



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination 2025 Technology

Section A and Answerbook

Higher Level

Monday 23 June Afternoon 2:00 - 4:30

160 marks

Examination Number

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Date of Birth

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For example, 3rd February
2005 is entered as 03 02 05

Centre Stamp

Instructions

Write your Examination Number and your Date of Birth in the boxes on the front cover.

Write your answers to all parts of the examination into this answerbook. This answerbook will be scanned and your work will be presented to an examiner on screen. Anything that you write outside of the answer areas may not be seen by the examiner.

Write your answers in blue or black pen. You may use pencil for sketches, graphs and diagrams only.

There are three sections to this examination. Attempt **all three** Sections.

Questions for Sections B and C are supplied separately but your answers must be written in this answerbook.

Section A 72 marks
Core – Short-answer questions.
Answer **any twelve** questions in this section.
Each question carries 6 marks.

Section B 48 marks
Core – Long-answer questions.
Answer the **two** core questions presented.
Each question in Section B carries 24 marks.

Section C 40 marks
Options – Long-answer questions.
Answer **one** of the five optional questions presented.
Each question in Section C carries 40 marks.

Section A.

Answer **any twelve** questions. All questions carry 6 marks.

Write your answers in the spaces provided.

1. Sustainable living practices have the potential to preserve vital resources, reduce environmental impact, and promote a healthier planet for people and nature for generations to come.

Describe **each** of the following terms in relation to sustainable living.

Off-Grid:
Circular Economy:



2. Distinguish, with an example, between additive manufacturing and subtractive manufacturing processes in the production of plastic pulley wheels.

Additive manufacturing:
Subtractive manufacturing:



3. Ireland's Climate Action Plan has an overall renewable electricity target of 80%, with offshore wind as a significant contributor.

Outline **two** challenges of using offshore wind as a sustainable source of renewable energy.

1.
2.



4. A range of capacitors is shown.

(i) State the function of a capacitor.



(ii) Distinguish between a *polarised* and a *non-polarised* capacitor.

5. Calculate the power required by the mobile crane to lift the load shown, to a height of 5 metres in 6 seconds.

Calculation:



6. Briefly describe the following cybercrimes.

(i) Phishing.



(ii) Ransomware attack.

7. Ireland's sailing team of Robert Dickson and Sean Waddilove competed in the 2024 Paris Olympics in the men's skiff event using the boat shown in the image.

Name an appropriate material to be used for **each** boat part listed and outline a property of **each** material named.



Mast

Hull

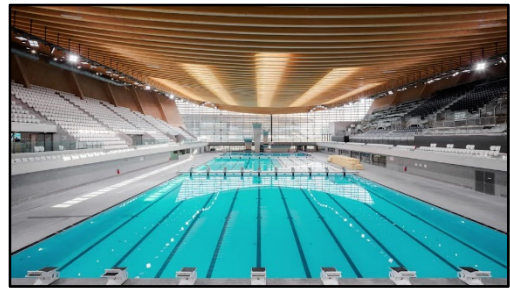
Sail

Part	Material	Property
Sail		
Mast		
Hull		

8. Use **two** graphic techniques to enhance the representation of the game controller shown.



9. The Olympic Aquatic Centre was constructed for the 2024 Paris Olympics and Paralympic Games. The roof is supported by the largest concave timber frame in the world, spanning 90 m and using a framework of more than 2,700 m³ of wood.



- (i) Give a reason for using a frame structure for this roof.

- (ii) Suggest **two** advantages of using wood for the frame.

10. The image shows the X Series workstation designed for work and gaming by designer Svyatoslav Zbroy. *Anthropometric data* was used to design this chair.



- (i) Explain the term anthropometric data.

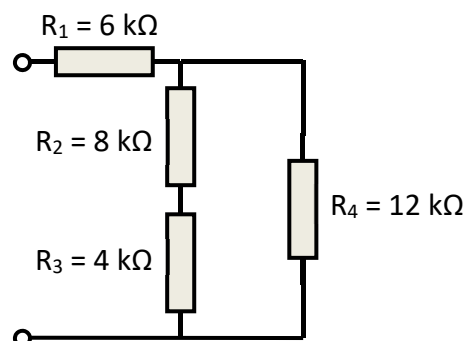
- (ii) Outline **one** advantage of using products that are ergonomically designed.

11. The park bench shown is made using concrete legs with a composite seat and backrest. Compile a Work Breakdown Structure (WBS) for making the bench.



WBS:

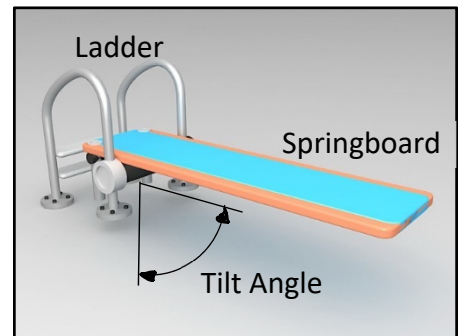
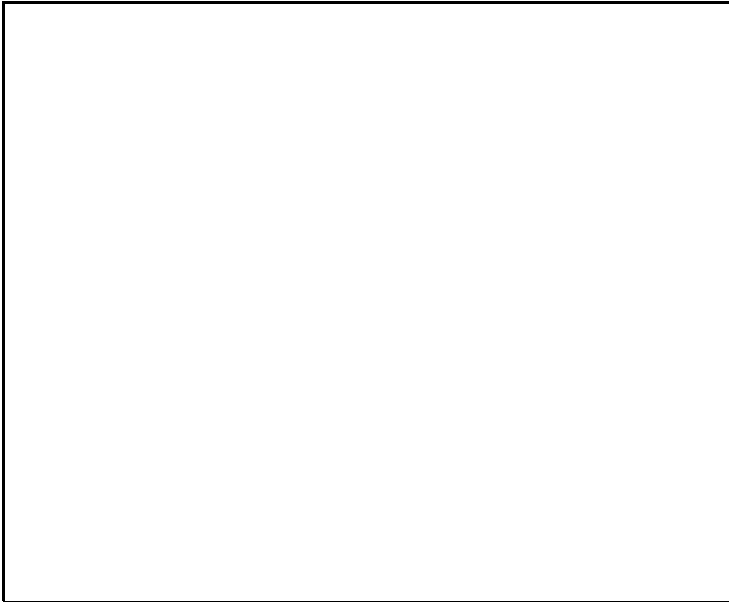
12. Calculate the total resistance of the circuit shown.



Calculation:

13. Diving boards are adjusted according to the requirements of individual swimmers.

Outline, using annotated sketches, an electro-mechanical method of adjusting the tilt angle of the diving board shown.



14. Cutting fluids and lubrication systems are used to ensure the safety and long-life of CNC machines.

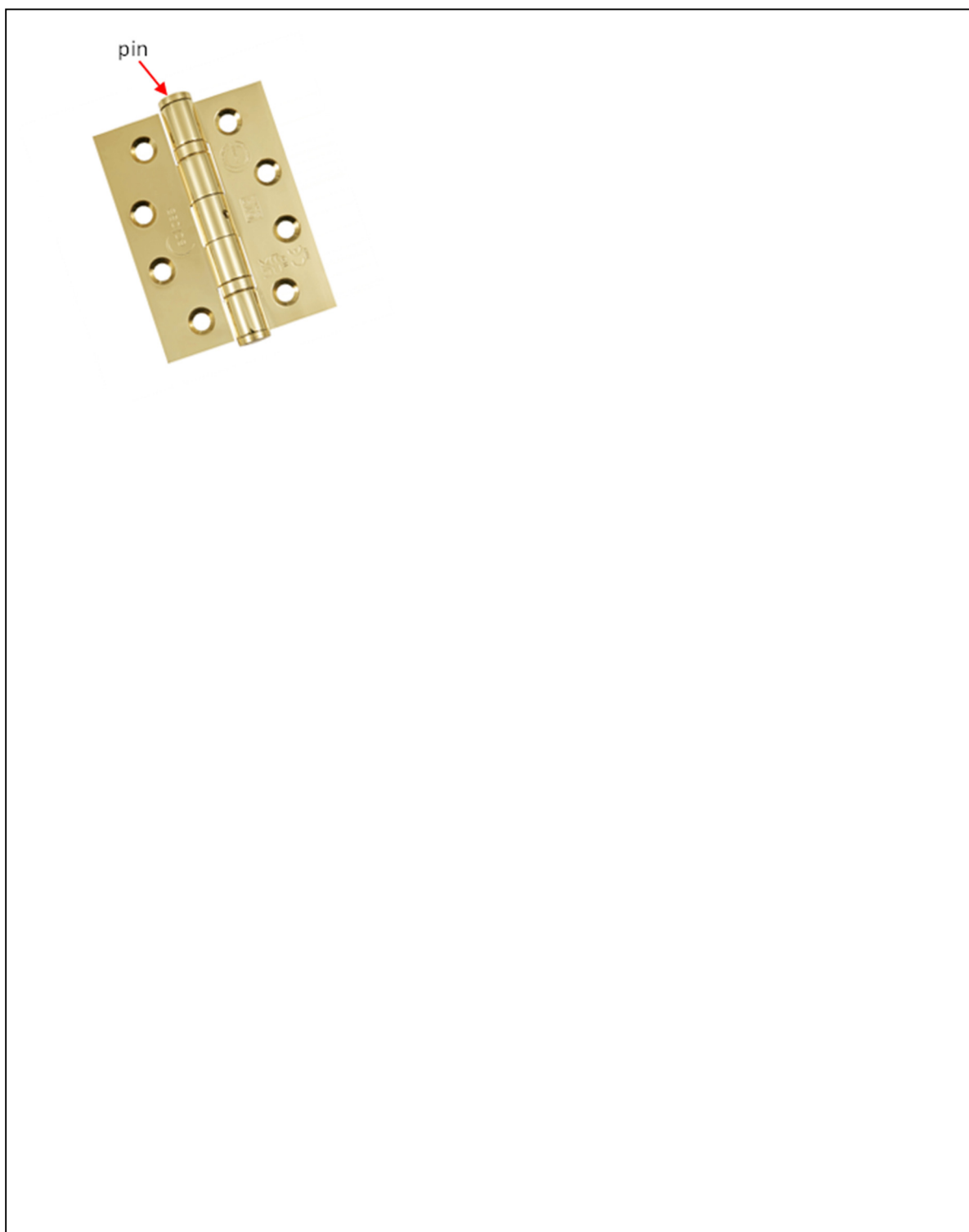
(i) Name **two** machine lubricants.

1.
2.



(ii) Describe how cooling and lubrication will prolong the life of cutting tools.

15. Sketch an **exploded** pictorial view of the hinge shown.



Answerbook for Sections B and C

Instructions

Questions for **Sections B** and **C** are supplied separately.

Start each question on a new page. Write the question number in the box at the top of each page.

Use the left-hand column to label each part, as shown below.

Part	Question
(a)	0 4
(b)(i)	
(b)(ii)	

You do not need to use all of the pages in this answerbook. If you run out of space in this answerbook, you may ask the superintendent for more paper.

Write your answers in blue or black pen. You may use pencil for sketches, graphs, and diagrams only.

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Part

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Part

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Part

Part

Acknowledgements

Images

Image 1 page 3: <https://www.pinterest.com/pin/reimagine/>

Image 2 page 3: <https://svero.co/men/catalogproducts/>

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Image 1 page 6: <https://olympics.com/en/news/olympic-games-paris-2024-aquatic-centre-saint-denis>

Image 2 page 6: <https://www.busyboo.com/20180321/reclining-chair-workstation-x3>

Image 1 page 7: <https://www.etebg.net/en/product/>

Image 1 page 8: https://open3dmodel.com/3d-models/3d-model-swimming-pool-diving-board_109992.html

Image 2 page 8: <https://waykenrm.com/blogs/types-of-cnc-coolants/>

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Leaving Certificate – Higher Level

Technology Section A and Answerbook

Monday 23 June

Afternoon 2:00 - 4:30