



Coimisiún na Scrúduithe Stáit
State Examinations Commission

JUNIOR CERTIFICATE EXAMINATION, 2019

METALWORK

TECHNIQUES AND DESIGN – PROJECT – HIGHER LEVEL

150 marks

PROJECT MUST BE COMPLETED BY Friday 5th April, 2019

PLEASE READ CAREFULLY

General Instructions to candidates

The project you make and submit for examination, including the design element, must be **your own individual work**, carried out in the school under the supervision of the teacher.

Your own individual work is intended to include the intellectual activity of design along with the practical activities of making the project.

Note: For further information on this project please see the video at the URL shown below.
<https://www.examinations.ie/video/index.php/metalwork2019>

Instructions for making the project

1. Details of a **Model Roadster** are shown on the accompanying drawing.
2. Make and assemble the Project using the materials specified in the **Parts List**.
Note: You may include a Steering Wheel, however this will not receive any marks.
3. Design, make and attach a **Left centre side-panel** and a **Right centre side-panel** for the model. Each side-panel must incorporate a **Step** and must add to the overall appearance of the model. Your design solution may include adjustments to already manufactured components.
(Note: 20% of the marks will be awarded for this section.)
4. You must drill the front wheels so that they rotate freely on the M4 Axle Screws (Part 18).
5. Complete, **test** and **solder** the **Electric Circuit**.
6. Your **Examination Number** must be clearly engraved in the position indicated on the drawing.
7. Your completed project, clearly identified with your **Examination Number**, must be available to the visiting examiner **along with the necessary testing equipment**.

Parts List			
Part No.	Part Name	Required	Material and Description
1	Spoiler	1	1.5 mm, Aluminium (polished or painted)
2	Switch/Spoiler Support	1	1.5 mm, Aluminium (polished or painted)
3	Bonnet Front Support	1	1.5 mm, Aluminium (polished or painted)
4	Axle Support	1	1.5 mm, Aluminium (polished or painted)
5	Chassis	1	1.5 mm, Aluminium (polished or painted)
6	Bonnet	1	1.5 mm, Aluminium (polished or painted)
7	Bonnet Rear Support	1	1.5 mm, Aluminium (polished or painted)
8	Windscreen	1	3 mm, Tinted Acrylic (polished)
9	Rear Cover Support	2	Ø8 mm, Brass (polished)
10	Battery Holder Support	1	1.5 mm, Aluminium (polished or painted)
11	Rear Cover	1	1.5 mm, Aluminium (polished or painted)
12	Motor Support	1	30 × 30 × 2 mm, Aluminium Angle (polished)
13	Seat Support	1	Ø12 mm, Brass (polished)
14	Seat	1	3 mm, Coloured or Tinted Acrylic (polished)
As Supplied			
15	Screw	10	M3 × 8, Allen Button Head or Pan Head, Steel
16	Screw (Motor)	2	M3 × 25, Allen Button Head or Pan Head, Steel
17	Screw (Motor Support)	2	M4 × 30, Allen Button Head or Pan Head, Steel
18	Screw (Axle)	2	M4 × 40, Allen Button Head or Pan Head, Steel
19	Screw (Seat)	1	M4 × 20, Allen CSK Head
20	Nut	12	M3, Steel
21	Nut (Axle × 2 & Seat)	3	M4, Steel
22	Nylock Nut (Axle)	2	M4, Steel
23	Battery Holder	1	AA × 2
24	Switch	1	Toggle
25	3V Motorised Gearbox	1	In-Line Motor, Single Shaft - Ratio 120:1
26	Wheel	3	Ø70 mm × 25 mm, to suit gearbox spigot
27	Insulated Wire		As Required

Note: 20% of the marks are awarded for Assembly, Finish and Function.