



UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION
SEPTEMBER 2013 SESSION

SUBJECT CODE : FVB 11504
SUBJECT TITLE : AUTOTRONIC 1
LEVEL : BACHELOR
TIME / DURATION : 3 HOURS
DATE :

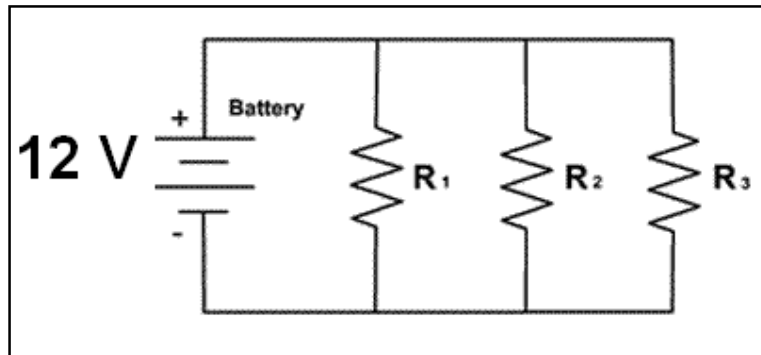
INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
 2. This question paper is printed on one side of the paper.
 3. Please write your answers in the answer booklet provided.
 4. Answer should be written in blue or black ink except for sketching, graphic and illustration.
 5. This question paper consists of TWO (2) sections, Section A and B. Answer all questions in Section A and answer THREE (3) questions only in Section B.
 6. Answer all questions in English.
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THERE ARE 5 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A: (Total: 40 Marks)**INSTRUCTION: Answer All questions.****PLEASE USE THE ANSWER BOOKLET PROVIDED****Question 1**

1. What are the **FIVE (5)** main parts of the engine electrical system?
(5 marks)
2. What are the **THREE (3)** main requirements for electromagnetic induction (emf) or voltage?
(6 marks)
3. If the resistor shown in **Figure 1** were to be $R_1 = 2$ ohms, $R_2 = 4$ ohms and $R_3 = 6$ ohms, what is the current flow in the circuit?
(4 marks)

**Figure 1**

4. With the aid of diagram, explain how an ammeter and a voltmeter are connected to a circuit?
(5 marks)

Question 2

1. What is a scan tool and how is it connected

(2 marks)

2. List **TWO (2)** mode selector that available at the Digital Multimeter (DMM).

(2 marks)

3. Explain how to check the density of the electrolyte.

(6 marks)

4. **Figure 2** shows the performing checking resistance by using Digital Multimeter (DMM). Explain the procedure to measure resistance by using Digital Multimeter (DMM).

(10 marks)

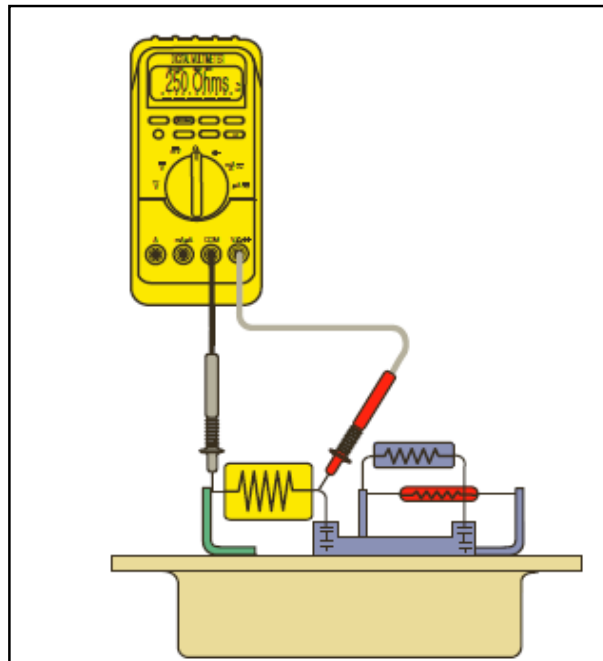


Figure 2

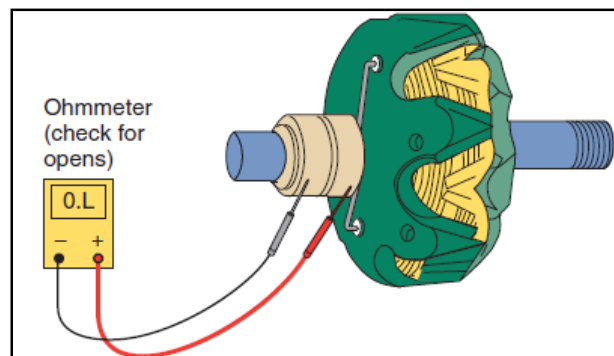
SECTION B (Total: 60 Marks)**INSTRUCTION: Answer THREE (3) questions only.****Please use the answer booklet provided.****Question 3**

1. What are particular safety precautions should be observed when using jumper that leads to emergency starting?

(8 marks)

2. **Figure 2** shows the procedure to a rotor for short to ground. Explain the procedure to perform this test.

(8 marks)

**Figure 2**

3. **Figure 3** shows the ISO relay List and identifies the terminals of a typical ISO relay.

(4 marks)

**Figure 4**
Figure 3

Question 4

1. With the aid of diagram, explain how to set-up / connect the additional relay in Starting System.
(10 marks)
2. Describe the procedure to diagnose a turn signal operating problem?
(4 marks)
3. Describe **TWO (2)** common types of spark plug fouling and the typical problem fouling indicates.
(6 marks)

Question 5

1. With the aid of a diagram, explain the operation of the conventional distributor ignition system.
(10 marks)
2. With the aid of diagram, explain how to set-up / connect the additional relay in headlamp circuit.
(10 marks)

Question 6

1. Describe to activate dry-charged battery before use?
(8 marks)
2. Explain what occurs inside a starter solenoid when the ignition key is turned to start.
(4 marks)
3. With the aid of diagram, explain the action of a simple alternator.
(8 marks)

Question 7

1. If an engine will not start because of a discharged battery, what can be done to rectify the problem?

(4 marks)

2. With the aid of diagram, explain how distributorless ignition system is operated.

(10 marks)

3. By referring to **Figure 4**, indicate how a right turn would be signalled.

(6 marks)

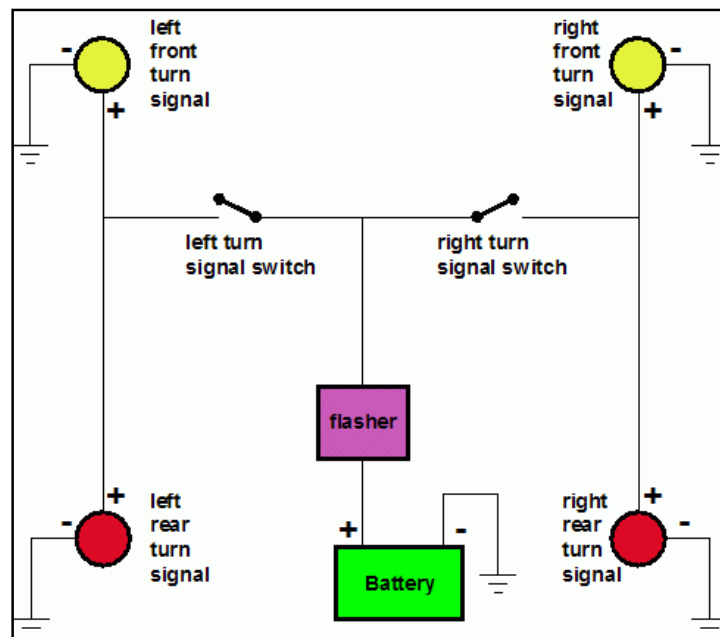


Figure 4

END OF QUESTION