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BICSE-005

DIPLOMA – VIEP – COMPUTER SCIENCE AND ENGINEERING (DCSVI)

00566

Term-End Examination

December, 2014

BICSE-005 : OBJECT MODELING AND DESIGN

Time : 2 hours *Maximum Marks : 70*

Note : *Attempt any* ***five*** *questions. Question no.* ***1*** *is mandatory.*

1. Choose the correct answer : *7×2*

(a) In UML diagram of a class

(i) state of object cannot be represented

(ii) state is irrelevant

(iii) state is represented as an attribute

(iv) state is represented as a result of an operation

(b) Objects may be viewed as

(i) clients in a system

(ii) servers in a system

(iii) both clients and servers in a system

(iv) neither clients nor servers in a system

(c) The expansion of the acronym CRC is

(i) Collecting Responsibilities Classes

(ii) Collaborating with Relevant Classes

(iii) Class Responsibilities and Collaborators

(iv) Creating Relevant Classes

(d) Which process document describes design mechanisms, any mappings between design mechanisms and the details regarding their use ?

(i) Software architecture document

(ii) Design guidelines

(iii) Vision document

(iv) Soft development plan

(e) Which statement is true about design subsystems ?

(i) They partially encapsulate behaviour.

(ii) They represent an independent capability with clear interfaces.

(iii) They model single implementation variant.

(iv) They can only contain design classes.

(f) When identifying design elements, a simple analysis class will map to a(n)

(i) active class

(ii) design class

(iii) subsystem

(iv) interface

(g) Which diagram can be used to depict workflow for a particular business activity ?

(i) Class diagram

(ii) Object diagram

(iii) Activity diagram

(iv) State chart diagram

2. (a) Enumerate any eight application domains of UML. 7

(b) Why is UML used ? Explain all the UML notations and its purposes. 7

3. (a) Differentiate between aggregation and composition. 7

(b) Discuss Interfaces, its types and roles. 7

4. (a) Draw a class diagram for a school management system. Specify clearly relationships among classes, attributes and operations in each class. 7

(b) What do you mean by a component ? What is the difference between components and classes ? 7

5. (a) State the principles of modeling. 7

(b) Explain why UML is use-case driven, architecture-centric, iterative and incremental. 7

6. (a) Explain the eight stereotypes that apply to dependency relationships among classes and objects in class diagrams. *10*

(b) Discuss the significance of state chart diagram for object-oriented analysis design. *4*

7. (a) How will a recursion be represented in a sequence diagram ? Explain with the help of an example. *7*

(b) Explain about the different behavioural diagrams in UML with neat sketch. *7*

8. (a) Briefly discuss the boundary classes, control classes and entity classes. Give suitable examples for them. *7*

(b) Model the context of credit card validation system. *7*
