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.

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