

AMIETE – IT

Time: 3 Hours

JUNE 2014

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 one of the following is a correct statement?

- (A) `int [] A = {"1", "2", "3"};` (B) `int [] A = (1, 3, 2);`
(C) `int A [] [] = {4,9,7,8};` (D) `int A [] = {2, 3, 4};`

b. At the top of the AWT hierarchy is

- (A) Component class (B) Panel class
(C) Applet class (D) Frame class

c. What is the valid returnType for method F() in line 1?

```
public class X
{
returnType F(byte x, double y) /* Line 1 */
{
return (long)x / y * 2;
}
}
```

- (A) int (B) byte
(C) long (D) double

d. Which one of the following statements is true for Java Swing APIs?

- (A) Swing provides access to all windows API calls
(B) Swing relies on operating system for its functionality
(C) Swing is largely operating system independent providing a full range of GUI APIs
(D) Swing is a heavy weight component

- e. What will be the output of the following code segments:
- ```
byte x = (byte)0xf1;
System.out.print(x + " and ");
x = byte(x >>4);
System.out.println(x);
```
- (A) 0xf1 (B) 0xff  
(C) 0x0f (D) 0x1f
- f. Which of the following statement is equivalent to  $16 \ggg 2$ ?
- (A)  $16 * 4$  (B)  $16 \ggg 2$   
(C)  $16 / 2^2$  (D)  $16 / 2$
- g. Which one of the following statements is true?
- (A) `catch(X x)` can catch subclasses of X where X is a subclass of Exception  
(B) The Error class is a RuntimeException  
(C) Any statement that can throw an Error must be enclosed in a try block  
(D) Any statement that can throw an Exception must be enclosed in a try block
- h. What does the following code segment display:
- ```
String s = "Add:" + 2 + 3 ;
```
- (A) Add:5 (B) "Add:5"
(C) Add:23 (D) "Add:23"
- i. The immediate super class of applet class is
- (A) File (B) Panel
(C) Jpanel (D) Applet
- j. The wait() function is used for
- (A) Thread creation (B) To check whether thread is running
(C) Thread synchronization (D) Inter-thread communication

PART A

Answer any THREE Questions. Each question carries 16 marks.

- Q.2** a. What is the bytecode? How does Java solve both security and portability problems using bytecode? (6)
- b. What is the difference between the logical operators: `&&` and `&`? Explain with an example. (6)
- c. What is the enhanced 'for' loop syntax for arrays? Explain. (4)

- Q.3** a. What is garbage collection? How is garbage collection performed in Java? (6)
- b. Differentiate between call by value and call by reference with the help of suitable example. (6)
- c. How is 'this' used with constructors? Explain with example. (4)
- Q.4** a. What is the difference between error and exception? What is user defined exception? Explain with example. (8)
- b. What is the difference between Thread.start() and Thread.run()? Explain with example. (8)
- Q.5** a. What is an Applet? Differentiate between Applets and an application program. (4)
- b. What is compareTo() function in Java? Explain with the help of a suitable example. (5)
- c. Write a program in Java to copy one file to another file using command line arguments. (7)
- Q.6** a. Write a program in java to convert Array List to an array. (10)
- b. What are the differences between Swing and AWT? (6)

PART B

Answer any TWO Questions. Each question carries 16 marks.

- Q.7** a. What are the major tasks in the overall website development process? What knowledge and skills do you expect to learn to participate in this process? (8)
- b. Describe the main differences between HTML and XHTML. (4)
- c. What role does white space play in an HTML file? What constitutes white space in an HTML document? (4)
- Q.8** a. Define design. What are the elements of a good design? (5)
- b. With the help of example discuss the different attributes available for table?(5)
- c. List the six concrete steps needed to create the site's information architecture. (6)
- Q.9** a. What are HTTP GET and POST methods? Explain briefly. (4)

- b. Explain the following text input elements in a form with the help of examples:
(i) Radio Buttons (ii) Check Boxes (3+3)
- c. Write a Java Script to do the following:

X:

Y:

Result:

SUM

MULTIPLY

After entering the values of X and Y, if SUM or MULTIPLY button is clicked then sum or multiplication respectively of X and Y should be printed. (6)