2015

MCA

Paper : 3.4

OBJECT ORIENTED PROGRAMMING AND DESIGN

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(All Questions Are Compulsory)

1. Answer ALL questions from the following (question carries ONE mark each.) : $1 \times 10 = 10$

   i. Define nested states.

   ii. What are attributes?

   iii. What are operations?

   iv. What is a method?

   v. Why is Java known as platform neutral language?

   vi. What is the task of main method in java?

   vii. What is initialization?

   viii. What are static members?

   ix. What is a model?

x. What are instance variables?

2. Answer ALL questions from the following (question carries TWO marks each.): $2 \times 5 = 10$

i. What is type casting?

ii. Find errors, if any, in the following declaration statement:

Int x;

float length, HEIGHT;

double=p,q;

character C1;

final pi=3.142;

iii. What are constructors, why they are used?

iv. Define multiplicity and cardinality.

v. What is the difference between Signal and Signal event?

Answer ALL questions from the following (question carries FIVE marks each.): $1 \times 5 = 5$

3. Determine the value of each of the following logical expressions, if a=5, b=10 and c=-6.

i. a >b & & a < c

ii. a = = c II b > a

iii. a < b & & a > c

iv. b>15&&c<0 IIa>b

v. (a/2.0 = = 0.0&&b/2.0!= 0.0) IIc<0.0

4. Write a program in java to illustrate Multiple Inheritance. 5

5. What are data types? Describe the built-in data types in Java. 5

6. How Object Constraint Language (OCL) is used for traversing the constructs in class model. 5

7. Write a program in java to illustrate various Constructors. 5

Answer ANY 3 (THREE) questions from the following (question carries TEN marks each.): $3 \times 10 = 30$

8. Describe the Basic concepts of OOP.

9. Differentiate between method overload and method overriding with examples.

10. Describe Sequence Diagram with an example.

11. Draw a state diagram of a telephone line showing the transitions among them and then explain the transitions and states.

12. Explain Exception. Write a program in Java Using Try and Catch for Exception Handling.

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