



**UNIVERSITI KUALA LUMPUR**  
**MALAYSIA FRANCE INSTITUTE**

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**FINAL EXAMINATION**  
**JANUARY 2011 SESSION**

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**SUBJECT CODE** : FRB30303  
**SUBJECT TITLE** : PRODUCTION OF REFRIGERATION  
**LEVEL** : BACHELOR  
**TIME/DURATION** : 9.00 am – 12:00 pm  
3 HOURS  
**DATE** : 9 May 2011

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**INSTRUCTIONS TO CANDIDATES**

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1. All documents authorized (Open Book Examination)
2. Please read the instructions given in the question paper CAREFULLY.
3. This question paper is printed on both sides of the paper.
4. Please write your answers on the answer booklet provided.
5. Answer should be written in blue or black ink except for sketching, graphic and illustration.
6. This question paper consists only one section. Answer all questions.
7. Answer all questions in English.

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THERE ARE 3 PRINTED PAGES OF QUESTIONS AND 5 PAGES OF APPENDICE, EXCLUDING THIS PAGE

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**INSTRUCTION: Answer ALL questions.**

**Please use the answer booklet provided.**

We consider a replacement of R-22 by R-507 in a chiller. The technical file of this installation was missing; we measure as per experiment below:

Refrigerating circuit:

Measurements were taken and recorded in the table as in appendix 1. It is noticed that the point of real discharge of the compressor is confused with isentropic discharge.

Evaporator

Glycol water inlet/ outlet:  $-15^{\circ}\text{C}/-20^{\circ}\text{C}$

Air cooled condenser

Air inlet /outlet:  $25^{\circ}\text{C}/32^{\circ}\text{C}$

In addition, the table of the performances of the compressor is given in appendix 2.



