

تم تحميل هذا الملف من موقع المناهج الإماراتية



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

Creative Design & Innovation  
11 Advanced  
Term 2 Examination  
Date: 7<sup>TH</sup> March 2018  
Time: 10 – 10.35 am  
Duration: 35 minutes

ADEC\_Demo11

<p>STUDENT INSTRUCTIONS – Students must attempt <b>all</b> questions. For this examination, you must have:</p> <ol style="list-style-type: none"> <li>1. An ink pen – blue.</li> <li>2. A pencil.</li> <li>3. A ruler.</li> </ol>
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<p>TEACHER NOTES &amp; INSTRUCTIONS</p> <p>Please tick ✓ the correct answers in <b>RED INK</b> and then write the mark awarded in the marking columns. With multiple mark answers highlight where the mark is awarded by <b>underlining</b> or by using an extra tick.</p>
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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: A 9V battery supplies -*

- A. AC
- B. SC
- C. DC
- D. a 12 V device

1. Which of the following processes is involved in making a product?
  - A. disassemble
  - B. manufacture
  - C. design
  - D. break
2. \_\_\_\_\_ is a manufacturing process.
  - A. Recycling
  - B. Testing
  - C. Casting
  - D. Programming
3. Which of the following is **NOT** a manufacturing process?
  - A. forming
  - B. machining
  - C. demolishing
  - D. joining
4. PWM stands for \_\_\_\_\_.
  - A. Pulse Wide Modulation
  - B. Pulse Width Modulation
  - C. Process Width Modulation
  - D. Pulse Width Manufacturing
5. Which component is used to generate pulses of variable duration?
  - A. variable resistor
  - B. capacitor
  - C. diode
  - D. 555 Timer

## SECTION 2 – Sequencing

Steps for designing of a Smart Hand.

(5 marks)

**READ** the **statements** in the given table and **WRITE** them in **correct order** in the spaces below.

**Stage 1** is completed as an example. **ONE** of the statements will **NOT** be used.

Design: sketch initial ideas after exploring sources of information	Movement: apply movement to the object using nitinol wires or servo motor
Analyse: find solutions to the problem online and use as your final idea	<del>Identify problem: calculate size of object to move</del>
Evaluate: reflect on success/failure of finished product	Manufacture: make 3D model of final solution from available materials
Investigation: look for existing solutions to this issue to inspire your unique idea	

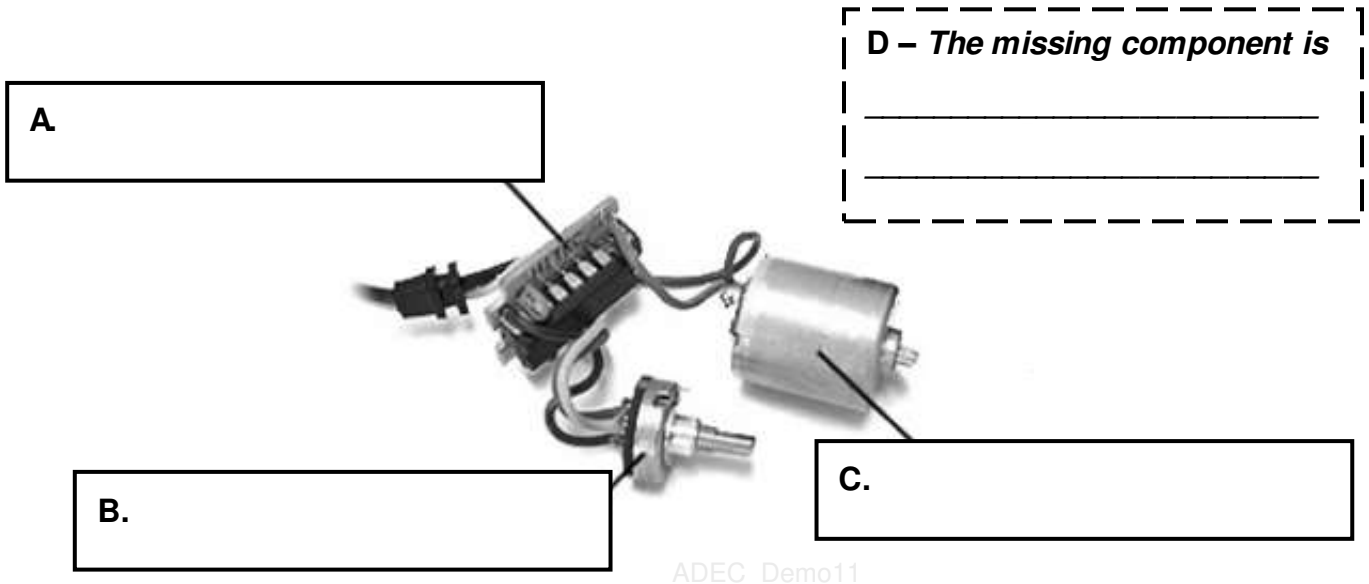
STAGE	ACTION / PROCESS
1	Identify problem: calculate the size of object to move
2	
3	
4	
5	
6	

/ 5

### SECTION 3 – Short Answer Questions

1a – Label the four parts of the electronic servo motor shown (Part D is not shown).

(4 marks)



1b – State one function of an electronic servo motor.

\_\_\_\_\_ (1 marks)

2a – What is Pressing / Stamping?

\_\_\_\_\_ (1 marks)

2b – State two types of Pressing / Stamping?

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

2. \_\_\_\_\_ (2 marks)

2c – Write down one advantage and one disadvantage of the laser cutting process.

(2 marks)

Advantage \_\_\_\_\_

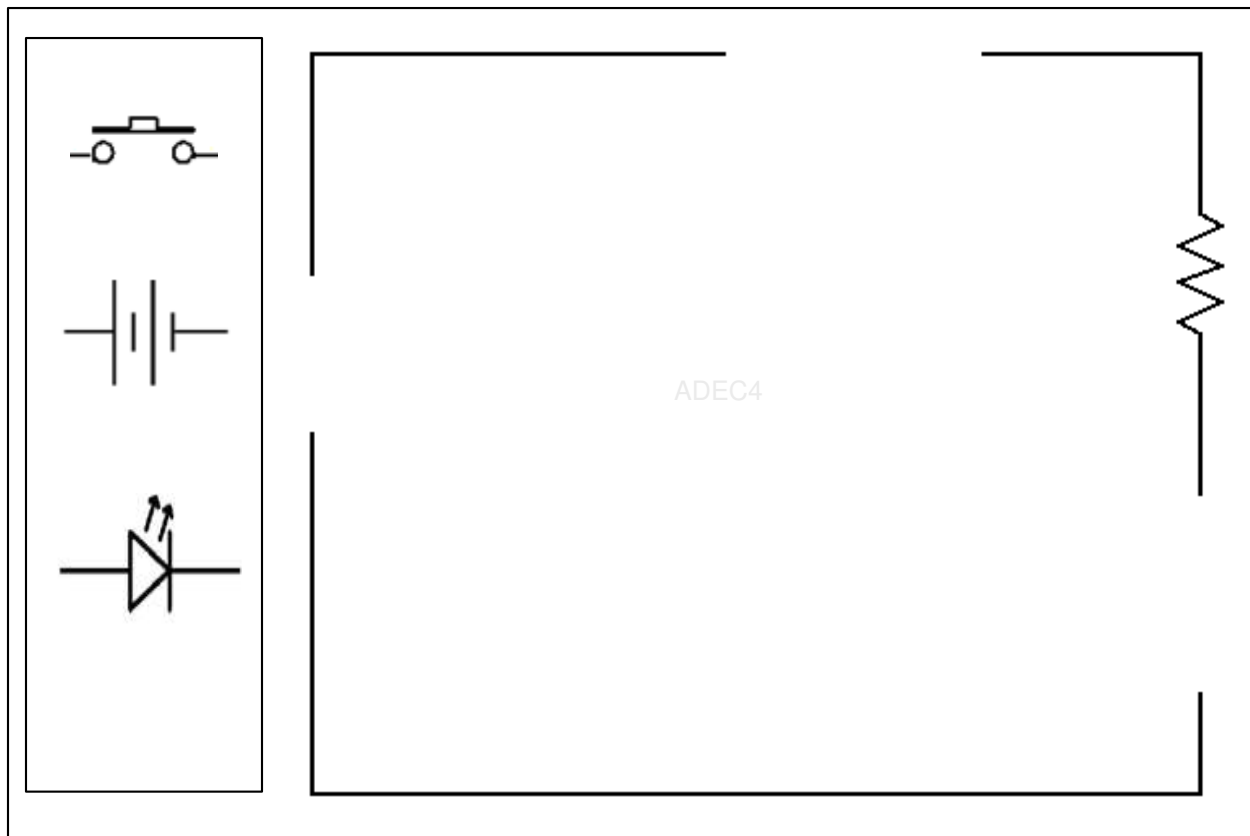
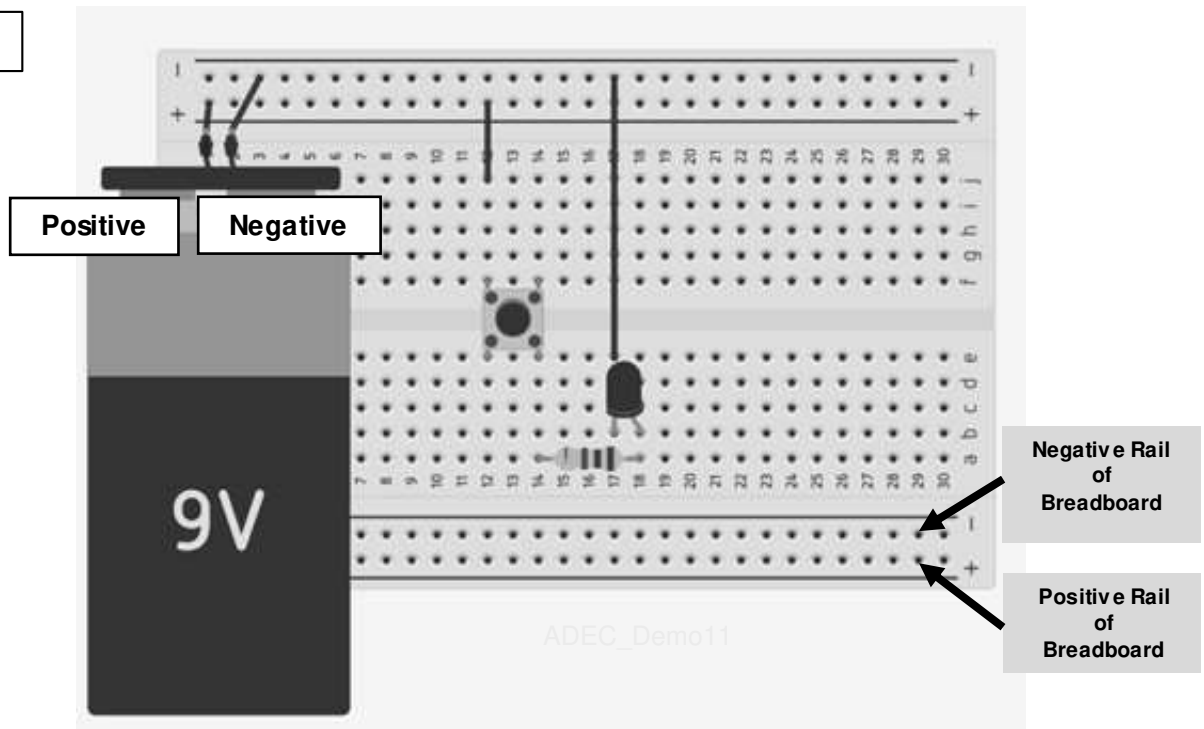
Disadvantage \_\_\_\_\_

**/ 10**

## SECTION 3 – Schematic

3– Look at Fig.1 and complete the schematic diagram using the symbols given in the bank below. (5 Marks)

Fig.1






/ 5

## SECTION 3 – Matching

4 – Match the terms with their definition or image.

(5 marks)

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

TERM	Symbol letter	Option	DEFINITION / IMAGE
Voltmeter	F	A	A shape memory alloy
Push Button		B	
Product		C	Device used to measure electrical values
Nitinol		D	
Capacitor		E	ADEC_Demo11 A piece of work made for sale
Multimeter		F	

You have now finished the examination.

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<b>TOTAL</b>
/ 30

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