Junior Certificate Examination, 2016

Technical Graphics
Ordinary Level
Section A
(120 marks)

Monday, 20 June
Morning 9:30 - 12:00

Instructions

(a) Answer any ten questions in the spaces provided. All questions carry equal marks.

(b) Construction lines must be clearly shown.

(c) All measurements are in millimetres.

(d) This booklet must be handed up at the end of the examination.

(e) Write your examination number in the box provided below and on all other pages used.

Examination Number:
SECTION A. Answer any ten questions. All questions carry equal marks.

1. Shown is the *incomplete* elevation and end view of a lottery ticket scanner.
   
   Also shown is a 3D graphic of the scanner.

   **Insert** the missing lines in the elevation.

2. In the space provided, make a **freehand pictorial sketch** of the makeup bottle shown. Colour or shade the completed sketch.

3. Name the computer related item shown and state its use.

   **Name:**
   
   ________________________________

   **Use:**
   
   ________________________________
   ________________________________
4. **Fig. 1** shows a jewellery store logo inscribed in the square **ABCD**. Draw the enlarged logo in the given square **ABCD** in **Fig. 2**.

![Fig. 1](image1)

![Fig. 2](image2)

5. **Fig. 1** shows a logo for a sailing company. The line **PQ** is a tangent to the ellipse at **P**. Locate the focal points of the ellipse in **Fig. 2** and complete the sail by drawing the tangent **PQ**.

![Fig. 1](image3)

![Fig. 2](image4)

6. The elevation and plan of a sun lounger are shown. Make a well proportioned **freehand sketch** of the lounger in the space provided. Colour or shade the completed sketch.

![Sketch](image5)
7. The outline of a jigsaw piece is shown. Also shown is a 3D graphic of the jigsaw piece.

Write down the area of the jigsaw piece in square units.

1 square = 1 square unit.

Area of the jigsaw piece: ______ square units.

8. Using the scale provided, **measure** and **write down** the dimensions A and B for the couch shown.

   A: _____________

   B: _____________

9. The figure shows a set of blocks. Draw, in the space provided, an elevation of the blocks in the direction of the arrow.
10. The figure shows the incomplete outline of a toy trumpet. Also shown is a 3D model of the trumpet.

Complete the drawing of the trumpet showing all constructions and points of contact.

![Image of a toy trumpet with an incomplete outline and a 3D model]

11. Write down any two CAD commands used to produce the drawing of the eraser.

Any two CAD commands: ___________________  ___________________

12. Twenty four students were surveyed regarding their choice of lunch from the school canteen.

Shade the horizontal bar chart to indicate the following student choices.

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Beef - 4 students  
Chicken - 8 students  
Pasta - 5 students  
Salad - 7 students
13. **Fig. 1** shows the plan of a trampoline. The outline is based on a regular octagon. **Fig. 2** shows an *incomplete* plan view of a similar trampoline. Complete the plan by drawing the octagon. Show all constructions.

![Fig. 1](image1.png) ![Fig. 2](image2.png)

14. The figure shows an *incomplete* two-point perspective drawing of a stove. A small 3D graphic of the stove is also shown. Complete the perspective drawing of the stove.

![Perspective Drawing](image3.png)

15. **Fig. 1** shows the design for a railway logo. Complete the design of the logo in **Fig. 2** by constructing an axial symmetry in the line $LL_1$. Colour or shade the completed logo.

![Logo Design](image4.png)