

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

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

- 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 and 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)