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BICSE-010

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

00654

Term-End Examination

June, 2014

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.*

1. (a) What are the five constraints applied to association relationships ? Give a brief. 5

(b) What are the visibility specifiers used for classes and packages ? Explain. 5

2. Explain the following : $4 \times 2\frac{1}{2} = 10$

(a) Object oriented analysis

(b) Abstract data type

(c) Prototyping

(d) Aggregation

3. (a) What are the different ways of organizing use-cases ? 5

(b) Distinguish between action states and activity states. 5

4. (a) Briefly discuss about boundary classes, control classes and entity classes. Give suitable examples for them. 5

(b) Discuss about the Event classes with an example. 5

5. (a) Explain the classification of things with UML notation. *5*

(b) Explain about the extensibility mechanism in the UML. *5*

6. (a) Define Extend relationship. Give UML notation.

(b) Compare and contrast object model and dynamic model.

(c) Give an example diagram in UML that depicts all the four relationships.

(d) Contrast dependency vs association. $4 \times 2\frac{1}{2} = 10$

7. (a) Draw and explain a sequence diagram that specifies the flow of control involved in initiating a simple two party phone call system. *5*

(b) Differentiate between sequence and collaboration diagrams. *5*

8. (a) Enumerate the steps to model different views of a system. *5*

(b) Define idiom. Enumerate the steps to model structural relationships. *5*

9. (a) Draw a state machine for the controller in a home security system. *5*

(b) Explain the parts of transitions. *5*

10. Identify use-cases and actor for "online auction system". Discuss about the flow of events and scenarios for this system. *10*
