140 Marks are allocated to this paper. Section A = 40 marks Section B = 100 marks

Fill in these boxes and read what is printed below.
(a) A shape has been drawn using a CAD package.

(b) A supplementary page is included at the end of Section A for use if extra space is required.
(a) State three factors that would influence the scale of a drawing.

(i) ........................................................................................................

(ii) .........................................................................................................

(iii) ........................................................................................................

(b) What effect would the following scales have on a drawing.

(i) 2:1   ..................................................................................................

(ii) 1:2   ..................................................................................................

(c) Drawing sheets are usually presented in one of two orientations. Sketch each orientation and state which orientation they are.

(i) Sketch Orientation ........................................

(ii) Sketch Orientation ........................................

The 3Ps are used extensively in the design, manufacture and marketing within the construction industry.

(a) Identify the type, and explain the purpose of each of the 3Ps shown below.

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(b) Identify the type, and explain the purpose of each of the 3Ps shown below.

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(c) Identify the type, and explain the purpose of each of the 3Ps shown below.

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Alternative designs for extension.

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(a) State the main reason for the use of British Standards conventions on drawings.

...............................................................................................................................
..............................................................................................................................

(b) State the names of the British Standard conventions shown below.

(i) A/F ...................................................................................
(ii) R ...................................................................................
(iii) ∅ ...................................................................................

(c) State the names of the two types of sections shown at X and Y-Y on the drawing.

X ...........................................................
Y-Y ........................................................

(d) Sketch on the drawing below, using British Standard conventions.

(i) The metric thread diameter 12 mm on the elevation.
(ii) The flat surface at the right hand end of the component.
(iii) The external thread detail 4 mm on the elevation.

Marks

1 1 1 1 1 1 1 1

Total: 10
Number each answer clearly.

Use this page if extra space is required for answers to Questions 1 to 6.
The plan of a visitors centre is given to a scale of 1:50. It is proposed to build an extension, external dimensions 4 metres × 3 metres onto the East facing wall. An architect has prepared a sketch of the proposed extension.

Draw:
(i) the extension, including the fittings, from instructions shown on the sketch;
(ii) the hatching of brickwork on the extension;
(iii) the two external dimensions of the extension to British Standards.

Use the British Standard Symbols given below.

---

Architect's Sketch

NOT TO SCALE

BRITISH STANDARDS SYMBOLS

Window
Socket
Door
Switch
Lamp
Brickwork hatching

The plan of a visitors centre is given to a scale of 1:50.
The plans and elevation of the Visitors Centre shown in 7a are given.

Draw a measured 2-point perspective view of the Visitors Centre.

The Spectator Point (SP), Plane of Projection (PP), Ground Line (GL), Eye Level (EL) and plan to the same scale are given.

Do not show hidden detail.

(20 marks)
The plan, elevation and end elevation of a bat box are given. Draw, full size and in the position indicated an auxiliary plan of the bat box. (Note: The small hole should be accurately located but may be sketched.) Do not show hidden detail. (14 marks)
Orthographic views of the five parts that make up a watch clamp are given below.
The assembled elevation and incomplete plan are also given on Worksheet Question 9.

Draw in the positions indicated on Worksheet Question 9:

(a) the complete plan:

(b) a sectional end elevation on A-A:

Do not section the bolt and do not show hidden detail.

All lines may be drawn freehand.

(25 marks)
Worksheet Question 9

Section B

Candidate's Name
The elevation and end elevation of a wall light are given. A pictorial view is also shown.

Draw, in the same scale:
(a) a plan in the position indicated showing the lines of intersection;
(b) a development of the connecting piece.

(11 marks)
Candidates should attempt EITHER Question 11 OR Question 12

---

**ELEVATION**

**PLAN**

**PICTORIAL VIEW**

---

The elevation and plan of a travel iron are given. A pictorial view is also shown, not to scale. Draw an oblique view of the travel iron.

Do not show hidden detail.

The elevation and plan of a travel iron are given. Lines at 45° should be drawn half full size.

(20 marks)
The elevation and end elevation of a petrol pump handle are given. Draw an isometric view of the pump handle in the position indicated. Do not show hidden detail. (20 marks)