



STUDENT SECTION

Name				Class	
Student MOE number (SIS)		School MOE Number		STUDENT SIGNATURE	
School name					

PLEASE NOTE – This **SAMPLE** paper is to guide students on question types **ONLY**, not the content for the final assessed examination. Please refer to the coverage documents & revision notes.

Creative Design & Innovation

12 General

Sample - Term 1

Date: November 2017

Time: TBC

Duration: 35 minutes

STUDENT INSTRUCTIONS –

Students must attempt all questions.

For this examination, you must have:

1. An ink pen – blue.
2. A pencil.
3. A ruler.

TEACHER NOTES & INSTRUCTIONS

Please tick ✓ the correct answers in **RED INK** and then write the mark awarded in the marking columns. With multiple mark answers highlight where the mark is awarded by underlining or by using an extra tick.

FOR ADMIN ONLY

MARKING RECORD

Section	Section TOTALS
Section 1	
Section 2	
Section 3	
MARKER SIGNATURE	TOTAL MARKS
MODERATOR SIGNATURE	

SECTION 1 – Multiple choice

Choose and circle the correct answer – A, B, C or D. (1 mark each)

Example: To draw something freehand.

- A. sketch
- B. evaluate
- C. research
- D. organize

1. The property of a material to return to its shape after a force is applied.
 - A. durability
 - B. plasticity
 - C. ductility
 - D. elasticity

2. The measure of a material's ability to withstand tensile stress.
 - A. ductility
 - B. malleability
 - C. fracture
 - D. plasticity

3. A term to describe how materials perform in everyday use.
 - A. elasticity
 - B. properties
 - C. toughness
 - D. hardness

4. The ability of a material to be stretched into another shape without breaking.
 - A. hardness
 - B. durability
 - C. malleability
 - D. elasticity

5. The most a solid may be stretched without permanent change of size or shape.
- A. plasticity
 - B. elastic limit
 - C. elasticity
 - D. ductility

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SECTION 2 – True or False

Choose and circle the correct answer TRUE or FALSE. (1 mark each)

Example:

- Aluminium is a non-ferrous metal.

TRUE

FALSE

1. A variable resistor can change electrical current.

TRUE

FALSE

2. Tolerance indicates the variance of a resistor.

TRUE

FALSE

3. A multimeter can measure electromagnetism.

TRUE

FALSE

4. An LED has three terminals.

TRUE

FALSE

5. Current is measured in volts.

TRUE

FALSE

/ 5

SECTION 3 – Core content

1a – List three electronic components used in a basic electrical light circuit.

(3 marks)

1b – Draw the electronic symbol for an LED.

(2 marks)

/ 5

2a – Describe the function of a transistor.

_____ (2 marks)

2b – Write the names of the three terminals found on a transistor.

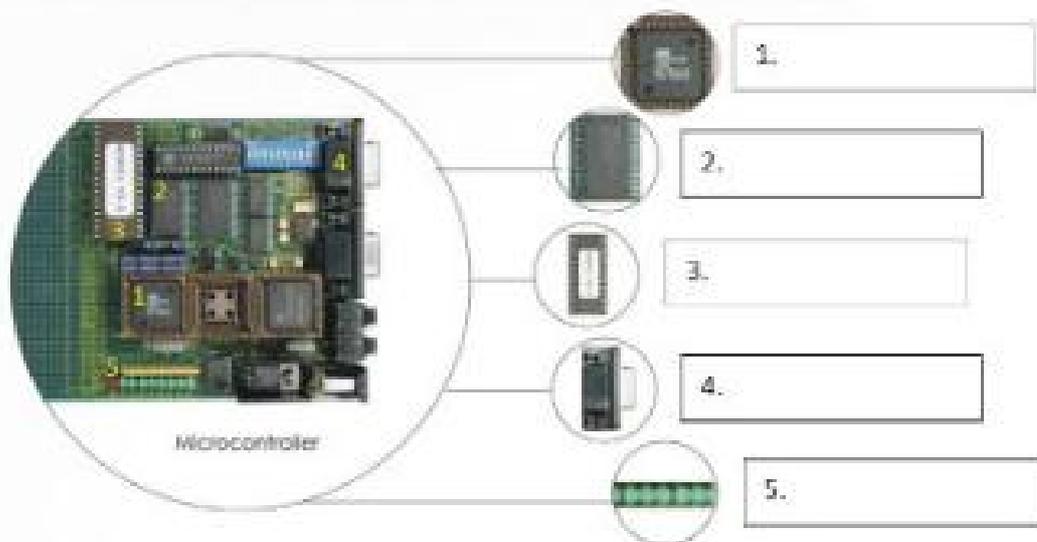
Terminal 1 _____

Terminal 2 _____

Terminal 3 _____ (3 marks)

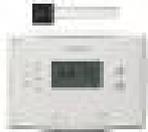
/ 5

3 – Label each component of the microcontroller with its function or name. (10 marks)



/ 10

4a – Identify the units of the air conditioner shown below. (3 marks)

			A		
A	B	C	B		
			C		

4b – Suggest suitable uses or processes for each of the parts A, B & C.

Part A _____

Part B _____

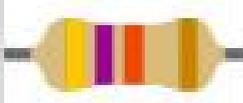
Part C _____ (6 marks)

4c – The units shown in 4a is a(n) _____ system. (1 mark)

/ 10

5 – Match the term or image in the table below with its name. (10 marks)

Write the matching letter in the correct box. The first one has been done for you.

COMPONENT	Symbol letter	SYMBOL / COMPONENT	
1. resistor	F		A
2. Ohms		The rate at which electric charge flows through a circuit.	B
3. multimeter			C
4. current		A device used to measure electrical values	D
5. transistor		The term used to describe measurable resistance..	E
6. LDR			F

/ 10

TOTAL
/ 50

You have now finished the examination.



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