



2021. M80A

2021L562G1EL

Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination, 2021

Design & Communication Graphics
Ordinary Level

Section A (60 marks)

Centre No.

Thursday, 24 June
Morning, 9:30 - 12:30

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**
and
SECTION C
- Eight questions are presented.
 - Answer **any two** on drawing paper.
 - All questions in Section B and Section C carry **60 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

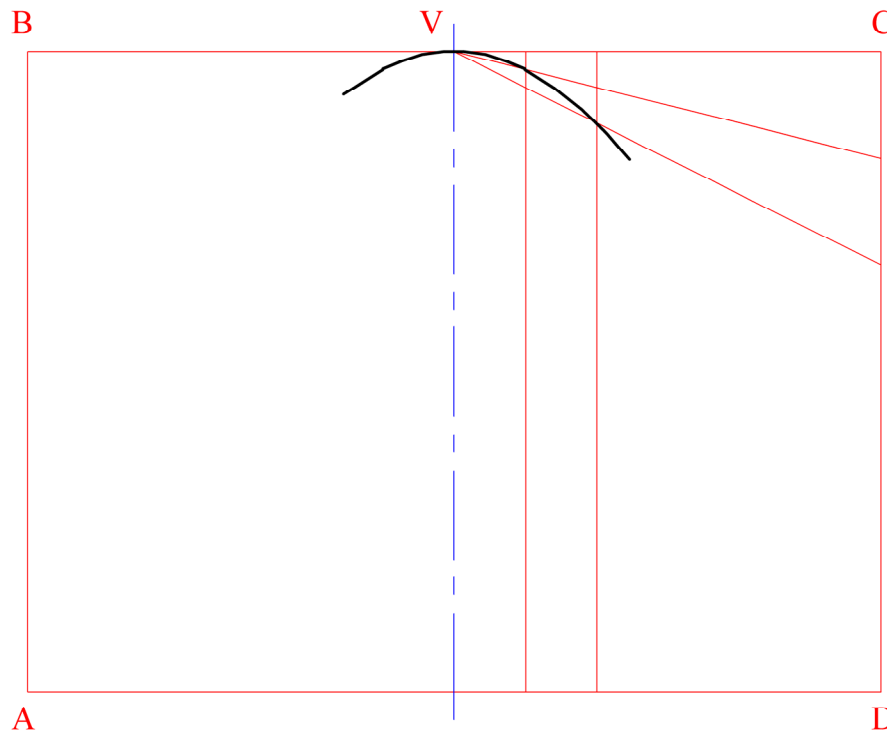
SECTION A - Core - Answer any three of the questions on this A3 sheet.

A-1. The image below shows a bee hive hut which is situated on the side of the M1 motorway near Drogheda, Co. Louth. The outline of the structure is a parabola.

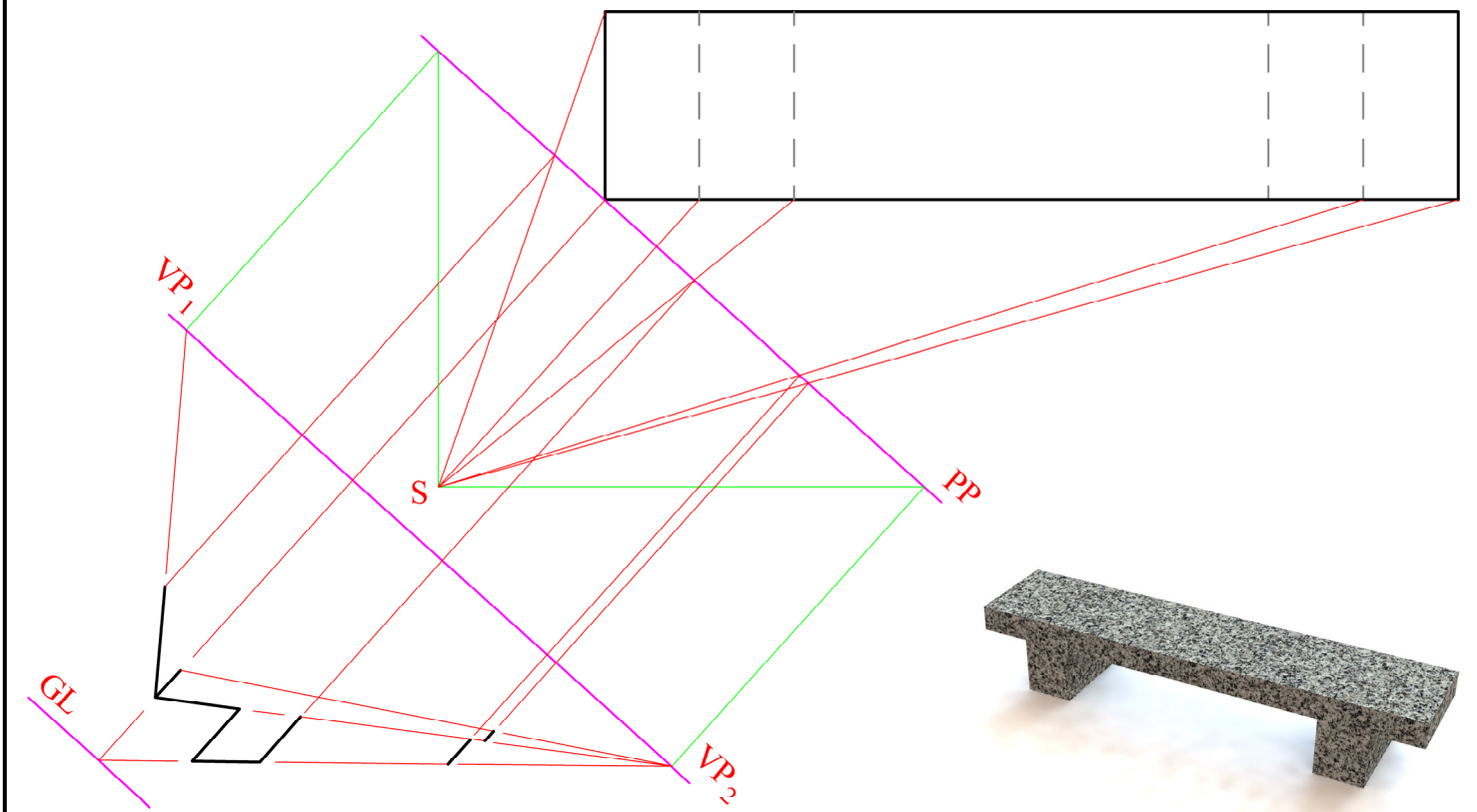
The drawing on the right shows a portion of a similar parabola, which is inscribed in rectangle **ABCD**.

V is the vertex of the curve.

- (a) Locate the remaining points on the right hand side of the parabola.
- (b) Locate the points on the left hand side of the parabola.
- (c) Complete the parabola in the rectangle **ABCD**.



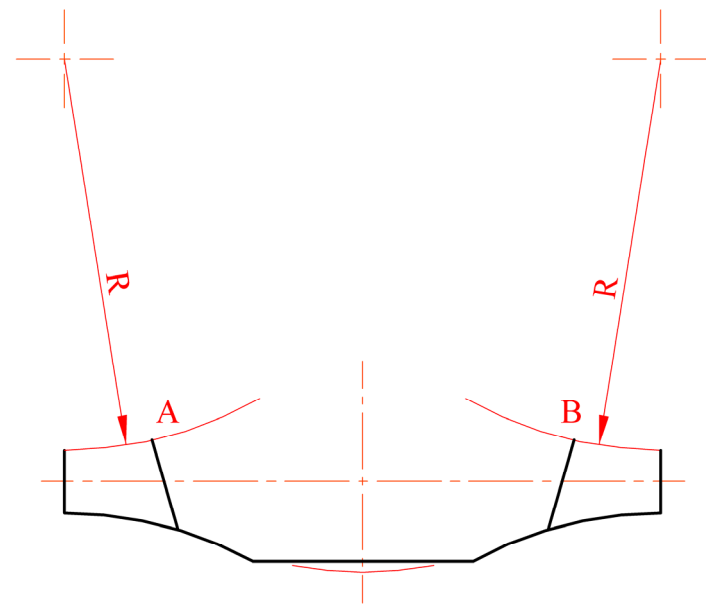
A-3. The image below shows a garden bench. The drawing shows the plan and a partially completed perspective view of a similar bench. Complete the perspective drawing.



A-2. The image below shows a bridge in Fitzgerald Park, Cork. The symmetrically designed structure includes tangential arcs **A**, **B**, and **C** which have the same radius.

The drawing on the right shows a partially completed view of the structure.

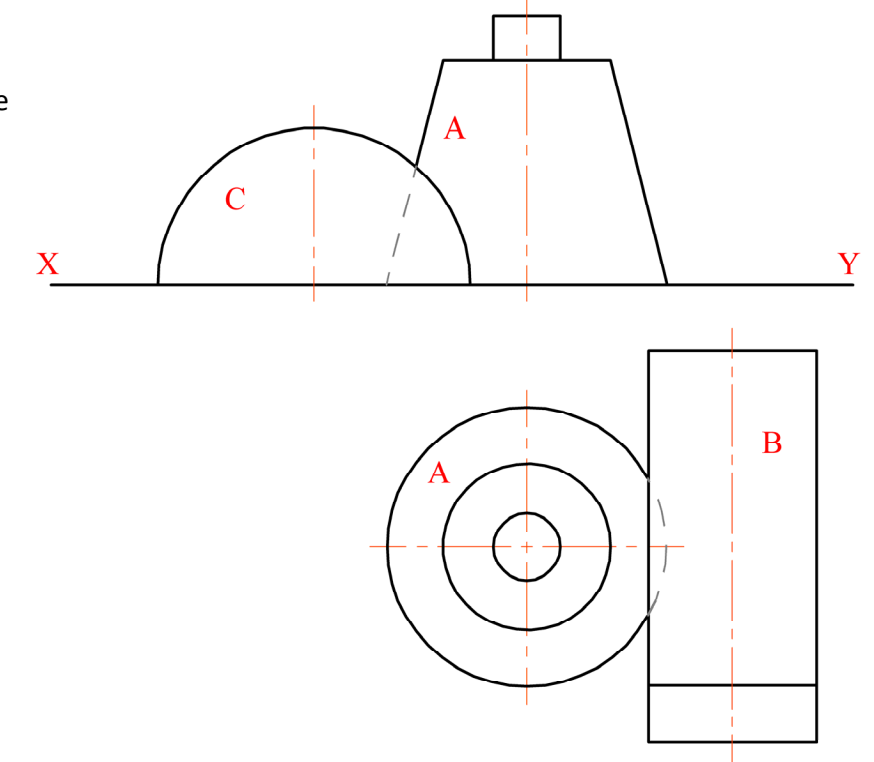
- (a) Complete the upper section of the bridge by drawing arc **C** tangential to the given arcs **A** and **B**. Show clearly how the centre point for arc **C** is located.
- (b) Show all points of contact.



A-4. The 3D graphic below shows a selection of personal care products in geometrical form. The objects rest on a dressing table and are in contact as shown.

The arrangement consists of a truncated cone **A**, a cylinder **B** and a hemisphere **C**. The drawing on the right shows the partially completed elevation and plan of the objects.

- (a) Draw the elevation of the cylinder **B**.
- (b) Draw the plan of the hemisphere **C**.



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)

