



**Coimisiún na Scrúduithe Stáit  
State Examinations Commission**

**JUNIOR CERTIFICATE EXAMINATION, 2021**

**METALWORK**

**TECHNIQUES AND DESIGN – PRACTICAL EXAMINATION – HIGHER LEVEL**

**150 marks**

**Adjusted Assessment Arrangements for 2021 - Please Read Carefully**

**Instructions to teachers**

1. Please familiarise yourself with the adjusted assessment arrangements for candidates taking the state examinations in the 2020/21 school year that were issued by the Department of Education and Skills. Preparation of materials and components for the 2021 Junior Certificate Metalwork Practical Examination must be carried out in accordance with these adjusted arrangements.
2. The adjusted arrangements for the 2021 Junior Certificate Metalwork Practical Examination, state that candidates do not have to partake in the preparation of the materials and components required for this examination. Therefore, candidates will not be awarded marks for the manufacture of this preparatory work.
3. The Metalwork teacher may prepare the materials and make the components required for the examination, according to the materials list and drawings provided on page 3. Alternatively, the school may outsource this work. This preparatory work must be completed prior to the Practical Examination in May 2021.
4. The equipment, materials and components required for the 2021 Junior Certificate Metalwork Practical Examination are provided on pages 2 and 3.
5. All prepared materials and finished components should be stored safely until examination day.
6. It is important that all drilling machines are fully operational and complete with accurate chucks, machine vices and clamps. Drills as specified are required to be in optimum machining condition.

## EQUIPMENT LIST

Lathes.

Drilling machines.

Usual marking-out and measuring tools.

Usual bench fitting tools and equipment.

Scribing block and surface plate (one per five candidates).

M5 and M6 taps (to suit machine screws) and suitable tapping wrench.

Set of drills:  $\varnothing 4.2$ ,  $\varnothing 5$ ,  $\varnothing 6$  and  $\varnothing 10$  mm with spares.

Countersinking drills.

***Set of usual files, to include:***

- 250 mm hand rough
- 250 mm hand smooth
- 150 mm hand rough
- 150 mm hand smooth
- 100 mm hand rough
- 100 mm hand smooth
- Set of needle files (one set per five candidates).

Junior and standard hacksaws with spare blades.

One pair of aluminium or fibre protective vice clamps per candidate.

Allen keys to suit machine screws supplied.

Spanners to suit the nuts supplied.

Half sheet of fine grade emery cloth per candidate.

Half sheet of medium grade emery cloth per candidate.

Number punches, or engraving equipment.

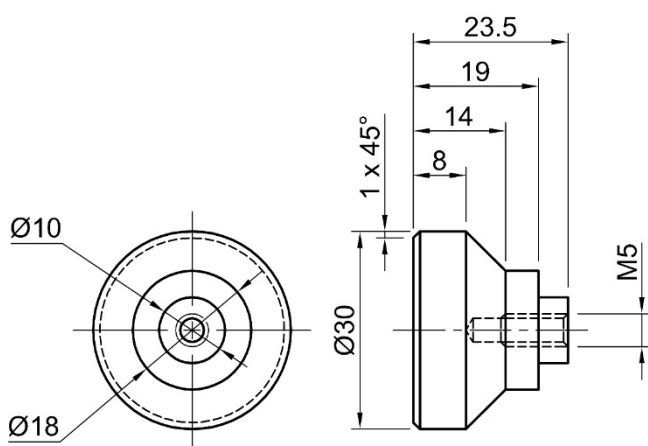
Protective goggles at all machines.

**Note: It is required to prepare materials and make Parts 1 and 4, according to the materials list and drawings shown, prior to the Practical Examination in May 2021.**

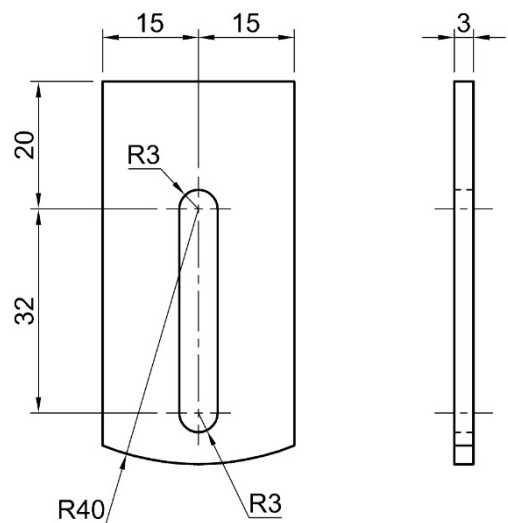
Materials list - per candidate		
Required	Material	Size
1 piece	Aluminium to make Part 1	Ø30
1 piece	Aluminium to make Part 2	30 × 4 × 35
1 piece	Aluminium to make Part 3	<b>100 × 4 × 80</b>
1 piece	Brass to make Part 4	<b>30 × 3 × 62</b>
1 piece	Coloured Acrylic to make Part 5	20 × 5 × <b>95</b>
2 Machine screws, Allen Button Head	Steel	M6 × 12
1 Machine screw, Allen CSK Head	Steel	M5 × 12
1 Machine screw, Allen CSK Head	Steel	M5 × 16
2 Nuts	Steel	M6
1 Nylock Nut	Steel	M5

**Note: Bold dimensions are finished sizes.**

**Part 1**



**Part 4**



**Note: Part 1 should rotate freely in a Ø10 mm drilled hole.**

**Note: General Tolerance ± 0.2 mm.**

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