

DipIETE – CS (OLD SCHEME)

Code: DC12
Time: 3 Hours

Subject: OBJECT-ORIENTED PROGRAMMING THROUGH JAVA
Max. Marks: 100

DECEMBER 2010

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after half an hour of the commencement of the examination.
- Out of the remaining EIGHT Questions, answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2 × 10)

a. The character set used in Java is

- (A) ASCII (B) EBCDIC
(C) ISCII (D) UNICODE

b. By use of which keyword is it possible to prevent inheritance of a class.

- (A) abstract (B) private
(C) final (D) static

c. To be able to use classes in a package , the package has to be

- (A) Extended (B) Imported
(C) Implemented (D) Inherited

d. It is not possible to create an object of

- (A) Final class (B) Abstract class
(C) Public (D) Friend class

e. The java interpreter is

- (A) javac (B) javap
(C) java (D) jdb

f. The length of an array arr[] in java is determined by

- (A) arr.size (B) size.arr
(C) length.arr (D) arr.length

- g. The type of inheritance not supported by java is
- (A) Hierarchical (B) Multiple
(C) Hybrid (D) Multilevel
- h. All the standard java classes included with java are stored in a package called
- (A) java.lang (B) java.util
(C) java.io (D) java.applet
- i. Which of the following is the correct sequence of statements to compile a.java and then execute it.
- (A) C:\> javac a (B) C:\> javac a.java
C:\> java a.java C:\> java a
(C) C:\> javaa a (D) C:\> java a.java
C:\> javac a.java C:\> javac a
- j. main method is defined as
- (A) public (B) static
(C) void (D) All of the above

**Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.**

- Q.2** a. How does the modifier 'final' effect the behavior of (2×3)
(i) data member of a class
(ii) method of a class
(iii) class itself
- b. How is multiple inheritance implemented in Java. (4)
- c. Briefly explain the steps involved in creating and running a java application. (6)
- Q.3** a. Briefly explain the various tools available in Java Development Kit (6)
- b. Briefly explain Reader stream classes and Writer stream classes used in java. (6)
- c. Briefly explain the concept of package in Java. (4)
- Q.4** a. Explain how exception handling is carried out in Java. (6)
- b. What is the difference between call by value and call by reference. Briefly explain when Java uses each of them. (6)
- c. What is the importance of Byte code in Java. (4)

- Q.5** a. Write short notes on the following:- (2 × 4)
(i) Abstract classes
(ii) Applets
(iii) Data encapsulation
(iv) Interfaces
- b. Write a program in Java to print the sum of digits of a given number. (8)
- Q.6** a. Define the following :- (6)
(i) class variables
(ii) instance variables
(iii) local variables
(iv) static variables
- b. Write a program in Java to print the sum of all odd numbers from 1 to 100 (6)
- c. Briefly explain labeled break and continue statements in Java (4)
- Q.7** a. Write a program in Java to copy the contents of one file to another. (8)
- b. Briefly explain the various access specifiers available in java (8)
- Q.8** a. Create a class named Room with suitable parameters and also write a method to compute the area of the Room in the class. (8)
- b. Briefly discuss the characteristics of Object Oriented Programming. (8)
- Q.9** Differentiate between the following:- (4 × 4)
(i) Class and Interface
(ii) Static Method and Final Method
(iii) Method Overloading and Method Overriding
(iv) Late Binding & Early Binding