



**UNIVERSITI KUALA LUMPUR**  
**Malaysia France Institute**

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**FINAL EXAMINATION**  
**JULY 2010 SESSION**

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**SUBJECT CODE** : FCD 30402  
**SUBJECT TITLE** : BUILDING MANAGEMENT SYSTEM  
**LEVEL** : DIPLOMA  
**TIME / DURATION** : 12.30pm – 2.30pm  
( 2 HOURS )  
**DATE** : 10 NOVEMBER 2010

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**INSTRUCTIONS TO CANDIDATES**

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1. Please read the instructions given in the question paper CAREFULLY.
2. The question paper is printed on both sides of the paper.
3. Please write your answers on the answer booklet provided.
4. Answers should be written in blue or black ink except for sketching, graphic and diagram.
5. The 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. All questions are in English.

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PAGES OF QUESTIONS AND 1 PAGES OF APPENDIX, EXCLUDING THIS PAGE.

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**SECTION A (Total: 60 marks)**

**INSTRUCTION: Answer ALL questions.  
Please use the answer booklet provided.**

**Question 1**

- a) What is BMS? (2 marks)
  
- b) What is the definition of intelligent building? (8 marks)
  
- c) List down five (5) the benefit of intelligent building management system? (10 marks)

**Question 2**

- a) Explain the function of these measurement control
- i) Temperature sensor (2 marks)
  - ii) Pressure sensor (2 marks)
  - iii) Flow rate sensor (2 marks)
  - iv) Thermostat sensor (2 marks)
  - v) Hygrostat sensor (2 marks)
- b) List down 5 common control strategies in BMS to save energy. (10 marks)

**Question 3**

- a) List down five (5) purpose of Intelligent Building Management System for Heating Ventilation Air-conditioning System (HVAC)? (10 marks)
- b) List down five (5) current problem for Building management system? (10 marks)

**SECTION B (Total: 40 marks)****INSTRUCTION: Answer only TWO questions.****Please use the answer booklet provided.****Question 4**

- a) List down six (6) management software strategies of Building management system for Air-conditioning system. (12 marks)
- b) What is the function of control strategies below:
- i) Schedule control (2 marks)
  - ii) Optimum start/ stop (2 marks)
  - ii) Reset schedule (2 marks)
  - iv) Lead / Lag (2 marks)

**Question 5**

a) List down two (2) function of CO<sub>2</sub> sensor? (5 marks)

b) List down two (2) function of VOC sensor? (5 marks)

c) Based on the diagram shown in figure Q5, explain the terminology of typical control system to cool the air. (10 marks)

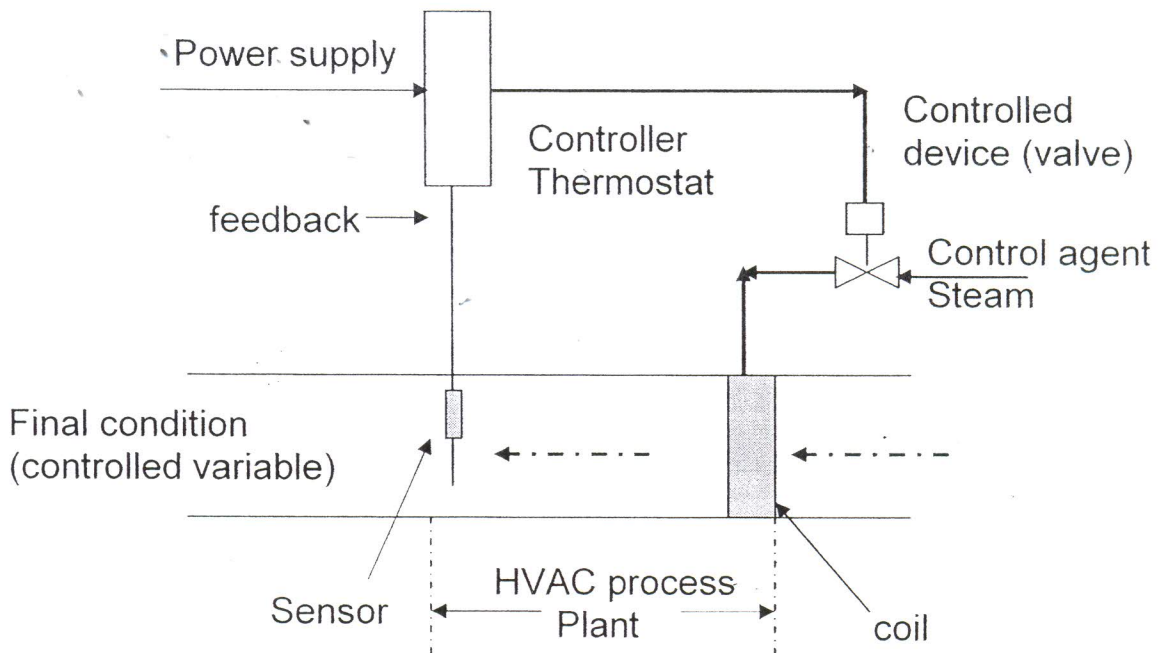


Figure Q5: Typical Control System

Question 6

- a) Design a control system by using Direct digital control (DDC) and decide the pattern to be measured in figure Q6, (picture in Appendix 1)

(20 marks)

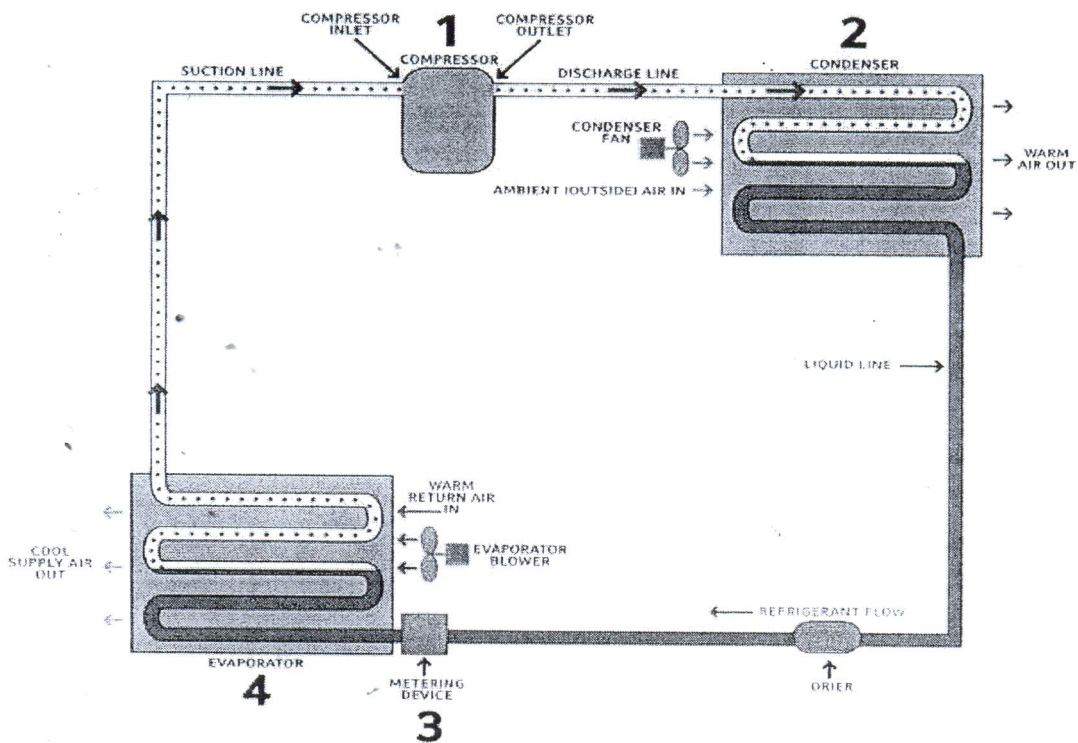


Figure Q6: Schematic drawing of basic Air-Conditioning system

END OF QUESTION

Appendix 1

