



NZQA accredited and registered provider

PRACTICE PAPER ONLY

Test Paper One / Time allowed 90 mins

To be completed by the student

Student Name _____ **Date** __ / __ /2021

School/Provider _____

To be completed by the School Invigilator/Coordinator/Tutor

I confirm that this assessment was completed by the student named above as a closed book exercise under exam conditions

Invigilator Name _____

Invigilator Sign _____

Assessed By _____

Date __ / __ / 2021

**Assessor's
Stamp**

Assessors Note: Materials relate to unit standard 30571

SAMPLE ASSESSMENT INSTRUCTIONS

PLEASE MAKE SURE YOU READ AND SIGN THIS SECTION

ASSESSMENT INSTRUCTIONS

- Before starting this assessment you should have achieved a mark of at least 80% for your workbook.
- Use a black or blue ball point pen. (do not use pencil)
- Write your full name on the cover page.
- This is a closed book assessment, so you cannot bring any reference material in, or seek help from anyone else.
- You need to answer all the questions.
- Read the questions carefully, and give detailed answers when asked to.
- You must complete the assessment under exam conditions.
- To achieve the unit standard you must show competency for each outcome.

Complete the following by circling Yes or No as appropriate:

Are you ready to be assessed? **Yes No**

Have the assessment instructions these been explained to you? **Yes No**

Do you understand the assessment instructions? **Yes No**

Have you all the materials/resources that you need for this assessment? **Yes No**

Please sign to acknowledge that you have read these instructions and are ready to be assessed.

Student Signature: _____ **Date:** _____

You must complete the assessment instructions on Page 2 before starting this assessment!

ELEMENT ONE

Demonstrate knowledge of automotive electrical principles

1. What does the term “conventional current flow” mean?

2. What does the term “electron current flow” mean?

3. Describe the properties of each of the following:

Conductor _____

Insulator _____

Electron _____

Proton _____

4. Which ONE of the following statements is true? Please circle A, B or C.
- A A semi conductor is a material that can act as both a conductor and insulator.
- B A semi conductor can only act as a conductor.
- C A semi conductor can only act as an insulator.

5. Explain what is meant by the following electrical terms:

EMF _____

Counter EMF _____

Attraction and repulsion of charges _____

Potential difference _____

6. Show the symbol and describe what each unit measures:

	Symbol	What it measures?
Amp		
Ohms		
Hertz		
Volt		
Watt		
Farad		

7. Describe three characteristics of a series circuit.

1. _____

2. _____

3. _____

8. Describe three characteristics of a parallel circuit.

1. _____

2. _____

3. _____

9. What is an open circuit and what effect will it have on current flow in the circuit?

10. What is a short to ground and what effect will it have on current flow in the circuit?

11. Briefly explain each of the following terms and provide an automotive example of each:

Load device _____

Automotive example: _____

Power sources _____

Automotive example: _____

Protection devices _____

Automotive example: _____

Conductors _____

Automotive example: _____

Controls _____

Automotive example: _____

12. What does OHMS law say about the relationship between Volts, Amperes and Ohms?

13. Briefly describe each of the following resistors and provide an automotive example of each.

Carbon pile resistor: _____

Automotive example: _____

Wire wound resistor _____

Automotive example: _____

Variable resistor _____

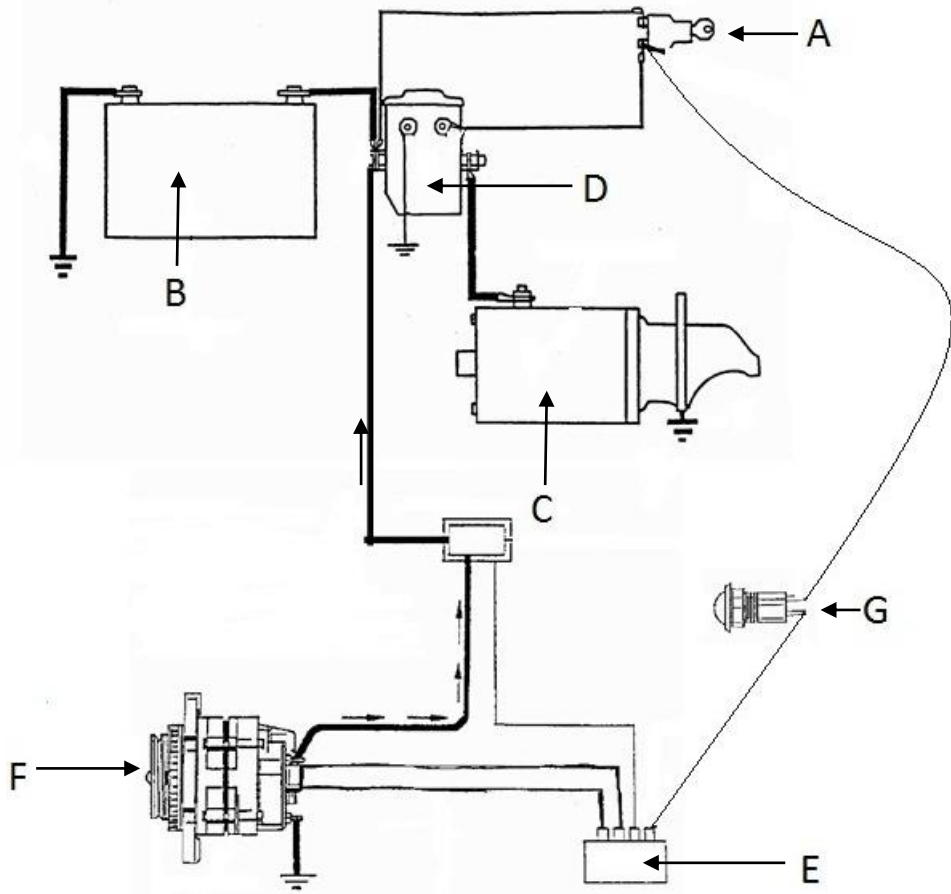
Automotive example: _____

14. Explain why manufacturers place coloured bands on colour coded resistors

15. Complete the following table by explaining each capacitor function and providing an automotive example for each.

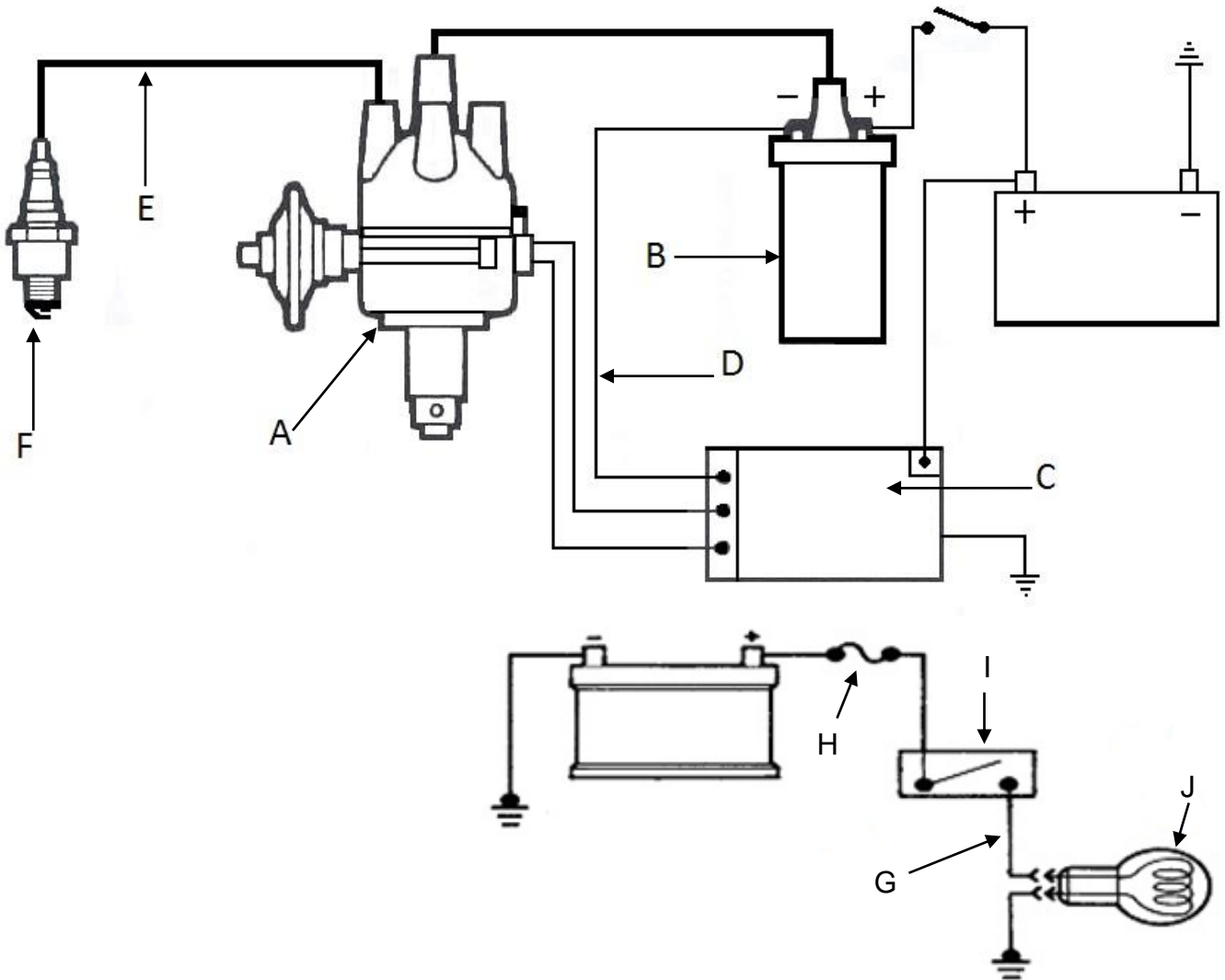
Function	Explanation	Automotive example
Storage		
Smoothing		
Suppression		

16. Identify the components labelled A-G in the diagram below of starting and charging systems.



A	
B	
C	
D	
E	
F	
G	

17. Identify the components labelled A-J in the diagrams below.



A		B	
C		D	
E		F	
G		H	
I		J	



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473 Te Rapa Road, PO Box 10-244, Hamilton 3241
phone 07 849 9828 | gateway@fairviews.co.nz