



Coimisiún na Scrúduithe Stáit
State Examinations Commission

JUNIOR CERTIFICATE EXAMINATION, 2017

METALWORK

TECHNIQUES AND DESIGN – PROJECT – ORDINARY LEVEL

300 marks

PROJECT MUST BE COMPLETED BY Friday 7th April, 2017

PLEASE READ CAREFULLY

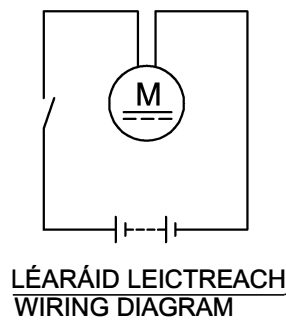
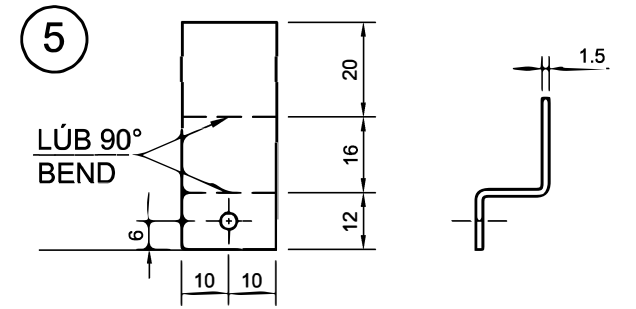
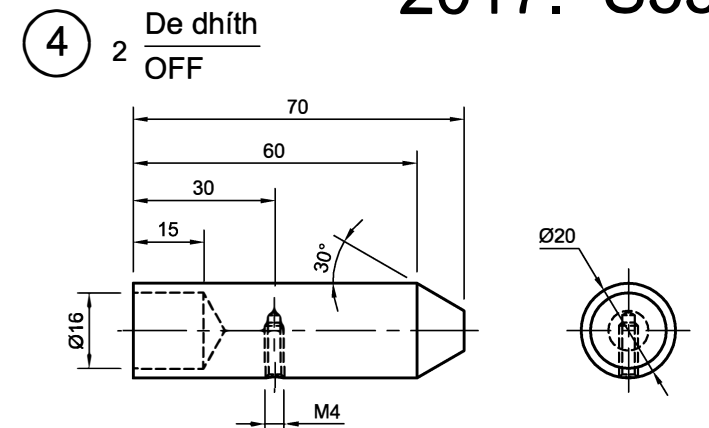
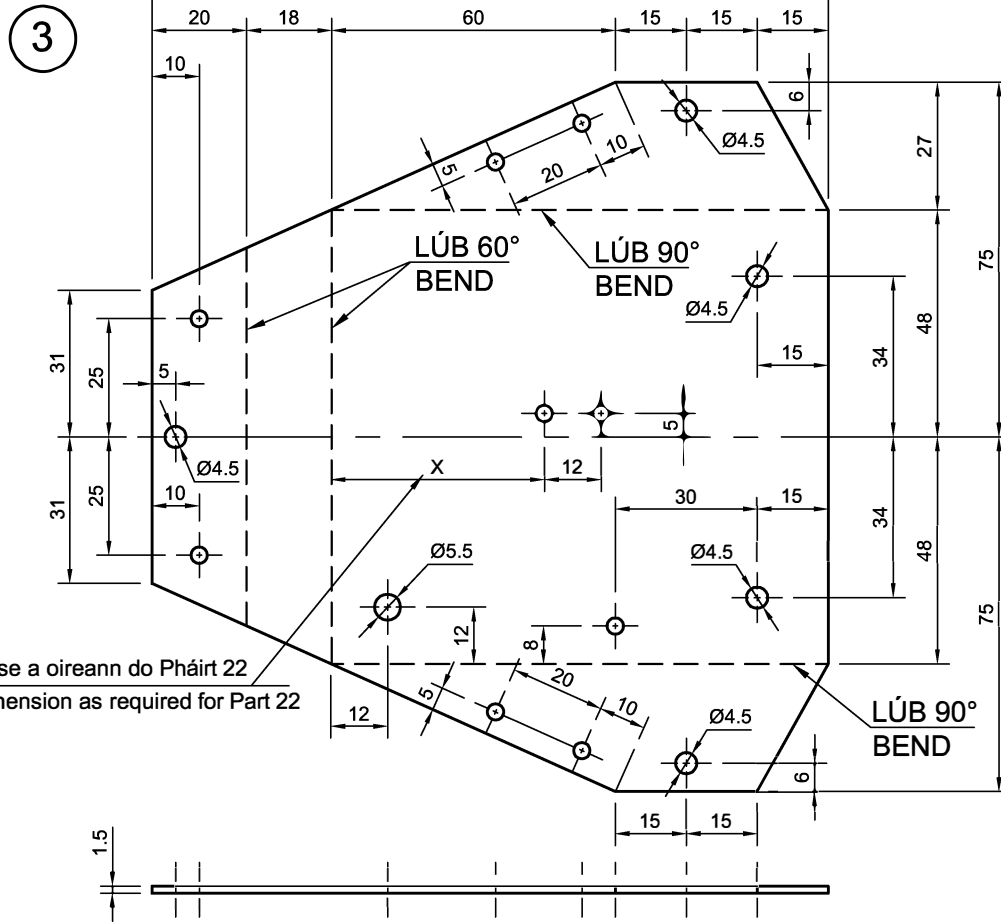
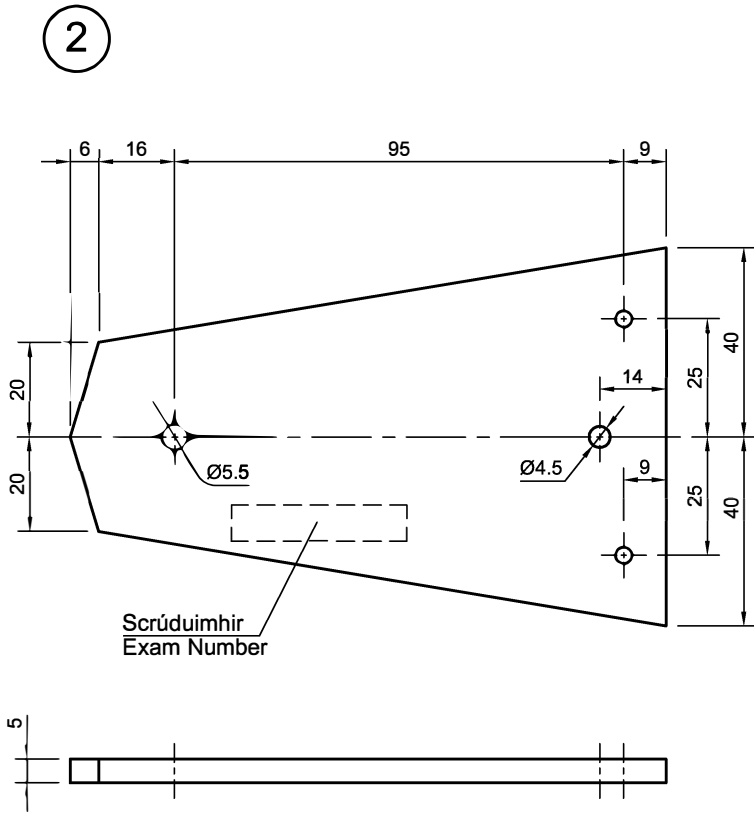
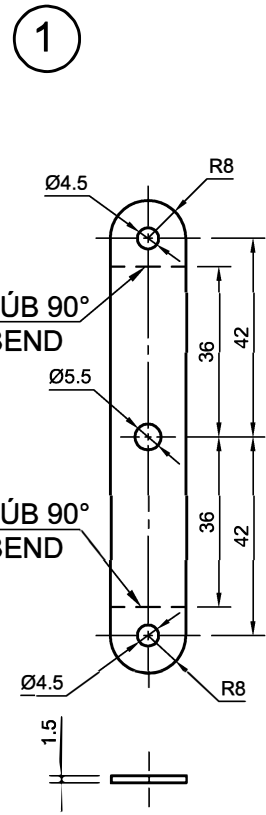
General Instructions to candidates

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.

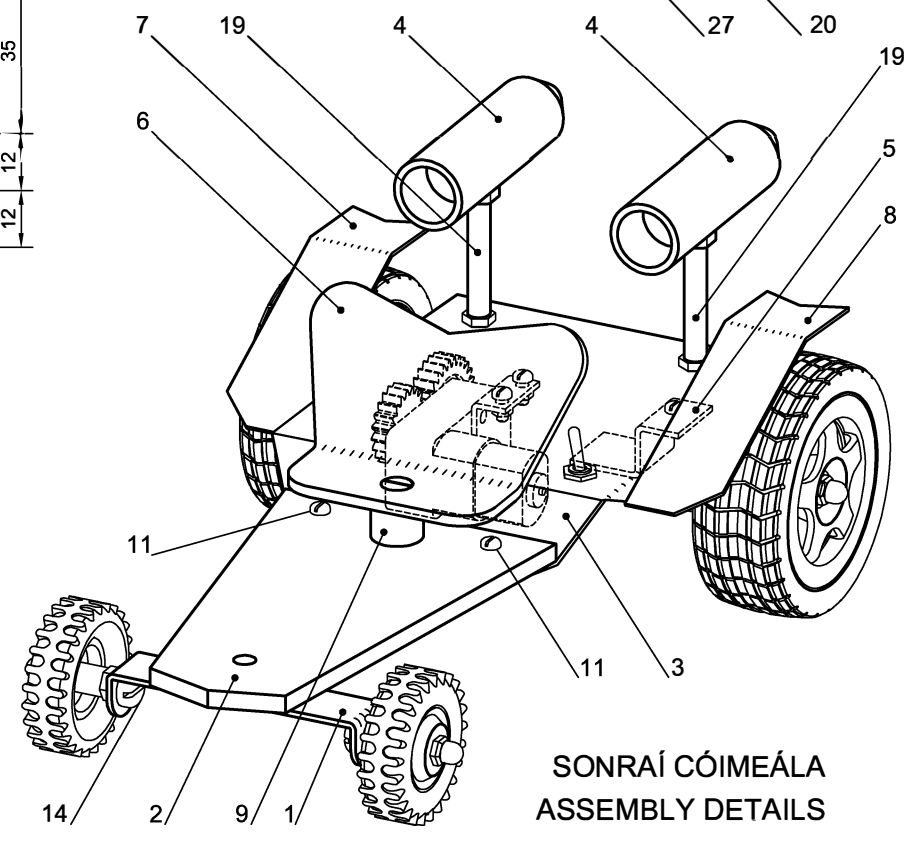
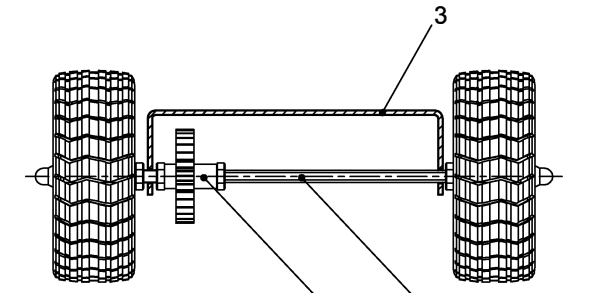
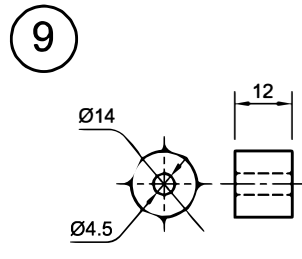
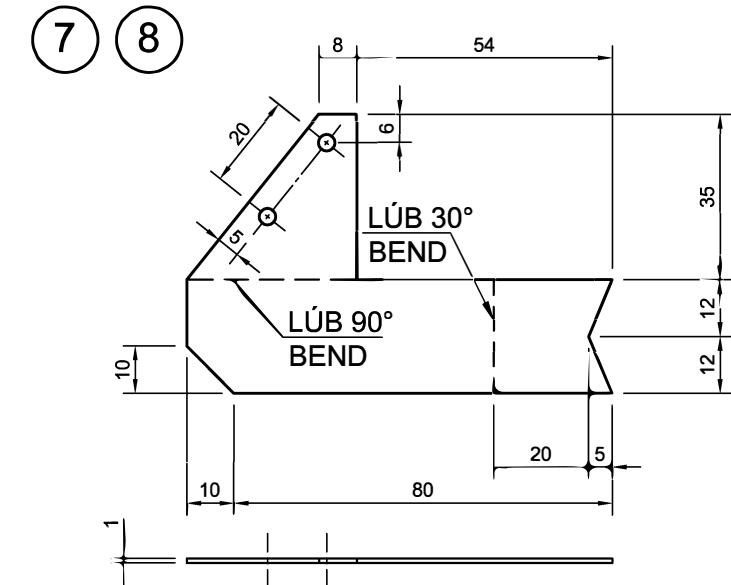
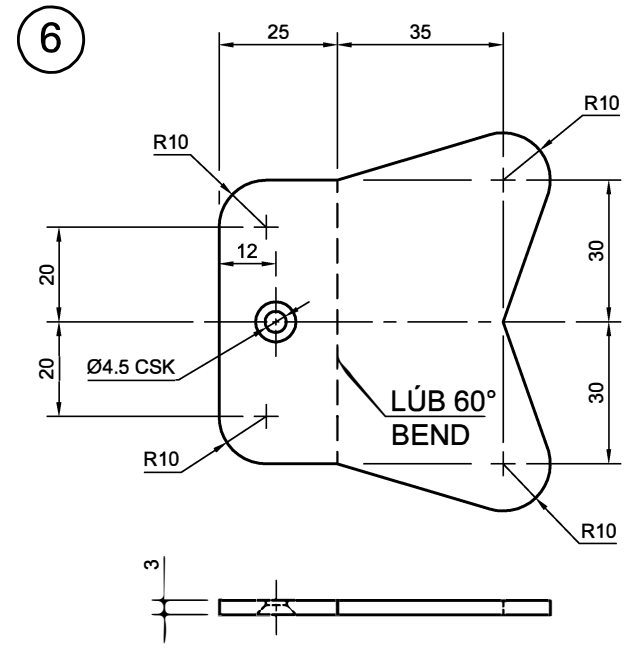
Your own individual work is intended to include the intellectual activity of design along with the practical activities of making the project.

Instructions for making the project

1. Details of a **Model Jet Buggy** are shown on the accompanying drawing.
2. Make and assemble the Project using the materials specified in the **Parts List**.
Note: Pop rivets can be used for assembly, if desired.
3. Design, make and attach a **Simple Steering System** for the model.
(Note: 20% of the marks will be awarded for this section.)
4. Complete, **test** and **solder** the **Electric Circuit**.
5. Your **Examination Number** must also be clearly shown in the position indicated on the drawing.
6. Your completed project, clearly identified with your **Examination Number**, must be available to the visiting examiner **along with the necessary testing equipment**.



LÉARÁID LEICTREACH
WIRING DIAGRAM

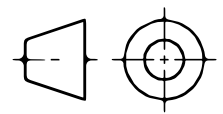


SONRAÍ CÓIMEÁLA
ASSEMBLY DETAILS

Poill gan toisí
Undimensioned holes Ø3.5

Nóta: Gabhann 20% de na marcanna le Cóimeáil, Bailchríoch agus Feidhmiú.

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



PARTS LIST			
Part No.	Part Name	Req.	Material and Description
1	Front Axle Support	1	1.5 mm, Brass (polished)
2	Front Chassis	1	5 mm, Coloured Acrylic (polished)
3	Rear Chassis	1	1.5 mm, Aluminium (polished or painted)
4	Jet Engine	2	Ø20 mm, Aluminium (polished)
5	Battery Holder Support	1	1.5 mm, Aluminium (polished)
6	Seat	1	3 mm, Coloured Acrylic (polished)
7	Right Mudguard	1	1 mm, Brass (polished)
8	Left Mudguard	1	1 mm, Brass (polished)
9	Seat Support	1	Ø14 mm, Aluminium (polished)
As Supplied			
10	Screw	7	M3 × 8, Pan Head or Allen Button Head, Steel
11	Screw	2	M3 × 10, Pan Head or Allen Button Head, Steel
12	Screw (Motor Bracket)	2	M3 × 20, Pan Head or Allen Button Head, Steel
13	Screw (Seat)	1	M4 × 25, CSK, Steel
14	Screw	2	M4 × 30, Pan Head or Allen Button Head, Steel
15	Screw (Jet Engine Support)	2	M4 × 50, Pan Head or Allen Button Head, Steel
16	Nut	11	M3, Steel
17	Nut	11	M4, Steel
18	Cap Nut	4	M4, Steel
19	Jet Engine Support Sleeve	2	Brass Tube × 36 mm, Ø6 OD, Ø4 ID
20	Rear Axle	1	M4 Threaded Bar (168 mm approximately)
21	3V Motorised Gearbox	1	Perpendicular Motor / Ratio 110:1
22	Motor Bracket	1	As Supplied
23	Battery Holder + Clip	1	AA × 2
24	Rear Wheel	2	Ø68 × 25 mm, with 4 mm axle hole
25	Front Wheel	2	Ø40 × 14 mm, with 4 mm axle hole
26	Motor Gear	1	Plastic Gear – 20 Teeth – to suit gearbox spigot
27	Rear Axle Gear	1	Plastic Gear – 30 Teeth – 4 mm axle hole
28	Switch	1	Toggle
29	Insulated Wire		As Required

Note: 20% of the marks will be awarded for **Assembly, Finish and Function.**

Note: Pop rivets can be used for assembly, if desired.