



**UNIVERSITI KUALA LUMPUR
Malaysia France Institute**

**FINAL EXAMINATION
JULY 2010 SESSION**

SUBJECT CODE : FVD 20702
SUBJECT TITLE : AUTOMOTIVE AIR CONDITIONING SYSTEM
LEVEL : DIPLOMA
TIME / DURATION : 12.30pm – 2.30pm
(2 HOURS)
DATE : 10 NOVEMBER 2010

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 questions paper consists of **FOUR (4)** questions. Answer all questions.
 6. Answer all questions in English.
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THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

Answer ALL questions.**Question 1**

Explain how to carry out the following tasks on a vehicle: -

- (a) To discharge the air conditioning system using manifold gauge. (5 marks)
- (b) To evacuate the air conditioning system. (13 marks)
- (c) To recharge the air conditioning system (7 marks)

Question 2

- (a) Too much refrigerant in refrigeration system will cause a problem. State the problem that will occur **AND** give your reason for your answer. (5 marks)
- (b) Draw a block diagram of a refrigeration circuit **AND** indicate the temperature, pressure and state of the refrigerant. (10 marks)
- (c) List down the **procedure** for checking the sufficient refrigerant charged into the refrigerant circuit. (10 marks)

Question 3

- (a) List down all the main components of a refrigeration system and explain the function of each component listed. (10 marks)
- (b) Name 5 types of air conditioning compressor. (5 marks)
- (c) What will happen if the quantity of compressor oil is inadequately filled while replacing the compressor lubricant? (2 marks)

- (d) Why is the desiccant placed in a receiver dryer?
(1 marks)
- (e) Explain the function of a magnetic clutch?
(3 marks)
- (f) In a refrigerant circuit, explain why high pressure switch and low pressure switch are necessary.
(4 marks)

Question 4

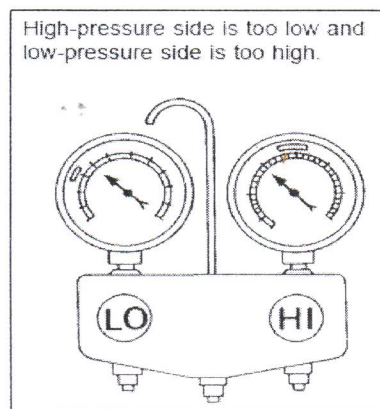


Figure 1

- (a) The reading of a manifold gauge when connected to the refrigeration system is shown in figure 1 where the pressure on low pressure side is too high and it is too low on high pressure side. From the above reading, explain the possible causes **AND** give the possible corrective action.
(16 marks)

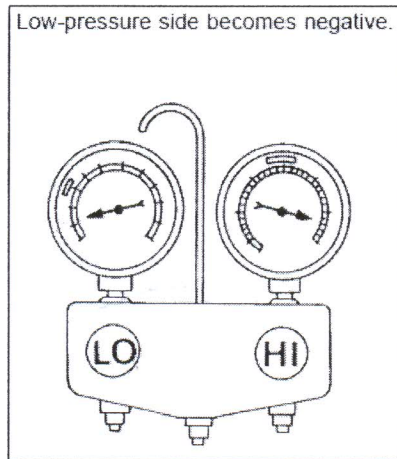


Figure 2

- (b) What will be the assumption that you can make from the figure 2 reading? What is the possible cause **AND** explain the correct action to be taken.

(9 marks)

END OF QUESTION