B.TECH. COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

December, 2013

BICSE-010 : DATA MODELLING AND UML

Time : 3 hours   *Maximum Marks : 70*

Note :   *(i)*   *Attempt **any seven** questions.*

      (ii)   *Assume suitable missing data, if any.*

      (iii)   *Each question **carry equal** marks.*

1. (a) Contrast: Object model vs data model, objects vs component.   5

   (b) What is object oriented design ? What is object oriented analysis ? How are objects and classes related ?   5

2. (a) Draw and explain a use-case diagram that depict the context of credit card validation system.   5

   (b) Enumerate the steps to model a workflow with referece to activity diagram.   5

3. (a) Define an event. What are the four kinds of events which can be modeled by UML ? Explain briefly.   5

   (b) Write the differences between class and abstract class.   5

4. (a) Enumerate any eight application domains **5** of UML.

    (b) Why is UML used? Explain with UML **5** notation the various relationships in UML.

5. (a) How are synchronous massages with/ **5** without call back mechanism depict in interaction diagram? Explain.

    (b) What is the semantic equivalence between **5** the two kinds of interaction diagrams?

6. Give appropriate illustrative UML diagrams, **10** enumerate the steps to model the following :

    (a) Physical database

    (b) Source code

7. (a) Discuss about the falicification and **5** prototyping in object oriented analysis and design.

    (b) Draw a class diagram for hospital **5** management system.

8. Contrast the following : **10**

    (a) Actors vs Stackholders

    (b) Usecase vs Algorithm

9. (a) Explain about the design guidelines that can 5
be used to generate sequence diagram.

(b) State the principles of modeling. **5**

10. Write short notes on : **4x2.5=10**

(a) Aggregration

(b) Solution domain

(c) Communication relationships

(d) Functional model

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