



**UNIVERSITI KUALA LUMPUR
Malaysia France Institute**

**FINAL EXAMINATION
SEPTEMBER 2014 SESSION**

SUBJECT CODE	: FVB20603
SUBJECT TITLE	: AUTO AIR CONDITIONING AND CLIMATE CONTROL SYSTEM
LEVEL	: BACHELOR
TIME / DURATION	: 2.00 PM – 4.30 PM (2.5 HOURS)
DATE	: 5 JANUARY 2015

INSTRUCTIONS TO CANDIDATES

- 1. Please read the instructions given in the question paper CAREFULLY.**
 - 2. This question paper is printed on both sides of the paper.**
 - 3. Please write your answers on 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. For Section B, answer any THREE (3) questions only.**
 - 6. Answer all questions in English.**
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THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 40 marks)**INSTRUCTION: Answer all the questions.****Please use the answer booklet provided.****Question 1**

- a) Explain in detail the differences between the Conventional and a Climatic Control automotive air-conditioning system. (10 marks)
- b) Explain briefly the working principle of a car air-conditioning system for the followings:
- (i) All the components and their functions (5 marks)
 - (iii) The condition of the refrigerant in the evaporator and condenser. (5 marks)

Question 2

- a) List **SIX (6)** common automotive car air-conditioning failures. (6 marks)
- b) Explain why does the car air-conditioning system needs to be serviced (4 marks)
- c) Explain the working principles of an accumulator and a filter drier (8 marks)
- d) Sketch a diagram to show the position of the accumulator and filter drier. (2 marks)

SECTION B (60 marks)**INSTRUCTION: Answer any THREE (3) questions only****Question 3**

- a) Explain briefly the working principle of an automatic recycle charging machine
(10 marks)
- b) Explain the advantages of using the recycle charging machine as compared to the used of manifold gauge for charging refrigerant.
(10 marks)

Question 4

- a) List **EIGHT (8)** most common areas where leak is detected in most transport air-conditioning system.
(8 marks)
- b) Explain the methods and action to be taken to prevent leakages in the system
(12 marks)

Question 5

For servicing a car air-conditioning system, explain each of the process below:

- (i) the safety procedures
(2 marks)
- (ii) all the required tools and equipments
(3 marks)
- (iii) the cleaning process
(5 marks)
- (iv) the charging process
(10 marks)

Question 6

a) List the electrical components of climatic control car air-conditioning system.

(10 marks)

b) Sketch a basic diagram and explain the function of the components when the system is switched on.

(10 marks)

END OF QUESTION