Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination, 2017

Design & Communication Graphics

Ordinary Level

Section A (60 marks)

Wednesday, 21 June
Afternoon, 2:00 - 5:00

This examination is divided into three sections:

SECTION A	(Core - Short Questions)
SECTION B	(Core - Long Questions)
SECTION C	(Applied Graphics - Long Questions)

SECTION A

- Four questions are presented.
- Answer **any three** on the A3 sheet overleaf.
- All questions in Section A carry **20 marks** each.

SECTION B

- Three questions are presented.
- Answer **any two** on drawing paper.
- All questions in Section B carry **45 marks** each.

SECTION C

- Five questions are presented.
- Answer **any two** (i.e. the options you have studied) on drawing paper.
- All questions in Section C carry **45 marks** each.

General Instructions:

- *Construction lines must be shown on all solutions.*
- *Write the question number distinctly on the answer paper in Sections B and C.*
- *Work on one side of the drawing paper only.*
- *All dimensions are given in metres or millimetres.*
- *Write your Examination number in the box below and on all other sheets used.*

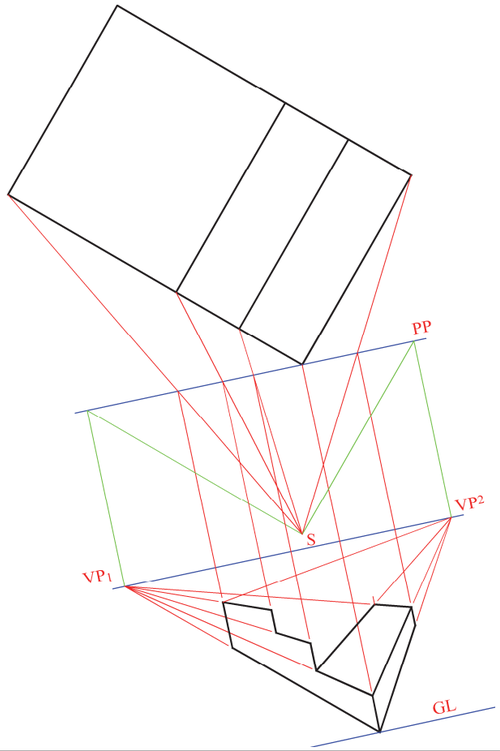
Examination Number:

SECTION A - Core - Answer **any three** of the questions on this A3 sheet.

A-1. The image below shows three steps at the entrance to a home.

The drawing on the right shows the plan and a partially completed perspective view of similar steps.

Complete the perspective drawing of the steps.

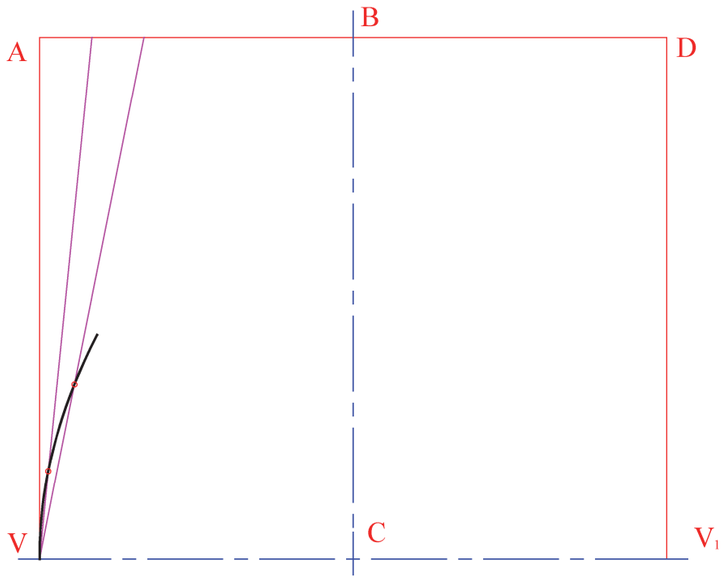


A-2. *Glamping* or glamorous camping appeals to those seeking adventure while on holiday**.**
The graphic below shows an image of a glamping hut which is based on two semi-parabolas.

In the given drawing a portion of one parabola is inscribed in the rectangle **VABC**. Its vertex is located at **V**.

(a) Locate the remaining points on the semi-parabola in the rectangle **VABC** and complete this curve.

(b) The second semi-parabola, in rectangle **V_1DBC**, is a mirror image of the first parabola, with **BC** as the axis of symmetry.
Draw the second parabola.

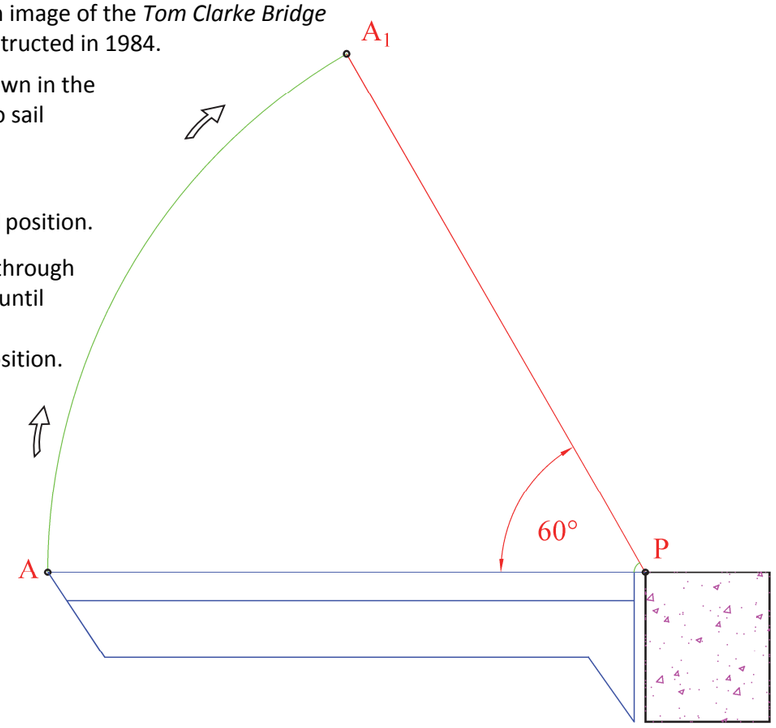


A-3. The 3D graphic below shows an image of the *Tom Clarke Bridge* in Dublin. This bridge was constructed in 1984.

The bridge can be raised as shown in the graphic to enable large boats to sail further up the river Liffey.

The elevation of the bridge is shown on the right in its closed position.

The bridge is rotated upwards through an angle of 60°, about point **P**, until point **A** reaches **A_1**.
Draw the bridge in the open position.

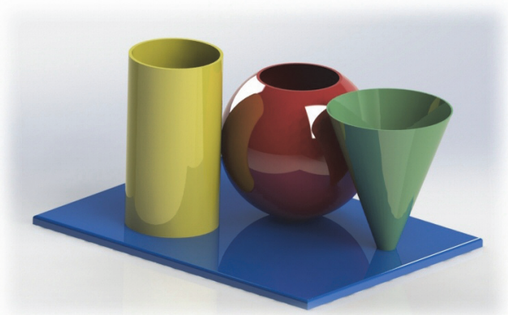


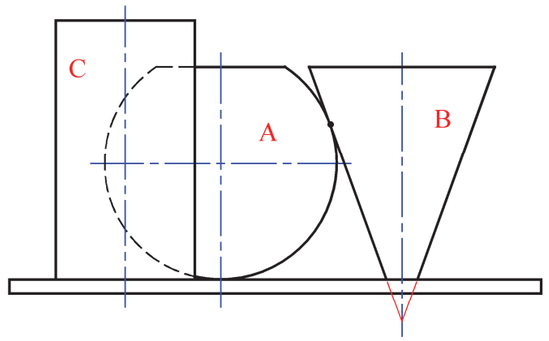
A-4. A *Desk Tidy,* in the form of geometrical objects which are in mutual contact, is shown in the 3D graphic below. The solids rest on a rectangular base.

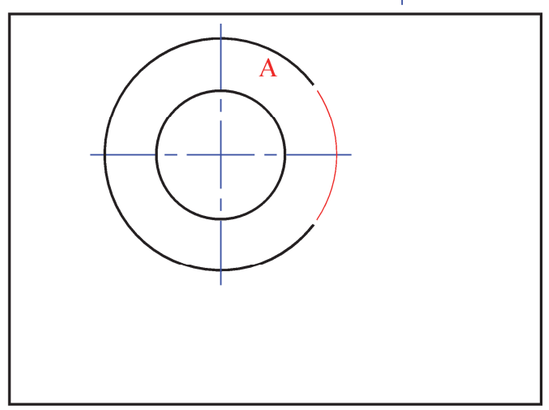
The drawing on the right shows the elevation and partially completed plan of the desk tidy. It consists of a cylinder, a sphere, and a cone. The sphere and cone have been truncated as shown.

(a) Draw the plan of the truncated cone **B**.

(b) Draw the plan of cylinder **C**.







This examination paper must be returned at the end of the examination – You must include your Examination Number on the front cover.

This Contour Map is part of Section C and should only be used for the answering of the Geologic Geometry Option (Question C-1).

(Scale 1:1000)