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

AMIETE – IT   (Current Scheme)

Time: 3 Hours   **JUNE 2015**   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. What is byte code in the context of Java?

   (A) The type of code generated by a Java compiler
   (B) The type of code generated by a Java Virtual Machine
   (C) It is another name for a Java source file
   (D) It is the code written within the instance methods of a class

b. The java run time system automatically calls this method while garbage collection

   (A) finalizer()   **(B)** finalize()
   (C) finally()   **(D)** finalized()

c. String river = new String("Columbia");
   System.out.println(river.length());
   What is printed?

   (A) 6   **(B)** 7
   (C) 8   **(D)** Columbia

d. Which class cannot be a subclass in java?

   (A) abstract class   **(B)** parent class
   (C) final class   **(D)** none of these

e. Suspend thread can be revived by using

   (A) start( )   **(B)** suspend( )
   (C) resume( )   **(D)** yield( )

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f.   Which of the following statements about the Java language is true?

(A) Java supports only Procedural approach towards programming
(B) Both Procedural and Object Oriented Programming are supported in Java
(C) Java supports only Object Oriented Programming approach
(D) None of these

g.   The class at the top of exception class hierarchy is ....

(A) Arithmetic Exception   **(B)** Throwable
(C) Class   **(D)** Exception

h.   A .... mostly used to take users choice on any option and displays a dialog box with two buttons Ok and Cancel

(A) Alert dialog box   **(B)** Information dialog box
(C) Prompt dialog box   **(D)** Conformation dialog box

i.   The .... attribute adds space within each cell

(A) Cell Spacing   **(B)** Cell Padding
(C) Width   **(D)** Align

j.   In XML the attribute value must always be quoted with.................

(A) double quotes   **(B)** single quotes
(C) both **(A)** and **(B)**   **(D)** name of attributes

PART A
Answer any THREE Questions. Each question carries 16 marks.

Q.2   a. List out the properties of static variables and methods in Java.   **(4)**

b. Explain various primitive data types supported by Java.   **(4)**

c. "One object in Java can be assigned as reference to another object of the same type." To explain this concept write a complete Java program and explain how a reference object works.   **(8)**

Q.3   a. Explain the concept of Classes and Objects. Explain with examples as how are they created in Java?   **(5)**

b. What is a constructor? Write a Java program to explain how super class constructors are called in their subclasses.   **(6)**

c. What is a package? Explain, with an example, how name conflicts are resolved during package import.   **(5)**

Q.4 a. What is an exception? Write an exception subclass which throws an exception if the variable age passed as argument to a method and the value of age is less than 20. **(8)**

b. What is multithreaded programming? Explain how threads are created in Java. Explain the need of thread synchronization, with an example. **(8)**

Q.5 a. Write a program in Java to read a text and count all the occurrences of a given word. Also, display their positions. **(8)**

b. What is applet? Write a simple applet program that will print "HELLO IETE". Write the HTML code required to execute this applet program and write the command to execute this program using appletviewer? **(8)**

Q.6 a. Compare AWT and Swings. How timers, tables and borders components are created in event handling using Java Swings? **(8)**

b. Write a program to display a button with an image on it using swing. The image on the button will change when the button is clicked. **(8)**

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

Q.7 a. Explain various list styles and presentation styles in XHTML. Give examples. **(8)**

b. What is meant by Fully Qualified Domain Name (FQDN)? Distinguish between primary DNS and Secondary DNS. Give examples. **(8)**

Q.8 a. What is Design? What are elements of design? Explain. **(2+6)**

b. How is a table created in XHTML? Give sample code and explain the concept of positioning tables and grouping rows/columns in it. **(8)**

Q.9 a. Write a CGI code to process a sample form and to send it by mail. Explain the attributes also. **(8)**

b. Implement the following logic in JavaScript: Click on the "Start count!" button above to start the timer. The input field will count forever, starting at 0. Click on the "Stop count!" button to stop the counting. Click on the "Start count!" button to start the timer again. **(8)**