ROLL NO. _____

Code: DC60 **Subject: JAVA AND WEB PROGRAMMING**

DipIETE – CS (NEW SCHEME)

Time: 3 Hours **JUNE 2012** **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

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 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. Which of the following is not built-in type literal in Java?

   (A) Integer   **(B)** Boolean
   (C) Character   **(D)** Byte

b. Which of the following assignments is valid?

   (A) float x = 123.4;   **(B)** long m = 023;
   (C) int n = (int)false;   **(D)** None of the above

c. Which of the following control expressions are valid for if statements?

   (A) an integer expression   **(B)** a boolean expression
   (C) either A or B   **(D)** neither A nor B

d. What is the error in the following class definition?

```
    abstract class XY
    {
        abstract sum (int x, int y) { }
    }
```

   (A) Class header is not defined properly
   (B) Constructor is not defined
   (C) Method is not defined properly
   (D) No error

e. We would like to make a member of a class visible in all subclasses regardless of what package they are in. Which one of the following keywords would achieve this?

   (A) Private   **(B)** Protected
   (C) Public   **(D)** Private protected

f. A package is a collection of:

   (A) Classes   **(B)** Interfaces
   (C) Editing tools   **(D)** Both **(A)** and **(B)**

g. When we invoke repaint( ) for a component, the AWT invokes the method

   (A) draw( )   **(B)** show( )
   (C) update( )   **(D)** None of the above

h. Internet is:

   (A) a local computer network
   (B) a worldwide network of computers
   (C) an interconnected network of computers
   (D) a worldwide interconnected network of computers which use a common
   protocol to communicate with one another

i. Each computer connected to the internet must

   (A) be an IBM PC   **(B)** have a unique IP address
   (C) be internet compatible   **(D)** have a modem connection

j. A URL specifies the following:
   (i)   protocol used
   (ii) domain name of server hosting web page
   (iii) name of folder with required information
   (iv) name of document formatted using HTML
   (v)   the name of ISP

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

PART A
Attempt any THREE questions. Each question carries 16 marks.

Q.2   a. Describe how is Java strongly associated with the Internet.   **(6)**

   b. Why do we need import statement in Java?   **(4)**

   c. What are separators? Describe various separators used in Java.   **(6)**

Q.3   a. What are the different kinds of variables in Java? Elaborate the appropriate rules
        for them and explain how they are used.   **(6)**

   b. What is empty statement? Explain its usefulness with an example.   **(4)**

   c. Write a Java program to compute sum of digits of a given number.   **(6)**

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Q.4 a. Design a class to represent a bank account. Include following data members &
methods:
data members:
name of depositor
account number
type of account
balance amount in account
methods:
to assign initial values
to deposit an amount
to withdraw amount after checking balance
to display the name and balance.   **(12)**

   b. What are wrapper classes? Why do we need them?   **(4)**

Q.5 a. What are the steps in creating a package? Explain.   **(7)**

   b. What is synchronization? When should Synchronization be used in Java? What
   are three ways to define synchronized blocks?   **(9)**

Q.6 a. What happens when an exception occurs within a method? Explain the
   exception handling mechanism in Java.   **(8)**

   b. What is the need to write your own stream classes? How to Write Specialized
   Stream Classes? Compare Filter with Top-Level Stream Classes.   **(8)**

PART B
Attempt any TWO questions. Each question carries 16 marks.

Q.7 a. What do Name servers do? Why do we need them?   **(4)**

   b. What are the major tasks in the overall website development process?
   Explain.   **(8)**

   c. Explain framework of an HTTP transaction.   **(4)**

Q.8 a. List some common web page errors.   **(8)**

   b. What is grid system in graphic design? What are different types of grids? **(4)**

   c. Show by an HTML example how you can specify height of a table. Is it possible
   to specify height of a table cell?   **(4)**

Q.9 a. What are the essential parts of a typical form element? Explain.   **(8)**

   b. Discuss various ways by which you can create Java script Array.   **(8)**