United Arab Emirates
Ministry of Education

الإمـارات العـربيـة المتحدة
وزارة التربيـــة والتعليـــم

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.
It may not reflect the content for the final examination. Please refer to the coverage documents.
Section 3 - Q2 – Requires colour printing OR for the Resistor colour coding chart to be displayed.

Creative Design & Innovation

11 General

Sample - Term 2

Date: February 2018

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: *An electrical component which opens or closes a circuit.*

A. speaker
B. bulb
C. switch
D. battery

1. Electrical circuits require the flow of _____.

   A. newtons
   B. electrons
   C. protons
   D. neutrons

2. What is an LED?

   A. Light Even Diode
   B. Light Engaged Diode
   C. Light Emerging Diode
   D. Light Emitting Diode

3. Analogue signals have _____ values.

   A. infinite
   B. limited
   C. defined
   D. additional

4. Digital signals use _____.

   A. 1's & 2's
   B. -1 & 0
   C. -1 & +1
   D. 0's & 1's

5. Which letter represents current in Ohm's Law?

   A. C
   B. V
   C. I
   D. O

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SECTION 2 – True or False

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

Example:

- An input is information or data entered in a system — (TRUE) FALSE

1. Continuity mode on a Multimeter uses a diode symbol — TRUE FALSE
2. A Multimeter can measure Watts — TRUE FALSE
3. A microcontroller is a single chip microcomputer — TRUE FALSE
4. A microcontroller only uses RAM memory — TRUE FALSE
5. Processing is a series of actions leading to a result — TRUE FALSE

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SECTION 3 – Core content

1 – Complete the sentences below using **ONE** word for each.

Do not use the same word for more than one answer. **TWO** words will **NOT** be used.

coil	load	current	solid	switch	driver	sensing

a. A relay is an electromagnetic _____.

b. Every relay has a _____ unit.

c. In a relay there is a control circuit and a _____ circuit.

d. The control circuit controls the _____ in the other circuit.

e. A _____ state relay is made from semiconductor materials.

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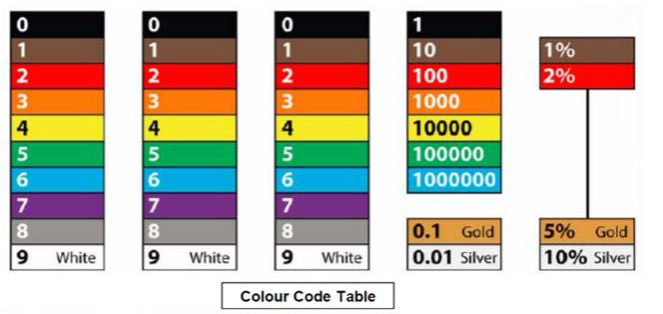
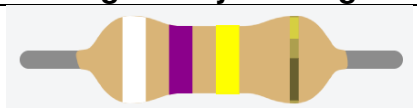
2a – Identify columns A & B shown in the resistor colour code table below. **(2 marks)**

1st Digit	2nd Digit	3rd Digit	A	B



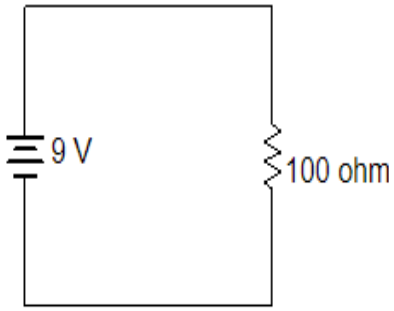
A	
B	

2b – What are the values of the resistors shown below. **(4 marks)**

 **Red / green / yellow / gold**	A	
 **White / violet / yellow / gold**	B	
 **Green / blue / red / gold**	C	
 **Green / violet / red / black / red**	D	

2c – In the box below write the formulae used to calculate Ohm's Law. **(2 marks)**

2d – Calculate the current flowing through the resistor in this circuit using Ohm's Law.



(2 marks)

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3 – Match the words with their definition or image. **(5 marks)**

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

TERM / COMPONENT	Symbol letter
1. Battery	F
2. Digital signal	
3. Analog signal	
4. Bulb	
5. CPU	
6. Ohms	

SYMBOL / COMPONENT	
	A
Ω	B
Central computer chip which acts as a brain in a system.	C
	D
A source of light energy	E
An electrical DC power source.	F

/ 5

You have now finished the examination.

TOTAL

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