



*Leaving Certificate Examination, 2014*

# *Technology*

## *Ordinary Level*

*Friday, 20 June*  
*Afternoon, 2:00 - 4:00*

There are **three** Sections in this paper. Attempt **all three** Sections.

**Section A:** Core - Short-answer questions.

**Section B:** Core - Long-answer questions.

**Section C:** Options - Long-answer questions.

### *Section A - Core (72 marks)*

**Instructions:**

- (a) Answer **any nine** questions in the spaces provided.  
All questions in Section A carry 8 marks.
- (b) Draw all sketches in pencil.
- (c) Hand up this booklet at the end of the examination.
- (d) Write your examination number in the box provided  
and on all other pages used.

<b>Centre Number</b>

<b>Section</b>	<b>Mark</b>
Section A	
Section B	
Section C	
Total	
Grade	

**Examination Number:**

**Section A.** Answer **any nine** questions. All questions carry 8 marks.

1. The image shows workers laying a pipeline on the Shell project in the West of Ireland. Suggest **one** disadvantage of this project.

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Suggest **one** advantage of this project.

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2. Drilling is an essential task in project manufacture. In the boxes provided, draw well proportioned freehand sketches to explain the following terms associated with drilling.

Drill gauge:

A large empty rectangular box for drawing a freehand sketch of a drill gauge.

Countersunk Hole:

A large empty rectangular box for drawing a freehand sketch of a countersunk hole.

3. A student has downloaded from the internet the image of the safety sign shown.

- (i) State the meaning of the safety sign shown.

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- (ii) The image is to be printed at A4 size for display in the Technology room. Outline the main steps required to print this image at A4 size.

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4. The Stone Cutters bridge in Hong Kong is illuminated by 60,000 light emitting diodes (LEDs).

Give **two** reasons for using LEDs instead of filament bulbs.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_



5. Polyethylene terephthalate (PET) is a plastic used in the manufacture of water bottles. PET is an example of a *thermoplastic* material.



(i) Explain what is meant by a thermoplastic material.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(ii) Name **one** other thermoplastic material.

\_\_\_\_\_

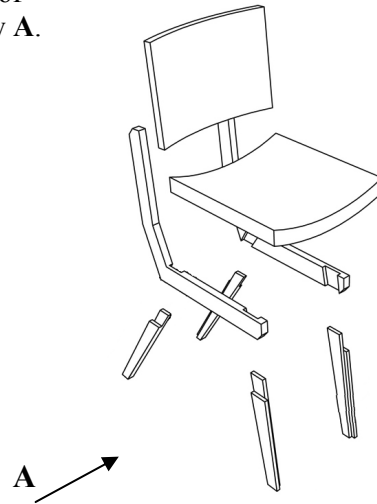
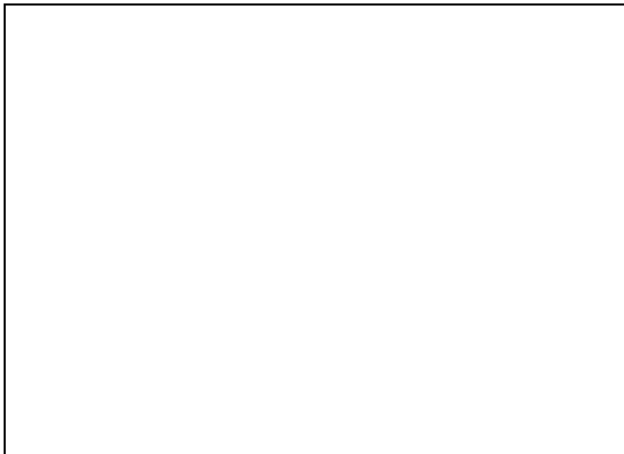
6. The *electronic signature* capture device shown allows individuals to sign, send and store documents electronically.



Suggest **two** benefits of such devices for a business.

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. In the box provided, make a well proportioned 2D sketch of the *assembled* chair when viewed in the direction of arrow **A**.



8. The blade of the jig saw shown *reciprocates* when in use.

- (i) Describe what is meant by ‘reciprocating’ motion.

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- (ii) Outline **one** safety precaution that should be observed when operating a jig saw.

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9. The graphics below show a resistor colour code table and a resistor **R**.

	0
	1
	2
	3
	4
	5
	6
	7
	8
	9

- (i) Calculate the value of the resistor **R**.



**R** - brown, black, red, gold. **Value** = \_\_\_\_\_

- (ii) Using Ohm’s law, calculate the current passing through the resistor **R** when connected to a **9V** source.

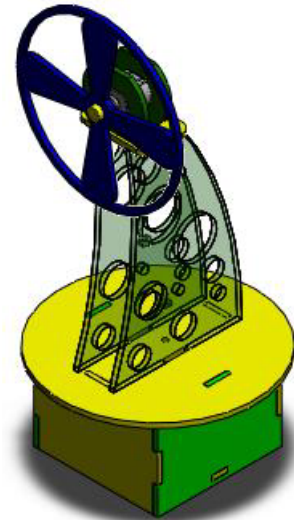
$$V = I \times R$$

**Current (I)** = \_\_\_\_\_

- 10.** The *heat sensor fan* shown is to be manufactured from acrylic and includes a printed circuit board (PCB).

List **four** main steps required to manufacture this item.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_



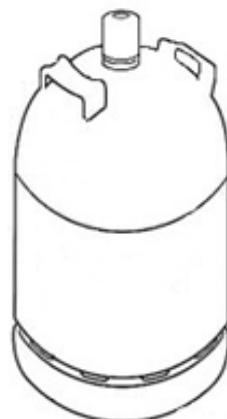
- 11.** The image shows a *high quality* reusable food container. The container is mass-produced.

Describe **two** costs associated with mass-producing high quality products.

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



- 12.** Use **two** graphic techniques to enhance the representation of the gas container shown.



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