MCAH 302

Third Semester M.C.A. Degree Examination, December 2018
OBJECT ORIENTED DATA MODELING USING UML

Time : 3 Hours   Max. Marks : 70

*Note : Answer **any five** questions. **All** questions carry **equal** marks.*

1. a) Explain in detail the various generations of programming languages.   **7**

   b) What are the three types of class relationships ? Illustrate with suitable examples.   **7**

2. a) "Abstraction and encapsulation are complementary concepts; Abstraction, encapsulation and modularity are synergistic concepts" – Justify this statement.   **7**

   b) Explain in detail the five metrics that measure the quality of abstraction.   **7**

3. a) What is metadata ? Explain the concept of patterns and metadata with appropriate examples.   **7**

   b) Draw the functional model of flight simulator and briefly explain a sample functional model.   **7**

4. a) What is aggregation ? How it differs from association and generalization ? Explain.   **7**

   b) What is nested state diagram ? Explain the state generalization and event generalization with suitable diagrams.   **7**

5. a) What is problem statement ? Explain the problem statement for an Automated Teller Machine (ATM) network with suitable figure.   **7**

   b) Discuss how the object-oriented technique could be applied in other areas such as language design, knowledge representation and haradware design. **7**

6. a) What are the three kinds of control for external events in the system ?
 Explain. **7**

 b) What is system design ? Explain the system architecture and the
 decisions involved in the design stage. **7**

7. a) Explain the steps of object design with suitable example. **7**

 b) What are the considerations that apply to implementing an object-oriented
 design in an object oriented-language ? Explain. **7**

8. a) Explain the implementation of object-oriented design in various target
 languages with suitable example. **7**

 b) What is reusability ? What are the kinds of reusability ? Explain the style
 rules for reusability with suitable example. **7**

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