



UNIVERSITI KUALA LUMPUR
MALAYSIA FRANCE INSTITUTE

FINAL EXAMINATION
JANUARY 2011 SEMESTER

SUBJECT CODE : FRB 10402
SUBJECT TITLE : REFRIGERANT FLUID
LEVEL : BACHELOR
DURATION : 8.00pm – 10.00pm
(2 hours)
DATE / TIME : 09 MAY 2011

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 two (2) question only.
6. Answer all questions in English.

THERE ARE 3 PRINTED PAGES OF QUESTIONS AND 2 PAGES OF APPENDIX, EXCLUDING THIS PAGE.

Section A : (60 marks)**INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.****QUESTION 1**

- (a) List seven (7) desired properties of refrigerant?
(7 marks)
- (b) Explain the phase change of refrigerant in refrigeration cycle.
(3 marks)
- (c) Explain the function of accessories in refrigeration and air conditioning systems as below:
(i) Suction line accumulator
(ii) Oil Separator
(iii) Liquid line Solenoid Valve
(10 marks)

QUESTION 2

- (a) Describe the refrigerating properties of ammonia for use in domestic and commercial type of refrigerating appliances.
(5 marks)
- (b) Discuss from the economical point of view whether sulphur dioxide or carbon dioxide is preferred as refrigerant.
(5 marks)

QUESTION 3

Consider a refrigerant system using refrigerant R22 as the working fluid. If the refrigerator is to operate in an environment at 35°C, determine:

- (a) what is the minimum pressure to which the refrigerant should be compressed?
(5 marks)
- (b) Why?
(5 marks)

QUESTION 4

- (a) What is an azeotrope? (5 marks)
- (b) Give some examples to indicate its importance. (5 marks)

QUESTION 5

- (a) What is function of refrigerant oils in refrigeration process? (3 marks)
- (b) List 7 Characteristics of Ideal Refrigerant Oil. (7 marks)

