

Time: 3 Hours

DECEMBER 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. The name of a special Java program that is designed to be transmitted over Internet and is automatically executed by Java-compatible web browser is called _____

- (A) Servlet (B) Applet
(C) Neither of these (D) Both (A) & (B)

b. The use of Unicode is somewhat inefficient for languages such as

- (A) English (B) German
(C) French (D) All of these

c. Break statement can be used

- (A) for terminating a statement sequence in a switch statement
(B) to exit a loop
(C) as a “civilized” form of goto
(D) All of these

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

```
abstract class XYZ
{
    abstract sum (int a, int b) { }
```

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

Code: AT68**Subject: JAVA & WEB PROGRAM**

- e. By providing the “interface” keyword, Java allows us to fully utilize the interface, multiple methods” aspect of _____
- (A) Polymorphism (B) Inheritance
(C) Encapsulation (D) None of these
- f. A package is a collection of:
- (A) Classes (B) Interfaces
(C) Editing tools (D) Both (A) and (B)
- g. The _____ class contains all the floating-point functions that are used for geometry, a trigonometry, as well as several general-purpose methods.
- (A) Math (B) StrictMath
(C) Both (A) and (B) (D) None of these
- h. Internet is:
- (A) a local computer network
(B) a world wide network of computers
(C) an interconnected network of computers
(D) a world wide 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**Answer any THREE Questions. Each question carries 16 marks.**

- Q.2** a. Describe Whitespaces and Identifiers in Java. (6)
- b. Why do we need import statement in Java? Give an example. (6)
- c. Describe the Type Promotion Rules in Java. (4)

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- Q.3** a. Does importing a package imports the subpackages as well? e.g. Does importing `com.MyTest.*` also import `com.MyTest.UnitTests.*`? (4)
- b. Suggest any two alternatives to inheritance with examples. (6)
- c. Write a program in Java to compute sum of digits of a given number. (6)
- Q.4** a. What happens when an exception occurs within a method? Explain with an example. (6)
- b. What is synchronization? When should Synchronization be used in Java? What are the three ways to define synchronized blocks? (10)
- Q.5** a. Is it possible to concatenate strings with other types of data? Illustrate using examples. (5)
- b. What is stream in Java? Classify streams. (3)
- c. Write a program in Java to show how to use the class `FileInputStream` to read a file named `abc.dat`. This code should print each byte's value separated with white spaces. Byte values are represented by integers from 0 to 255, and if the `read()` method returns -1, this indicates the end of the stream. (8)
- Q.6** a. What is collection Interface in Java? Illustrate with an example. (8)
- b. What is Swing in Java? Explain `JLabel` and `JtextField`. (8)

PART B**Answer any TWO Questions. Each question carries 16 marks.**

- Q.7** a. Explain the steps in the framework of an HTTP transaction. (5)
- b. What are the general syntax rules for using XHTML? (8)
- c. Give an example to show how to manage line breaks in XHTML. (3)
- Q.8** a. Describe the concept of Page Forwarding. Use an example. (8)
- b. What is Gestalt theory in the context of Design and Perception? (8)
- Q.9** a. Provide an example of file-upload form where the browse button allows the user to pick a file from the local file system? What are some of the points worth noting about file uploading? (8)
- b. What are the Tasks performed with client-side scripts? (8)