2019

(October)

COMPUTER SCIENCE

(Honours)

(CS-502 CT)

(Object Oriented Programming through Java)

Marks : 38

Time : 2 hours

The figures in the margin indicate full marks for the questions

Answer **one** question from each Unit

UNIT—I

1. *(a)* Define Abstraction and Encapsulation. 1+1=2

(b) Why does Java character data type use two bytes instead of only one byte in other languages? 2

(c) Distinguish between type casting and automatic type conversion. 4

2. *(a)* What do you understand by method overloading? 2

(b) Illustrate how the logical AND and logical OR operators differ from the short-circuit AND and short-circuit OR operators. 3

(c) What is a constructor? Will Java supply the default constructor if the class already contains a parameterized constructor? 2½+½=3

UNIT—II

3. (a) Explain the accessibility of superclass data members with different access control (private, public and protected) from subclasses. 3

(b) List three features of enumerations which distinguish them from regular data types. 3

(c) What is the use of the keyword—super, in inheritance? 1½

4. (a) What is structured exception handling? Explain the use of the keywords—try, catch and throw. 2+3=5

(b) What are the two ways of creating a Thread in Java? 2½

(Continued)

UNIT—III

5. (a) How is the StringBuffer class different from the String class? Which methods of the StringBuffer class can be used to—

(i) concatenate a new string at the end of a StringBuffer object;

(ii) find the total allocated size of a StringBuffer object;

(iii) find the current length of a StringBuffer object? 2+3=5

(b) State, with reasons, whether the following statement is true or false :

"The programmer must explicitly create the stream objects *System.in*, *System.out* and *System.err*." 2½

6. (a) How is an Iterator used to access the elements of a Collection? Illustrate with an example. 2+2=4

(b) What do you understand by the term Generics in Java? 1½

(c) Explain the utility of the classes FileInputStream and FileOutputStream. 2

UNIT—IV

7. Explain the life cycle of an applet with a suitable example. List three restrictions that apply on applets but not on Java applications. 4½+3=7½

(Turn Over)

8. What are inner classes? Explain with a suitable example, the use of anonymous inner classes for event handling. 2½+5=7½

UNIT—V

9. List the differences between a regular/client socket and a server socket. Illustrate the steps to create a regular/client socket and a server socket. 3+4½=7½

10. Write steps to perform the following with respect to JDBC 1½+1½+2½+2=7½

   (a) Establish a connection with a database

   (b) Create a statement to execute a static SQL query

   (c) Create and Execute an SQL SELECT query

   (d) Display the results of the executed query

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