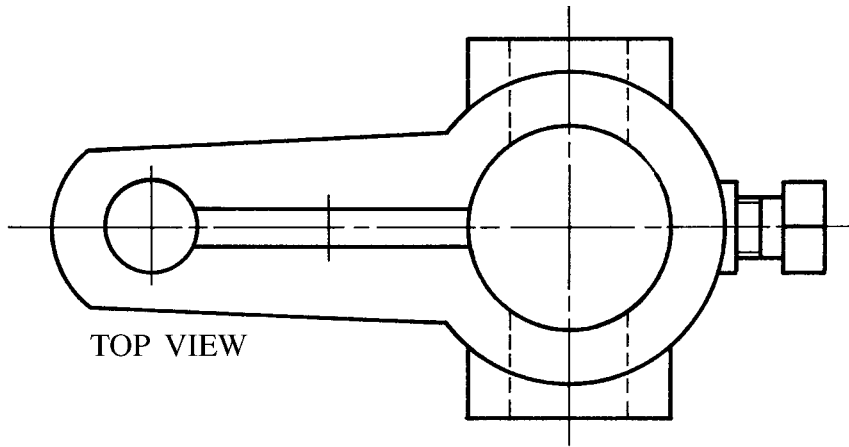


FIG. 1

- (a) The top and incomplete front views of the casting and screw are shown in Figure 2.
- (i) Complete the fully sectioned front view.
Use the centre marked 'x' in Figure 2 to position the hexagonal set screw.
 - (ii) Measure, on Figure 2, the sizes of the following, and, using AS1100 standards, indicate the dimensions on Figure 2.
 - Diameter of the largest hole
 - A radius
 - The height of the collar
 - The thickness of the bottom flange

QUESTION 13. (Continued)



SECTIONAL FRONT VIEW

SCALE: FULL SIZE

FIG. 2

QUESTION 13. (Continued)

EXAMINER'S
USE ONLY

- (b) Outline TWO advantages of the use of computer aided drafting (CAD) in industry.

Advantage 1

Advantage 2

- (c) Name a method of architectural and engineering drawing reproduction used in the drafting industry.

Name of process
.....

- (d) Give specific examples where the following media would be used to enhance product drawings.

Coloured marker render
.....

Black pen
.....

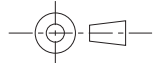
Coloured pencil
.....

Airbrush
.....

- (e) Explain the meaning of the following terms and symbols.

∅

PCD



A/F

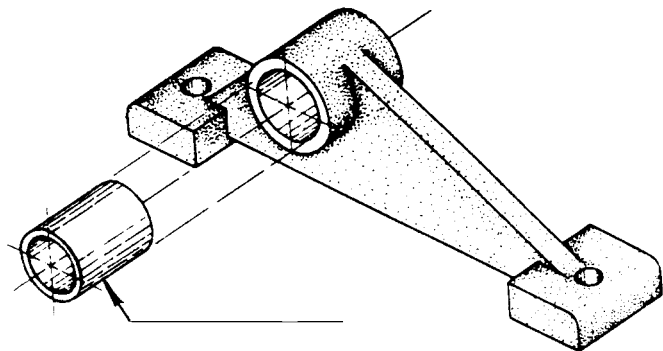
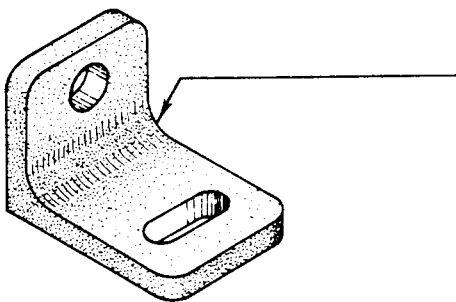
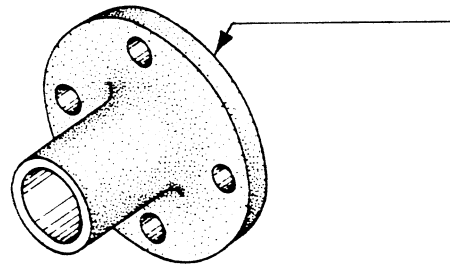
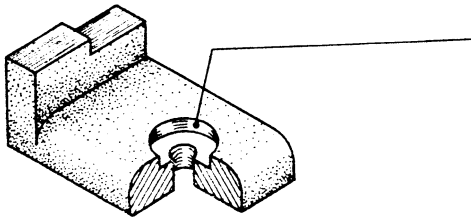
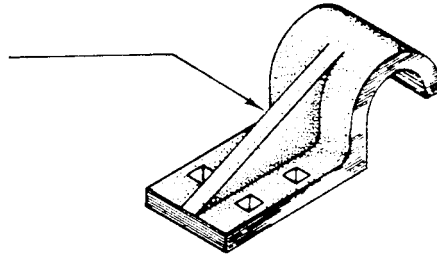
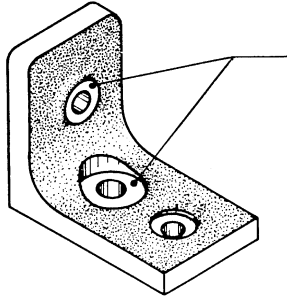
Tolerance ± 0.5

QUESTION 13. (Continued)

EXAMINER'S
USE ONLY

- (f) Technical terms are used to describe the various components of machine elements.

In the spaces provided, name the component or surface treatment indicated.



'Programmed Technical Drawing Bk 2', Mullins & Cooper,
Longman Cheshire '85 p78-81. Courtesy Addison Wesley
Longman, www.awl.com.au

Please turn over

QUESTION 14. (5 marks)EXAMINER'S
USE ONLY

(a) Indicate, in the spaces provided, the correct architectural symbols for the following:

(i) Light switch

(ii) Power point

(iii) Sliding-cavity door

(iv) Shower recess

(b) Figure 3, on page 7, shows the incomplete plan and elevation of the external features of a single storey house, drawn to a scale of 1 : 100.

(i) Use the specifications below to complete the elevation.

- Floor line 600 mm above ground line
- Ceiling height 2700 mm above floor
- Door 2100 mm high
- Windows sill—900 mm above floor;
 head—2100 mm above floor
- Roof hip roof, 30° pitch with 450 mm eaves.

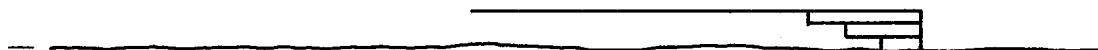
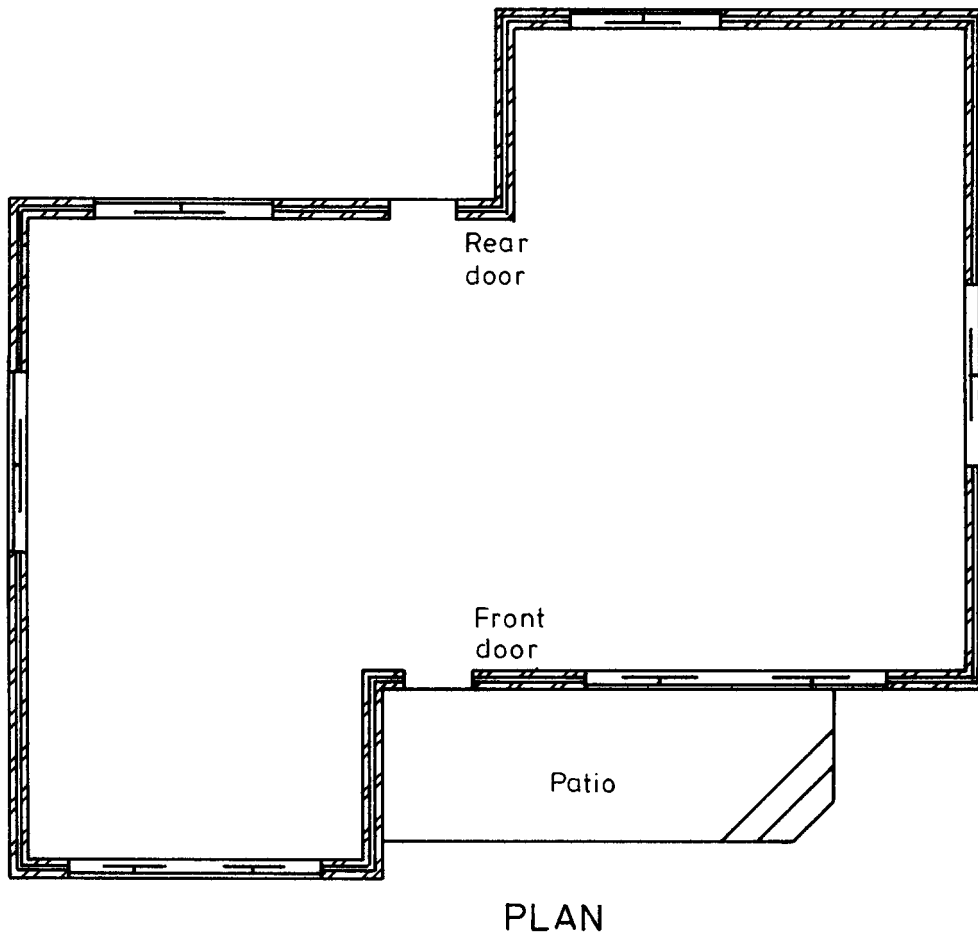
(ii) Use conventional techniques or symbols to indicate the following features on the elevation.

- Floor line
- Ceiling line
- Brick walls

(iii) Complete the plan by clearly indicating the roof details and the single-swing front and rear doors.

Do NOT include other internal details.

QUESTION 14. (Continued)



ELEVATION
Scale 1:100

FIG. 3

'Programmed Technical Drawing Bk 2', Mullins & Cooper, Longman Cheshire '85 p46.
Courtesy Addison Wesley Longman, www.awl.com.au

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QUESTION 15. (5 marks)EXAMINER'S
USE ONLY

A designer has been commissioned to develop a range of letter boxes for the domestic market.

The exploded pictorial drawing in Figure 5 shows one of these designs.

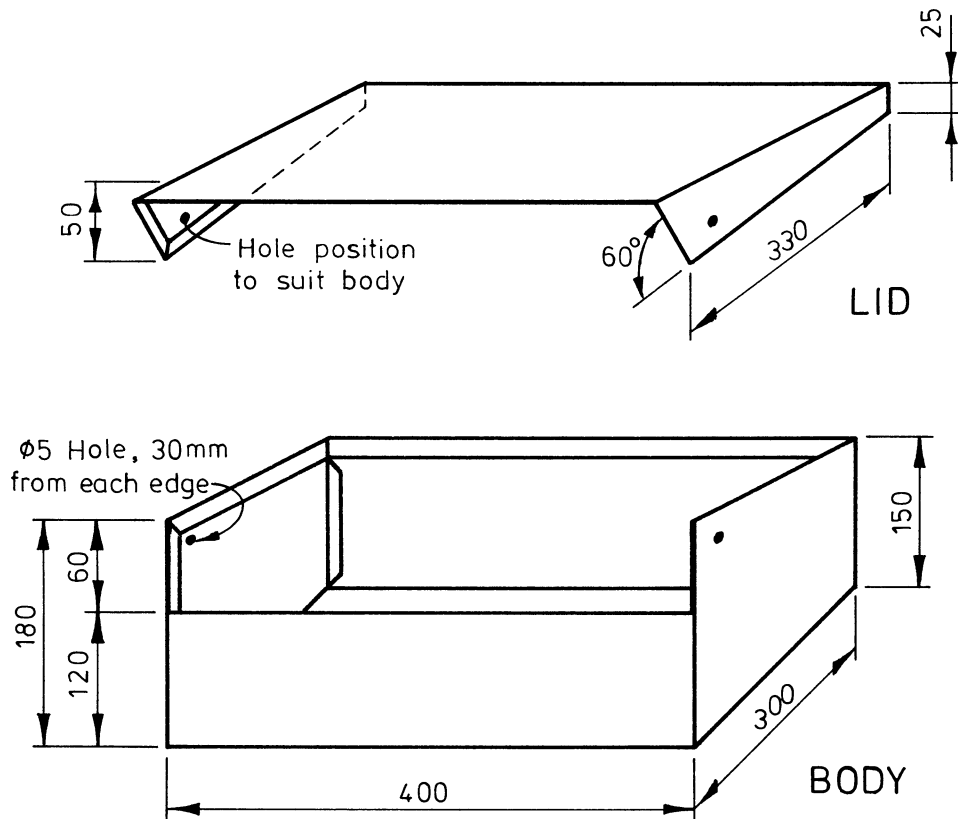


FIG. 5

QUESTION 15. (Continued)

EXAMINER'S
USE ONLY

- (a) The body is to be made from sheet metal. Make an accurate drawing of the development of the body before it is folded into a box.

Use a scale of 1 : 5.

Include 10 mm tabs for joining the box, and 10 mm allowances for safety edges.

QUESTION 15. (Continued)

EXAMINER'S
USE ONLY

- (b) Another letter box is to be developed as part of the product range.

Make a pictorial sketch of an alternative design that allows for easier storage of newspapers and brochures.

Nominate the type of drawing used, and do NOT render the sketch.

Type of pictorial drawing (sketch)