BICSE-010

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

June, 2016

00156

BICSE-010 : DATA MODELLING AND UML

Time : 3 hours   *Maximum Marks : 70*

Note : *Answer any **seven** questions. All questions carry equal marks. Assume suitable missing data, if any.*

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1. (a) How does the object oriented approach differ from the traditional approach ? Why is reusability important ?   5

   (b) Is UML a programming language ? Is it process dependent or independent ? Name all the UML diagrams.   5

2. (a) Draw a class diagram for Library Management System.   5

   (b) What is the purpose of models in designing ? Which diagram(s) show(s) the concept of inheritance ? What are the challenges in designing with inheritance ?   5

3. (a) Activity diagrams may be used for different purposes during system development process. List four such purposes. *5*

(b) What are the similarities/dissimilarities between a sequence diagram and collaboration diagram ? *5*

4. (a) Can we have inheritance without polymorphism ? Explain. *5*

(b) Describe Booch Methodology for object oriented development. *5*

5. (a) What do you mean by an event in state diagram ? Discuss the various types of events. *5*

(b) What are the different criteria to keep the right association in domain class model ? *5*

6. (a) Explain the qualified association in class diagram with an example. *5*

(b) Explain 'ordered', 'bags' and 'sequences' in class diagram with example in each. *5*

7. (a) What do you mean by Aggregation ? What is the difference between Aggregation and Composition ? *5*

(b) Define Event, State and Transition with the help of a state diagram. *5*

8. (a) Describe Abstract Data Type (ADT). *5*

(b) Define "Solution Domain" in object oriented modelling approach. *5*

9. (a) Explain the use of the following concepts for activity diagram :
Synchronization bar, swimlane and sending-receiving signals. *5*

(b) Differentiate between Include relationship and Extend relationship with example. *5*

10. Write short notes on any *two* of the following : *2×5=10*

(a) System Models and Views

(b) Prototyping

(c) Events and Messages

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