Code: DC60/DE123/DC113   Subject: JAVA AND WEB PROGRAMMING

DipIETE – CS/ET (Current & New Scheme)

Time: 3 Hours   **December 2016**   **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 type of inheritance is not present in Java?
   (**A**) Multiple   (**B**) Multilevel
   (**C**) Single   (**D**) All of these

b. 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

c. Which statement is true about an object?
   (**A**) An object is what classes are instantiated from
   (**B**) An object is an instance of a class
   (**C**) An object is a blueprint for creating concrete realization of abstractions
   (**D**) An object is a reference to an attribute

d. Which of the following primitive data types are not integer types?
   (**A**) boolean   (**B**) byte
   (**C**) long   (**D**) short

e. What is the result of the expression (1 & 2) + (3 | 4) in base ten?
   (**A**) 1   (**B**) 2
   (**C**) 8   (**D**) 7

f. Which of the following is not a keyword in Java?
   (**A**) finalize   (**B**) boolean
   (**C**) assert   (**D**) abstract

g. Which doctype should be added to your XHTML document, if you use CSS in your document?
    (A) Loose   **(B)** Transitional
    (C) Strict   **(D)** Frameset

h. Which of the following is valid keyword in Java?
    (A) interface   **(B)** string
    (C) float   **(D)** unsigned

i. Suspend thread can be revived by using
    (A) start() method   **(B)** Suspend() method
    (C) resume() method   **(D)** yield() method

j. Methods that have same name, but different Parameter list and different definition are known as
    (A) Overriding   **(B)** Constructor
    (C) Overloading   **(D)** None of these

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

Q.2   a. What are the features of Java? **(3)**

      b. How is Java strongly associated with the internet? **(3)**

      c. Java is freedom language, comment. **(2)**

      d. List four major differences between C++ and Java. **(4)**

      e. What are the following components used for? **(4)**
        (i) javac   (ii) java
        (iii) appletviewer   (iv) jdb

Q.3   a. Explain Numeric and Non-Numeric data types of Java. **(8)**

      b. Explain the syntax of *for* loop. Also, describe with the help of example, the *enhanced for* loop. **(4+4)**

Q.4   a. What are vectors? How are they advantageous over arrays? **(6)**

      b. Explain 'equals()' function of the string class. **(4)**

      c. "Method overloading is same as method overriding", justify or contradict this statement giving appropriate reasons and examples. **(6)**

Q.5   a. What are the steps in creating a package? Explain. **(8)**

      b. What is the difference between abstract class and interface? Explain with example how and when to use abstract class and interface? **(8)**

Q.6 a. What is an exception? Explain with suitable example how a program throws an exception explicitly? **(6)**

b. What is a stream? How is the concept of streams used in Java? **(5)**

c. Distinguish between **(5)**
(i) Input Stream and Reader classes   (ii) Output Stream and Writer classes

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

Q.7 a. How are web pages generated dynamically? Explain. **(6)**

b. Define the syntax of tables, forms and frames of HTML. **(6)**

c. What is meant by server page? Explain. **(4)**

Q.8 a. Explain the six concrete steps of Information Architecture (IA). **(8)**

b. What is table in XHTML? Explain any three different attributes for the table element that controls the various formatting options for the table. **(4+4)**

Q.9 a**.** What is CSS? What are the benefits of using CSS? Write a small program to demonstrate the use of CSS. **(8)**

b. Describe how to embed JavaScript in a Web Page. **(8)**