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BICS-035

DIPLOMA – VIEP – COMPUTER SCIENCE AND ENGINEERING (DCSVI)

Term-End Examination

December, 2015

BICS-035 : JAVA BASIC AND OBJECT MODELING DESIGN

Time : 2 hours *Maximum Marks : 70*

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

1. (a) What is an infinite loop ?

   (i) A loop that functions infinitely well

   (ii) A loop that runs forever

   (iii) A loop that never starts

   (iv) A loop that will never function

   (b) If S = "text", what is the value returned by S. length( ) ?

   (i) False

   (ii) True

   (iii) 4

   (iv) 5

(c) A data item that can only be used within a method is called

(i) a local variable

(ii) an instance variable

(iii) a global variable

(iv) a private variable

(d) Which of the following is a correct JAVA code ?

(i) int[10] list;

(ii) int list[10];

(iii) int list = new int[10];

(iv) int[ ] list = new int[10];

(e) Knowing UML means one can handle object-oriented analysis and design. (T/F)

(f) Declarations part must appear at the start of the body of a JAVA method. (T/F)

(g) An individual array element from an array of type int, when passed to a method is passed by value. (T/F). *7×2=14*

2. (a) What is a thread in Java ? Describe the complete life cycle of a thread in JAVA. What is synchronization ? When do we use it ? 7

(b) What is multiple inheritance ? How is it supported by JAVA ? 7

3. (a) Explain the advantages of object oriented programming languages. 7

(b) Differentiate between overloading and overriding. Explain with examples. 7

4. (a) Explain 'Extend' and 'Include' in use cases. 7

(b) Describe object diagrams in UML. 7

5. (a) Explain use case modelling with a use case diagram for a credit card system. 7

(b) Explain the guidelines used for finding use cases. 7

6. (a) Explain two kinds of interaction diagrams of UML with the help of suitable examples. 7

(b) What is generalization ? Explain with the help of example. 7

7. Write a program to perform the following functions on a given matrix :

(a) Find the row and column sum. 7

(b) Interchange the rows and columns. 7

8. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Metadata

(b) State Chart Diagram

(c) Dynamic Modelling

(d) Aggregation vs Association

(e) Concept of Active Class

(f) Polymorphism