END TERM EXAMINATION
THIRD SEMESTER [MCA], DECEMBER-2012

Paper Code : MCA – 205
Subject : Java Programming

Time: 3 Hours
Maximum Marks : 60

Note: Attempt five questions including Q. no. 1 which is compulsory.
Select one question from each unit.

Q1 Answer the following: (2×10=20)
(a) What is the difference between Application and Applet?
(b) Write a small java program containing user defined exceptions.
(c) What is Garbage Collection in Java?
(d) What is JVM and JVM programming?
(e) What is the functionality of a file class?
(f) What is the Java Bean and Bean Development Kit (BDK)?
(g) What are the steps involved in establishment of a JDBC connection?
(h) What is Enterprise Java Bean?
(i) Describe Dynamic dispatch method with example.
(j) What are the features of swings?

UNIT – I

Q. 2. Explain the steps to create RMI based clients and server. Explain the various methods for registering and gaining access to the Remote Object. (10)

OR
Explain Method overloading and Method Overriding with suitable example. Can you overload operators in Java. (10)

UNIT – II

Q3 Explain the basic components of JDBC. Explain in detail the different drivers of JDBC (10)

OR
Explain Multithreading. How Java implements its Thread model? (10)

UNIT – III

Q4 Write a program to create two threads, one thread will print odd numbers and second thread will print even numbers between 1 to 10 numbers. (10)

OR
Describe the various operators used in Java with their classifications. Explain left shift and right shift operators with suitable examples. (10)

UNIT – IV

Q5 Explain the architecture of Remote Method invocation (RMI) and its packages.

OR
Write short notes on any four of the following giving suitable examples:-(10)
(a) Standard Java Packages
(b) Java AWT controls
(c) NetBean
(d) Java class loaders
(e) JDBC models
Q. 1. (a) Define wrapper classes. (2\times10=20)

(b) What do you mean by uncaught exception?

(c) Java is a freeform language. Comment.

(d) What do you mean by package?

(e) Explain the term synchronization in java.

(f) What are applets?

(g) Define abstract classes in java.

(h) What are delegates?

(i) Define java beans.

(j) What are dynamic web pages?

UNIT – I (10)

Q. 2. What is the difference between a class and interface? what is the use of interface?
Write a program in java to illustrate the use of an interface.

OR

Write java program to take input for employee name, employee id, designation salary and convert the salary entered by the user in words.
UNIT – II


OR

What is the importance of thread synchronization in multithreading?
Give some examples of resource corruption when multiple thread conflict.
How do you synchronize conflicting threads?

UNIT – III

Q. 4. What is event delegation model? What are its basic components? Write a program to simulate a simple calculator using AWT.

OR

Write an applet to show the number of visits made to a webpage. The count should be stored on a server side in a file. Every time a page is visited the applet should send a request to the server and the server should increase the count and send that count to the applet. The applet should then display the count in a message.

UNIT – IV

Q. 5. Design a HTML based webpage for displaying department profile on the web page using the appropriate java script validations. The form should contain the following information department id, department name, number of employees, project associated with each employee, designation wise salary of employee.

OR

What are swings in java? Write a program in java to illustrate the use of one swing control.
Q1. Attempt any eight parts: (2.5*8=20)
R. What is Java Virtual Machine? Explain it.
S. Draw the AWT class hierarchy.
T. Differentiate between Method overloading and Method Overriding.
U. How do you create a button labeled “GGSIPU”? How do you change a label on button? How do interfaces and abstract classes differ in Java? Give an example of each type?
(f) Define an exception and discuss how used defined exceptions can be implemented in Java.
(g) What is a difference between HTML and DHTML?
(h) Discuss the requirement of each Keyword in the following Java program statement :-
   “public static void main(String args [])”
(i) Define Multithreading. How is a thread different from a process?

Q2. (a) Write a program using array/vectors to obtain the output a: (5)
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
(b) Write a program to construct a binary tee of numbers and implement function for tree traversal.
   (i) Preorder  (ii) Postorder  (iii) Inorder

Q3. (a) Write a Program using AWT/Layout Managers to draw a Human face using an applet. (5)
(b) Write a Program to implement TCP/UDP Client Server Architecture Program. (5)

Q4. (a) Design a HTML/DHTML based Web Page for displaying your own profile on the Web using the appropriate JAVASCRIPT validations. The form can contain various set of information like Enrollment no, Name, Age, Course Name and College Name etc. (5)
(b) Write the code snippet for:
   (i) Set the password character in a text field to '#'.
   (ii) Check Whether the CTRL Key was down when a key event occurred.
Q5. (a) Create a package called “math”, then use the Package in your program to perform
different functions like Addition, Subtraction, Multiplication and Division. (5)
(b) What is the difference between the Reader and Writer classes? Show the stream class
hierarchy as defined in java.io.package.

Q6. (a) Write a vector based program to: (5)

(i) Create a vector with initial capacity of 5 element.
(ii) Decrease the size of vector by 2 element.
(iii) Display all the elements from the vector.
(iv) Fetch a specific value from a vector on the user choice and replace it with value
specified by the user.
(v) Display all the elements from the vector.

(b) Write short notes on (any two) :- (2*2.5=5)

(i) JavaBeans  (ii) Servlets  (iii) Swings
END TERM EXAMINATION

FOURTH SEMESTER [MCA] MAY – JUNE 2009

Paper Code: MCA-206  Subject: Java Programming & Website design
Paper Id-44206  (Batch: 2004-2007)

Time : 3 Hours  Maximum Marks : 60
Note: Q1 is compulsory. Attempt one question from each unit.

Section A

Q1. Answer any 10 Questions  2*10=20
V. Discuss the need for inner classes?
W. Who makes compiled JAVA programs platform independent?
X. How does JAVA solve the problem of memory leakage?
Y. Discuss Java access specifiers.
Z. What is JAVA Bean? What are it’s advantages?
AA. Discuss the significance of PATH and CLASSPATH.
BB. What is PushBackInputStream? Give an Example.
CC. What’s the difference between the methods sleep() and wait()?
DD. Differentiate between server side and client side scripting.
EE. What are interfaces?
FF. Discuss the requirements of each keyword in the following Java program statement.
   “public static void main(String ar[])”

Section B

UNIT-I

Q2. a) Differentiate between String and StringBuffer. Discuss with example where we should use what. [5]
b) What is class variable? [2]
c) Drive two classes from the class Amount and show is –a relationship redefine withdraw function and set overdraft limit for current account. [3]

Q3. a) What are similarities and differences between an Abstract class and interface? Explain with an example. [5]
b) Write a program to implement a class, Employee, with data members (lastname, firstname, hourlywages, yearswithcompnay.). Take the data of 100 employees in an array. Write a code segment that will output of the first name, last name, and hourly wage of each employee who has been with the company 20 years or more.Employee[] employeeData = new Employee[100] [5]

UNIT-II

Q4. a) What do understand by Synchronization? Discuss with an example. [4]
b) Write a program to maintain file using DataInputStream/DataoutputStream object and implement menu driven programming with the following options. [6]
Q5. a) What are different types of exceptions in Java? Explain briefly how they work? Give their example. [5] 
   b) Create a client server application to implement a dictionary in which client will send a word to the server and server provides the meaning of word to the client. [5] 

UNIT-III 

Q6. a) Write code snippets for any Three: [2*3 =6] 
   i) Check whether right mouse button was pressed when a MouseEvent occurred. 
   ii) Check whether CTRL key was down when a KeyEvent occurred. 
   iii) Show a particular card when the layout manager is CardLayout. 
   iv) Check whether the source of an action event was a Button or a List. 
   v) Check whether the source of a text event was the TextField tfName or tfPassword. 
   vi) Set the password character in a textfield to “#” 
   b) Explain lifecycle of a servelet. [4] 

   b) Write short notes on Layout managers. [5] 

UNIT-IV 

Q8. a) Differentiate the following [1.5* 2 =3] 
   i) JAVA and JavaScript 
   ii) Get and post method 
   b) Discuss the various ASP built in Objects [7] 

Q.9. a) Discuss any four services provided by internet [4] 
   b) Write the HTML code to generate a Web page in the format given below: [6] 
   i) Background color of the page should be “Cyan” 
   ii) Text style should be Comic Sans MS and color should be Red. 
   iii) Picture used in the page is the file “activity.jpg” located in the subfolder pictures. 
   iv) Table should have a border of color blue. 
   v) Use the concept of nested lists for creating the list given in the web page with specified bullets. 
   vi) Page linked to indoor activities as “in.html” and outdoor activities as “out.html”
Q1. (a) What are widening conversion and narrowing conversion. Explain with code 
Fragments
(b) Explain Java virtual machine and just in time compiler.
(c) Explain short circuit logical operator with the help of code fragments.
(d) Which is better: a sequence of if-else or a switch-statement? Why?
(e) Differentiate between an applet and an application in java.
(f) How are objects handled that go out of scope in java.
(g) Explain synchronization. Why is it required?
(h) How do you read console input?
(i) Explain delegation event model.
(j) What are the various methods of sending a form in HTML? Write their 
advantages and disadvantages.

UNIT-I

Q2.(a) What are wrapper classes? Discuss the various constructors of these classes. Why 
Are wrapper classes required?
(b) Discuss features of java.
(c) What are constructors? What is their use?

Q3.(a) What are the differences between an abstract class and an interface?
(b) A superclass variable can reference a subclass object. Discuss this statement. 
Write a code fragment to illustrate it.
(c) Using arrays find out the highest number inputted by a user out of three 
numbers inputted by him.

UNIT-II

Q4. (a) What are checked and unchecked exceptions? Write a class under each 
category.
(b) Explain the exception handling keywords try, catch, throw, & finally. Write a 
program to illustrate each keyword in whatever way it is used.

Q5.(a) Explain Java thread model.
(b) What are predefined streams.
(c) What are factory methods? Explain any three.

Q6.(a) Write an applet to display a parameterized banner.
(b) Explain adapter classes and inner classes.
(c) Discuss the various windows in AWT hierarchy.

Q7.(a) What are layout managers? List them. Explain default layout
manager and layout Manager which store several different layouts. Explain their constructors and constants used within their constructors.

(b) Explain the terms introspection and persistence w.r.t. javabeans. (2)

(c) Discuss cookie class and its constructors. What does a cookie contain? (3)

UNIT-IV

Q8. (a) Explain the methodologies that can be implemented to create dynamic web pages. Discuss architecture of any one. (8)
   (b) What are dialog boxes? List the dialog boxes supported by javascript. Explain purpose of each dialog box. (2)

Q9. (a) What are inline frames? Discuss the tag & its attributes associated with inline frame. (3)
   (b) Discuss common frame layout along with code listings. (7)

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Q1. Answer the following: (10 x 1)

(i) (a) Byte Code is executed by the Java runtime system which is called the_________
(b) Automatic type conversion is allowed in java (T/F)
(c) A___________ method is always called using it’s class name followed by a Dot (.) and method name.
(d) Every Java applet should extend either class ____________or class__________
(e) The______________ method invokes the applet’s update method which in turn Invokes the applet’s paint method.
(f) The______________ qualifier is used to declare read only variables.
(g) Polymorphism implements one___________multiple_______________
(h) A______________arranges GUI components on a container.
(i) Compression scheme used for GIF images is called ________________
(j) The object that receives the event is called the_____________________

(ii) (a) What is abstract class? (2 x 5)
(b) What is the difference between function overriding and function overloading.
(c) What do you understand by the resuming and stopping of the thread.
(d) What do you understand by IRC?
(e) What are the differences between Java and Java script?

Q2. (a) What are the differences between constructors and methods. List various access modifiers with their purpose. 5

(b) Write short notes on 5

(i) The String Buffer Class
Q2. The String Tokenizer Class

OR

(a) Write a Java Program for Binary Search
(b) Write a Java Program for Selection Sort

Q3. What is the purpose of claiming exception?
(a) How do you claim an exception and where?
(b) What is the keyword throw used for? What is the keyword throws used for? Explain with example.

OR

(a) Describe the life cycle of a thread object.
(b) What are the ways of creating a running a thread? Explain with example.

Q4. (a) Write the steps for converting Java application to the applets? Explain with example.
(b) What is an Adapter Class? Explain the concepts of the inner class with example.

OR

Write short notes on
(i) Java Beans
(ii) Servlets
(iii) Swings

Q5. (a) What are the differences between HTML and DHTML?
(b) Write HTML Code to illustrate the concept of vertical and horizontal frame.

OR

Write short notes on
(a) FTP
(b) Telnet
(c) Gopher