



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

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

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**SUBJECT CODE** : FCD 30402  
**SUBJECT TITLE** : BUILDING MANAGEMENT SYSTEM  
**LEVEL** : DIPLOMA  
**TIME / DURATION** : 9.00am – 11.00  
( 2 HOURS )  
**DATE** : 11 MAY 2011

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**INSTRUCTIONS TO CANDIDATES**

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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) questions only.
6. Answer all questions in English.

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THERE ARE 4 PAGES OF QUESTIONS, 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 IBMS. (2 marks)
- (b) What is the definition of intelligent building. (8 marks)
- (c) What is the benefit of intelligent building management system. (10 marks)

**Question 2**

- (a) What is the definition of Direct Digital Control (DDC)? (6 marks)
- (b) State six (6) components in Direct Digital Control? (6 marks)
- (c) Provide the detailed definition for four(4) components from question 2(b)? (8 marks)

**Question 3**

- (a) List the four (4) components of control in a HVAC system?  
(4 marks)
  
- (b) Describe the function of the four (4) components from question 3(a)?  
(8 marks)
  
- (c) Explain the purpose of Intelligent Building Management System for Heating Ventilation Air-conditioning System (HVAC).  
(8 marks)

**SECTION B (Total: 40 marks)**

**INSTRUCTION: Answer only TWO questions.**

**Please use the answer booklet provided.**

**Question 4**

- (a) Sketch and state the components in detail schematic diagram of the Basic control loop for an Air Handling Unit.  
(5 marks)
  
- (b) Sketch and state the component in detail schematic diagram of Direct digital control loop for Air Handling Unit.  
(5 marks)
  
- (c) List four (4) items, which shows the difference in operation between Basic Control Loop and Direct digital control loop?  
(10 marks)

**Question 5**

- (a) What are the four (4) functions of management software  
(4 marks)
- (b) State 8 common benefit for management software  
(16 marks)

**Question 6**

- (a) Draw a schematic diagram and state the component name of Building Automation System (BAS) with their sensor for an Air Handling Unit (AHU) that uses VAV system and Temperature Control.  
(20 marks)

**END OF QUESTION**

Appendix 1

