



**L-Università  
ta' Malta**

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE  
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL  
2021 MAIN SESSION**

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<b>SUBJECT:</b>	<b>Engineering Technology</b>
<b>PAPER NUMBER:</b>	Controlled – Unit 1
<b>DATE:</b>	22 <sup>nd</sup> May 2019
<b>TIME:</b>	10:00 a.m. to 11:35 a.m.

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**THIS PAPER SHOULD BE RETURNED TO THE INVIGILATOR  
AFTER THE EXAMINATION.**

**Name of candidate** \_\_\_\_\_

**I.D. number** \_\_\_\_\_

**School** \_\_\_\_\_

**Class** \_\_\_\_\_

Answer **ALL** questions in the space provided. The use of non-programmable electronic calculators is allowed.

**Scenario**

You have just been employed by a local manufacturing company where, due to the nature of its operations, health and safety is given high importance. The management has invited you for appropriate training, after which you will need to sit for an exam by answering the questions provided.

**Question 1**

**K1 (4 marks)**

You are working on a pillar drill in one of the workshops. List **FOUR** items of personal and protective equipment that should be worn while conducting this task.

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_
- (c) \_\_\_\_\_
- (d) \_\_\_\_\_










(4)

**Question 2**

**K3 (4 marks)**

As an employee you are expected to observe the warning signs indicating specific particular hazards. Identify each of the warning signs in Table 1 by writing the name in the space provided. The first one has been done for you.

Table 1 – Warning signs.

	Warning Sign	Name		Warning Sign	Name
		Serious Health hazard	(e)		
(a)			(f)		
(b)			(g)		
(c)			(h)		
(d)					

(4)

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**Question 3**

**C1 (6 marks)**

The manufacturing company makes use of chemicals including acids to produce goods. Explain **THREE** points to show the importance of using suitable packing and labelling when storing acids.

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(6)

**Question 4**

**K5 (4 marks)**

Figure 1 shows employees in a manufacturing company who are clearly not respecting health and safety standards and procedures.

Briefly outline **FOUR** unsafe practices shown in Figure 1. Mark the practice with a circle and give it a letter corresponding to your answer below. An example has been done for you.

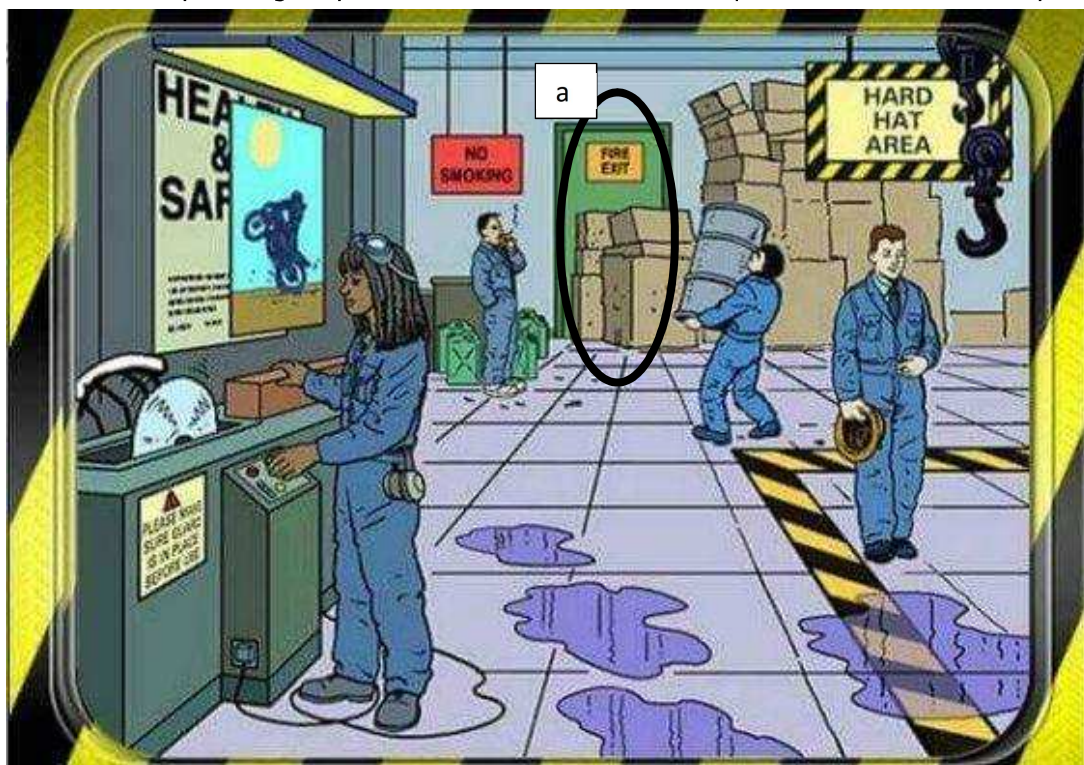


Figure 1 – Factory with Health and Safety violations.

Source: <https://i.pinimg.com>

(a) The fire exit marked as "a" is blocked by large boxes. In case of fire the fire exit needs to be used to evacuate the personnel of the factory.

(b)

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(c)

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(d)

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(e)

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(4)

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**Question 5**

**C2 (6 marks)**

While at work you will be required to identify any risk that might cause damage to equipment, harm to self, and harm to others if health and safety procedures are not observed.

(a) Explain by giving **THREE** examples of hazards in a work environment which can result in the risk of damaging equipment.

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(3)

(b) Explain by giving **THREE** examples of hazards in a work environment which can result in the risk of harming others.

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(3)



**Question 7**

**K9 (4 marks)**

Part of the process carried out in the manufacturing company requires the use of different industrial gases, which are identified through different markings.

(a) Fill in the blanks below by identifying the correct colour or gas.

(i) Acetylene cylinders need to have a \_\_\_\_\_ coloured neck. (½)

(ii) A dark green coloured neck indicates that the cylinder contains \_\_\_\_\_ gas. (½)

(iii) Red coloured backgrounds for labelling are used for pipes supplying \_\_\_\_\_ . (½)

(iv) Pipes for fresh water must be labelled on a \_\_\_\_\_ background colour. (½)

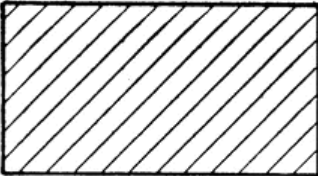
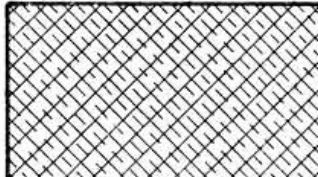
(b) Engineering drawing requires the use of different types of lines. Figure 2 shows some of the different lines used. Identify which is the hidden line and the centre line, by filling in the empty spaces provided. An example has been done for you.

- (i)  Long Break line.
- (ii)  \_\_\_\_\_ . (½)
- (iii)  \_\_\_\_\_ . (½)

Figure 2 – Different lines used in engineering dr

(c) Metal symbols are commonly used to ensure that the proper material is used. Complete Table 2 by identifying the “Metal Name” corresponding to the given “Metal Symbol”.

Table 2 – Metal Symbols.

	<b>Metal Symbol</b>	<b>Metal Name</b>
(i)		
(ii)		

(1)





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