

Industrial Technology

Graphics Technologies

General Instructions

- Reading time – 5 minutes
- Working time – 1½ hours
- Write using black pen
- Draw diagrams using pencil
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of page 5

Total marks – 40

Section I Pages 2–4

10 marks

- Attempt Questions 1–10
- Allow about 20 minutes for this section

Section II Pages 5–7

15 marks

- Attempt Questions 11–15
- Allow about 35 minutes for this section

Section III Page 8

15 marks

- Attempt Question 16
- Allow about 35 minutes for this section

Section I

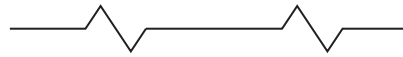
10 marks

Attempt Questions 1–10

Allow about 20 minutes for this section

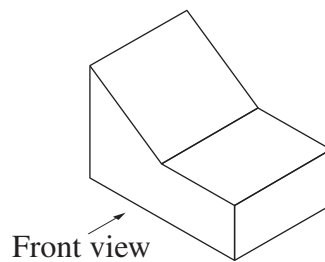
Use the multiple-choice answer sheet for Questions 1–10.

1 What is represented by the following?



- (A) A break line
- (B) A fence line
- (C) A tolerance line
- (D) An electricity supply line

2 An isometric view of a block is shown.



Which of the following shows the top view?

- | | |
|---|--|
| (A)  | (B)  |
| (C)  | (D)  |

3 How many times larger is A1 paper size compared to A4 paper size?

- (A) 4
- (B) 8
- (C) 12
- (D) 16

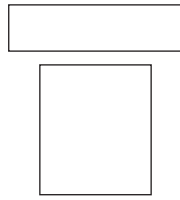
- 4 A picture of a house is shown.



What is the style of this house?

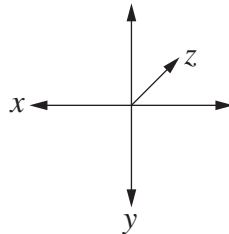
- (A) Art Nouveau
 - (B) Californian Bungalow
 - (C) Colonial
 - (D) Victorian
- 5 What is included in a site plan?
- (A) Room dimensions
 - (B) Window and door locations
 - (C) The location of existing buildings
 - (D) The location of the site manager's office
- 6 For which drawing type is the term *first angle projection* used?
- (A) Oblique
 - (B) Isometric
 - (C) Orthogonal
 - (D) Axonometric
- 7 What does an assembly drawing show?
- (A) An evacuation point in a site plan
 - (B) Exploded components in orthogonal projection
 - (C) The position of components when fitted together
 - (D) The arrangement of different views in orthogonal projection

8 In an architectural drawing, what does the following symbol mean?



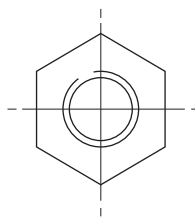
- (A) A desk
- (B) A chair
- (C) A shower
- (D) A toilet

9 When drawing in cavalier oblique projection, what scale is used on the z -axis?



- (A) Half of the other two axes
- (B) Twice the other two axes
- (C) A quarter of the other two axes
- (D) The same as the other two axes

10 A plain nut is shown.



What is the distance across the flats as a standard proportion of the nominal diameter?

- (A) 1.2
- (B) 1.4
- (C) 1.6
- (D) 1.8

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Centre Number

Section II

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Student Number

15 marks

Attempt Questions 11–15

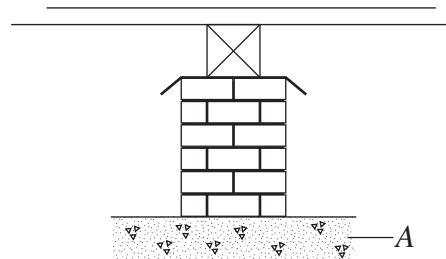
Allow about 35 minutes for this section

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 11 (1 mark)

A footing is shown.

1



Identify the material used in A.

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Question 12 (3 marks)

Explain why it is better to use freehand sketching rather than CAD in some situations.

3

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Question 13 (3 marks)

Draw a $\varnothing 12$ mm shaft 60 mm in length at a scale of 2:1 on the centre line.

3

Include a M12 \times 1.75 mm screw thread that extends 25 mm from the right-hand end of the shaft.



Question 14 (3 marks)

Explain the importance of adhering to AS1100 in engineering drawing.

3

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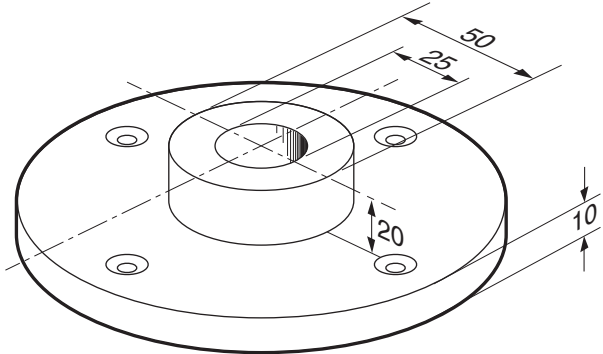
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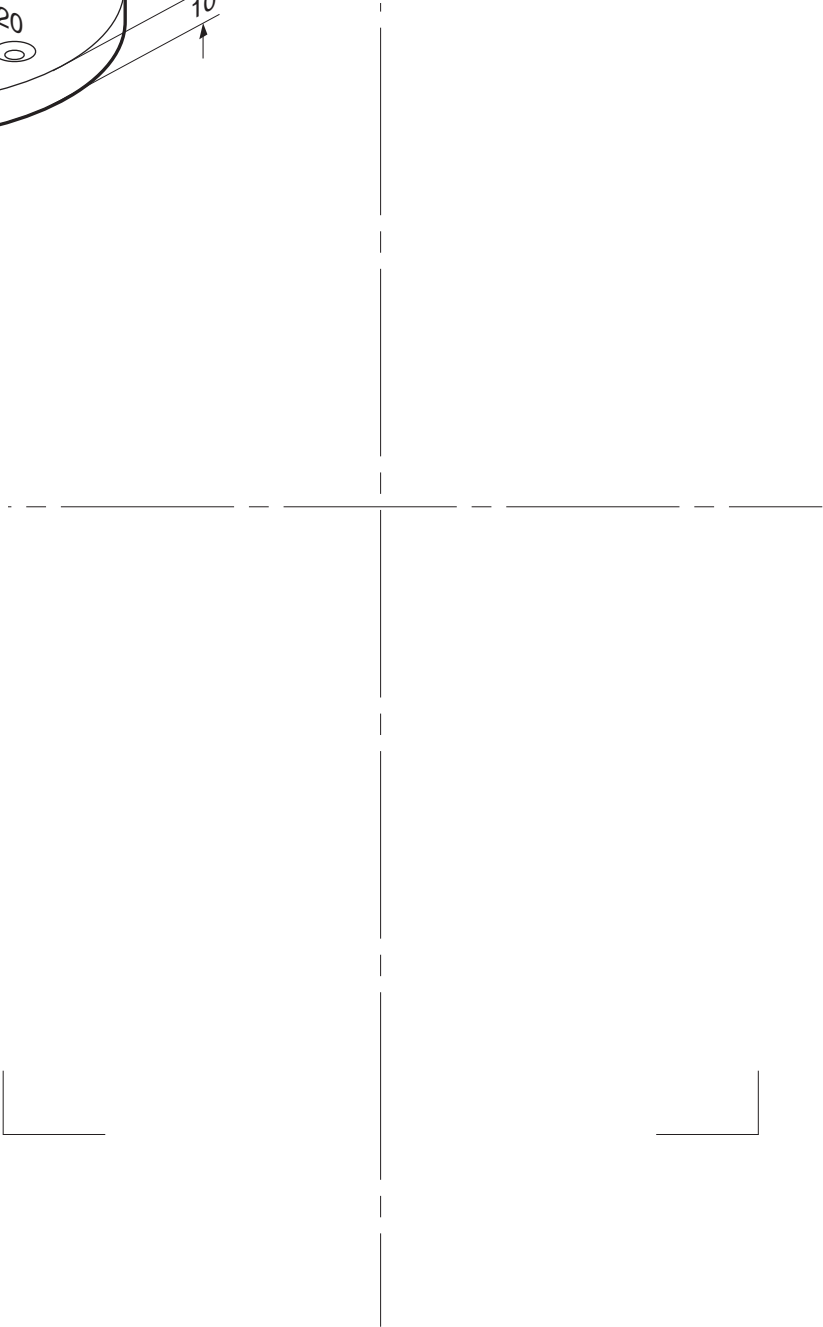
Question 15 (5 marks)

Using the starting points provided, complete an orthogonal top view and front view of the faceplate illustrated below. The four screw holes are 8 mm in diameter and countersunk at 90° to 12 mm, with a PCD of 75 mm. The outside diameter is 100 mm. Do not include dimensions.

5



All dimensions in mm



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Graphics Technologies

Section III

15 marks

Attempt Question 16

Allow about 35 minutes for this section

Answer part (a) of the question in a writing booklet. Answer part (b) of the question in a SEPARATE writing booklet. Extra writing booklets are available.

Question 16 (15 marks)

Answer part (a) of the question in a writing booklet.

- (a) Explain how restructuring a business can affect quality control. **5**

Answer part (b) of the question in a SEPARATE writing booklet.

- (b) Assess the effect of new technology on production and efficiency in the graphics industry. **10**

End of paper

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