

DipIETE – CS (NEW SCHEME) – Code: DC60

Subject: JAVA AND WEB PROGRAMMING

Time: 3 Hours

Max. Marks: 100

DECEMBER 2011

NOTE: There are 9 Questions in all.

- Please write your Roll No. at the space provided on each page immediately after receiving the Question Paper.
- 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 45 Minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions, answer any FIVE Questions, selecting THREE questions from Part A and TWO questions from Part B. 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. Size of character data type in Java Language is _____

- (A) 2 bytes. (B) 4 bytes.
(C) 8 bytes. (D) 1 byte.

b. The range of values for the long data type is _____.

- (A) -2^{31} to $2^{31}-1$ (B) -2^{64} to 2^{64}
(C) -2^{63} to $2^{63}-1$ (D) -2^{32} to $2^{32}-1$

c. The default value of char type variable is

- (A) '\u0020' (B) '\u00ff'
(C) " " (D) 'u0000'

d. What will be the result of expression $9 \mid 9$?

- (A) 38 (B) 25
(C) 9 (D) None of the above

e. What is the result of the expression $(1 \& 2) + (3 \mid 4)$ in base ten?

- (A) 1 (B) 2
(C) 8 (D) 7

f. The use of protected keyword to a member in a class will restrict its visibility as follows:

- (A) Visible only in the class and its subclass in the same package
(B) Visible only inside the same package
(C) Visible in all classes in the same package and subclasses in the other packages
(D) Visible only in the class where it is declared

g. The methods wait() and notify() are defined in

- (A) java.lang.String (B) java.lang.Runnable
(C) java.lang.Object (D) java.lang.Thread

h. Desirable properties of a website are

- (i) a meaningful address
(ii) Help and search facilities
(iii) Links to related sites
(iv) Features to allow users to give feedback
(v) Hosting on a mainframe

- (A) (i), (ii), (iii) (B) (i), (ii), (iii), (iv)
(C) (i), (ii), (iii), (iv), (v) (D) (i), (ii), (iii), (v)

i. HTML tags define _____,

- (A) the data types of elements of document
(B) presentation of specified elements of a document
(C) the contents of the document
(D) the structure of the document

j. A search engine is a program to search

- (A) for information
(B) web pages
(C) web pages for specified index terms
(D) web pages for information using specified search terms

PART A

Attempt any THREE questions. Each question carries 16 marks.

Q.2 a. What are the features of C++ that were intentionally omitted from Java or significantly modified? (7)

b. What are Java Tokens? (2)

c. What is JVM? Illustrate how Java works on a typical computer. (7)

Q.3 a. What are the THREE things performed by Declaration? (3)

b. What would be the output when the following program is executed? (7)

```
Class Casting
{
    public static void main(String args[ ])
    {
        float sum;
        int i;
        sum = 0.0F;
        for (i = 1; i <= 10; i++)
```

```

    {
        sum = sum + 1/(float)i;
        System.out.print( " i = " + i);
        System.out.print( " sum =" + sum);
    }
}

```

- c. What is the meaning of “?:” operator. Demonstrate it’s use by writing a small Java program. (6)
- Q.4** a. Explain the concept of Inheritance in Java. Discuss different types of Inheritance in Java. (8)
- b. What is an Array? Write a Java program that illustrates the use of an array for sorting a list of numbers. (8)
- Q.5** a. What is an interface? How will you go about implementing an interface? Show by an appropriate Java code. (11)
- b. What are threads in Java? Discuss life cycle of a Thread. (5)
- Q.6** a. What is finally block in java? When and how it is used? Give a suitable example. (8)
- b. Write a Java program that uses two free stream classes to copy the contents of a file named “input.dat” into a file called “output.dat”. (8)

PART B

Attempt any TWO questions. Each question carries 16 marks.

- Q.7** a. What is a dynamic website? Describe two types of dynamic activity in a dynamic website. (8)
- b. Explain the core attributes of xhtml with examples. (8)
- Q.8** a. What are HTML frames used for? What are the disadvantages of using frames? Write a code to demonstrate use of a frame where the first column should be set to 30% of the width of the browser window. The second column should be set to 70% of the width of the browser window. The document "frame_x.htm" should be put into the first column, and the document "frame_y.htm" should be put into the second column. (8)
- b. What is contrast in value? Why is Contrast in value critical on the Web? (8)
- Q.9** a. What is CSS? What are the benefits of using CSS? Write a small program to demonstrate the use of CSS. (10)
- b. What do you mean by an event? How event handling is done in Java Script? (6)