

**DIPLOMA - VIEP - COMPUTER SCIENCE AND  
ENGINEERING (DCSVI)**

**Term-End Examination**

**June, 2015**

00044

**BICS-035 : JAVA BASIC AND OBJECT MODELING  
DESIGN**

*Time : 2 hours*

*Maximum Marks : 70*

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*Note : Attempt any five questions. Question no. 1 is compulsory. All questions carry equal marks.*

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1. Explain the following :

7×2=14

- (a) Active Class and its UML notation
- (b) Metadata
- (c) Liskov's Substitution Principle
- (d) Using relationship
- (e) Runtime Polymorphism
- (f) Grouping Constructs
- (g) Packages

2. (a) What is an exception ? How is it different from error ? Explain about the exception handling mechanism in detail. 7
- (b) How is branching represented in an activity diagram ? Elaborate on it. 7
3. (a) What is the semantic equivalence between sequence diagrams and collaboration diagrams ? 7
- (b) Explain the following illustrating interaction diagrams : 7
- (i) Focus of Control
- (ii) Object Lifeline
- (iii) Path
4. (a) What is meant by overloading ? Explain how a method and a constructor are overloaded. Explain with an example. 7
- (b) Compare and contrast Class and Interface. 7
5. (a) What is generalization / specialization hierarchy ? Give an example with a diagram. 7
- (b) Give examples and diagrams for UML notation of various relationships, one for each relationship. 7

6. (a) Explain the various modeling techniques with suitable diagrams. 7
- (b) What are the characteristics and common uses of a well-structured deployment diagram? 7
7. (a) Draw a state machine for the controller in a home security system. 7
- (b) Discuss the significance of a state chart diagram in object oriented analysis and design and its common modeling techniques. 7
8. Discuss about the following :  $2 \times 7 = 14$
- (a) Unified Software Development Lifecycle
- (b) Conceptual Model of UML
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