

Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.TECH (CSE) (N)/SEM-5/CS-504D/2012-13**

**2012**

**OBJECT ORIENTED PROGRAMMING**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following :

$$10 \times 1 = 10$$

- i) Which one of the following statements is wrong ?
- a) A base class reference can refer to an object of a derived class
  - b) The dynamic method dispatch is not carried out at the run time
  - c) The `super( )` construct refers to the base class constructor
  - d) The `super.base-class-method-name( )` format can be used only within a derived class.

5405 (N)

[ Turn over

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- ii) A sub-class having more than one super class is called
- a) category
  - b) classification
  - c) combination
  - d) partial participation.
- iii) Out of the following which one is not correctly matched ?
- a) Int — 24 bits
  - b) Short — 16 bits
  - c) Double — 64 bits
  - d) Byte — 8 bits.
- iv) What is the correct ordering for the import, class and package declarations when found in a single file ?
- a) Package, import, class
  - b) Class, import, package
  - c) Import, package, class
  - d) Package, class, import.
- v) Which one of the following statements is not correct ?
- a) An interface can inherit another interface.
  - b) The package name and subdirectory name need not be identical.
  - c) Only the classes declared as public in a package are accessible outside that package.
  - d) The import java.awt. \* ; directive will not import classes in java.awt.event package.

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vi) What results from the following fragment of code ?

```
1.  int x = 1 ;  
2.  String [ ] names = { "Fred", "Jim", "Sheila" } ;  
3.  names[ -- x ] += ". " ;  
4.  for ( int i = 0 ; i < names. length ; i ++ ) {  
5.    system.out.println (names[ i ] ) ;  
6.  }
```

- a) The output includes Fred. with a trailing period.
- b) The output includes Jim. with a trailing period.
- c) The output includes Sheila. with a trailing period.
- d) None of the outputs shows a trailing period.
- e) An `ArrayIndexOutOfBoundsException` is thrown.

vii) What is the output of this code fragment ?

```
1.  int x = 3   int y = 10 ;  
2.  System.out.println ( y % x ) ;
```

- a) 0
- b) 1
- c) 2
- d) 3.

viii) Which of the following statements is correct ?

- a) The 'try' block should be followed by a 'catch' block.
- b) The 'try' block should be followed by a 'finally' block.
- c) The 'try' block should be followed by either a 'catch' block or a 'finally' block.
- d) The 'try' block should be followed by at least two 'catch' blocks.

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- ix) The wait( ) and notify( ) methods are used to perform
- a) Interthread communication
  - b) Synchronisation
  - c) Deadlock
  - d) all of these.
- x) If a data-item is declared as a protected access specifier then it can be accessed
- a) anywhere in the program
  - b) by the base and derived classes
  - c) only by base classes
  - d) only by derived classes.
- xi) Which one of the following is wrong ?
- a) 'Runnable' s a predefined interface.
  - b) The sleep( ) method instructs a thread to terminate its execution.
  - c) The isAlive( ) method tells whether a thread has not yet died.
  - d) MAX\_PRIORITY represents the level 10.
- xii) What type of following stream is used to read binary data ?
- a) InputStream
  - b) InputStreamReader
  - c) DataInputStream
  - d) None of these.

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**GROUP – B****( Short Answer Type Questions )**Answer any *three* of the following.  $3 \times 5 = 15$ 

2. Write down a program to implement Command Line arguments.
3. What are the main characteristics of OOP Language ? Explain each.
4. How does string class differ from String buffer class ?
5. What are Implicit and Explicit Casting ? Explain with the help of example.  $2 + 3$
6. What is the difference between 'error' and 'exception' ? What are the benefits of organizing classes into packages ?

$$2\frac{1}{2} + 2\frac{1}{2}$$

**GROUP – C****( Long Answer Type Questions )**Answer any *three* of the following.  $3 \times 15 = 45$ 

7. a) What is mutable strings ?
- b) What are the benefits of organising classes into package ?
- c) How can you create your own package and add classes in that ? Explain with the help of an example.
- d) Explain with the help of an example, how java gets benefited by using Interface ?  $2 + 2 + ( 2 + 3 ) + 6$

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8. Write short notes on any *three* of the following : 3 × 5

- a) Wrapper Class
- b) Meta class
- c) String Tokenizer Class
- d) getCodeBase( ) methods.

9. a) Explain the life cycle of an Applet.
- b) List various attributes of Applet tag used in HTML. Explain the purpose of these attributes
- c) Write a Java program that uses the draw Polygon( ) method of Graphics class to draw a triangle with endpoints ( 25, 30 ) ; ( 75, 80 ) and ( 50, 50 ).

3 + ( 3 + 3 ) + 6

10. a) Why does Java have two ways to create child threads ( by extending Thread or implementing Runnable ) and which approach is better ?
- b) Define an exception called "NotEqualException" that is thrown when a float value is not equals to 3.14 write a program that uses that user defined exception.
- c) Write a Multithreading program to generate the square roots to the first 30 natural numbers using Runnable interface.
- d) What do you mean by 'Synchronization' ? Why do we need it ?

2 + 5 + 5 + 3

CS/B.TECH (CSE) (N)/SEM-5/CS-504D/2012-13

11. a) How applet is different from frame and panel ? Explain.
- b) How threads are made to communicate with each other ? Explain with example.
- c) Explain any three events with suitable example.

5 + 5 + 5

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CS/B.tech/CSE/odd/Sem-5th/CS-504D/2014-15

CS/B.tech/CSE/odd/Sem-5th/CS-504D/2014-15

**CS-504D****OBJECT ORIENTED PROGRAMMING**

Time Allotted: 3 Hours

Full Marks: 70

*The questions are of equal value.**The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.***GROUP A  
(Multiple Choice Type Questions)**

1. Answer any *ten* questions. 10×1 = 10
- (i) Byte code of java is  
 (A) platform dependent (B) platform independent  
 (C) no specific rule (D) depend upon OS
- (ii) In System.out.println(); out is  
 (A) a class (B) output stream object  
 (C) method (D) none of these
- (iii) Constructor can be overloaded  
 (A) never (B) always  
 (C) partially (D) either (B) or (C)
- (iv) Runtime binding occurs  
 (A) when method overloaded (B) method overridden  
 (C) object is created (D) none of these
- (v) A package may contain  
 (A) class only (B) interface only  
 (C) class and interface (D) only subpackage

- (vi) Stack overrun is an  
 (A) error (B) exception  
 (C) virus (D) worm
- (vii) Java virtual machine is  
 (A) platform dependent totally  
 (B) independent  
 (C) depends on machine architecture only  
 (D) depends on OS only
- (viii) Scanner class resides in  
 (A) java.io (B) java.applet  
 (C) java.util (D) java.net
- (ix) Applet can be used for generating  
 (A) static web page (B) dynamic webpage  
 (C) active webpage (D) none of these
- (x) Java is robust because  
 (A) it is object oriented  
 (B) garbage collection is present  
 (C) platform independent  
 (D) exception handling
- (xi) Abstract class is used for  
 (A) inheritance only (B) instantiation only  
 (C) both (A) and (B) (D) useless

**GROUP B  
(Short Answer Type Questions)**

- Answer any *three* questions. 3×5 = 15
2. What is JVM? Explain the process of compilation and interpretation in Java. 2+3



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- |    |  |     |
|----|--|-----|
| 3. | What are literals in Java? What is the difference between Java and C++ in respect of language functions?   | 2+3 |
| 4. | What is parametric and non-parametric constructor? Explain both with a suitable program.   | 2+3 |
| 5. | Create three buttons of colour red, green and blue. Then write an applet program to change the background colour of screen according to the button colour. | 5   |
| 6. | What is String-buffer class? Explain with a suitable program.  | 1+4 |

**GROUP C**  
(Long Answer Type Questions)

- |     |  |           |
|-----|--|-----------|
|     | Answer any <i>three</i> questions.   | 3×15 = 45 |
| 7.  | What do you mean by parameter passing? What is call by value and call by reference? Write a down two programs to define call by value and call by reference.         | 3+4+8     |
| 8.  | Write the different characteristics of final keyword. What are the different characteristics of abstract keyword? Explain abstract class through a program.          | 5+5+5     |
| 9.  | How command line argument is written? Explain through a program. How an array is declared in Java? Write a program to ascending sort an array and display it.        | 2+5+2+6   |
| 10. | What do you mean by exception? Write program to handle user defined exception. What do you mean by thread? What is runnable interface? Explain it through a program. | 2+5+2+6   |
| 11. | Write short notes on any <i>three</i> of the following:  | 3×5       |
|     | (a) Interface.   |           |
|     | (b) Abstraction.   |           |
|     | (c) Inheritance.   |           |
|     | (d) Encapsulation.   |           |
|     | (e) Virtual Method Table.  |           |

CS/B.Tech/CSE/Odd/Sem-5th/CS-504D/2015-16



**MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY,  
WEST BENGAL**

**CS-504D**

**OBJECT ORIENTED PROGRAMMING**

Time Allotted: 3 Hours

Full Marks: 70

*The questions are of equal value.  
The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.  
All symbols are of usual significance.*

**GROUP A  
(Multiple Choice Type Questions)**

1. Answer any ten questions.

10×1 = 10

(i) JVM is

- (A) platform dependent  
(B) platform independent  
(C) depends on machine architecture only  
(D) depends on operating system only

(ii) Out of the following which one is not correctly matched?

- (A) Int – 24 bits                      (B) Short – 16 bits  
(C) Double – 64 bits                (D) Byte – 8 bits

(iii) In System.out.println, out is

- (A) a class                              (B) output stream object  
(C) method                             (D) none of these

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(iv) Constructor can be overloaded

- (A) never                                      (B) always  
(C) partially                                (D) either (B) or (C)

(v) Scanner class resides in

- (A) java.applet                              (B) java.io  
(C) java.util                                (D) java.net

(vi) Which one of the following statements is wrong?

- (A) A base class reference can refer to an object of a derived class  
(B) The dynamic method dispatch is not carried out at the run time  
(C) The super() construct refers to the base class constructor  
(D) The super.base-class-method-name() format can be used only within a derived class

(vii) What is the correct ordering for the import, class and package declarations where found in a single file?

- (A) package, import, class                (B) class, import, package  
(C) import, package, class                (D) package, class, import

(viii) Stack overruns

- (A) error                                      (B) exception                              (C) virus                                      (D) worm

(ix) What is the output of this code fragment?

1. int x = 3 int y = 10;  
2. System.out.println (y % x);

- (A) 0    (B) 1    (C) 2    (D) 3

(x) Which of the following statements is not correct?

- (A) The 'try' block should be followed by a 'catch' block  
(B) The 'try' block should be followed by a 'finally' block  
(C) The 'try' block should be followed by either a 'catch' block or a 'finally' block  
(D) The 'try' block should be followed by at least two 'catch' blocks

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- (xi) The wait( ) and notify( ) methods are used to perform  
 (A) interthread communication (B) synchronisation  
 (C) deadlock (D) all of these
- (xii) Which one of the following is wrong?  
 (A) 'Runnable' is a predefined interface  
 (B) The sleep( ) method instructs a thread to terminate its execution  
 (C) The isAlive( ) method tells whether a thread has not yet died  
 (D) MAX\_PRIORITY represents the level 10

**GROUP B**  
**(Short Answer Type Questions)**

Answer any *three* questions.

- |    |  |                   |
|----|--|-------------------|
| 2. | What is parametric and non-parametric constructor? Explain with suitable example.                                | 3×5 = 15<br>1+1+3 |
| 3. | How does string class differ from string buffer class? Explain with example.                                     | 3+2               |
| 4. | What is the difference between 'error and exception'? What are the benefits of organizing classes into packages? | 2.5+2.5           |
| 5. | Discuss the Applet life-cycle indicating the functions.  | 5                 |
| 6. | What is difference between final, finally and finalize in java? What do you mean by Garbage Collection in java?  | 3+2               |

**GROUP C**  
**(Long Answer Type Questions)**

Answer any *three* questions.

- |        |  |                |
|--------|--|----------------|
| 7. (a) | What do you mean by parameter passing? | 3<br>3×15 = 45 |
|--------|--|----------------|

- |         |   |     |
|---------|---|-----|
| (b)     | What is the difference between call by value or pass by value and call by reference or pass by reference? Explain.  | 3+6 |
| (c)     | What is 'this' keyword? Give suitable example.  | 3   |
| 8. (a)  | What are the differences between Method Overloading and Method Overriding?  | 4   |
| (b)     | Explain Dynamic Method Dispatch with suitable example.  | 4   |
| (c)     | Write a program to access static variable and static method to explain 'static' keyword properly.   | 7   |
| 9. (a)  | What are mutable strings?   | 2   |
| (b)     | How many types of Inheritance in java?  | 2   |
| (c)     | How can you create your own package and add classes in that? Explain with the help of an example.   | 2+3 |
| (d)     | Explain with the help of an example, how java gets benefited by using Interface?  | 6   |
| 10. (a) | What is multithreading? What is the difference between creation of user thread by extending thread class and implementing Runnable interface? Which one is better? Example. | 2+6 |
| (b)     | What is thread synchronization? Why is it needed?   | 3   |
| (c)     | Describe the differences between an Applet and Application.   | 2   |
| (d)     | List various attributes of Applet tag used in HTML.   | 2   |
| 11.     | Write short notes on any <i>three</i> of the following:   | 3×5 |
| (a)     | Wrapper Class   |     |
| (b)     | Link and Association  |     |
| (c)     | Thread Life-Cycle   |     |
| (d)     | Command Line Argument   |     |
| (e)     | Co-Variant Return.  |     |

CS/B.TECH/CSE/ODD SEM/SEM-5/CS-504D/2016-17



**MAULANA ABUL KALAM AZAD UNIVERSITY OF  
TECHNOLOGY, WEST BENGAL**

**Paper Code : CS-504D**

**OBJECT ORIENTED PROGRAMMING**

**Time Allotted : 3 Hours**

**Full Marks : 70**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own  
words as far as practicable.*

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

$$10 \times 1 = 10$$

i) Which of the following cannot be used for a variable  
name is Java ?

- a) Identifier
- b) Keyword
- c) Identifier & keyword
- d) None of these.

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CS/B.TECH/CSE/ODD SEM/SEM-5/CS-504D/2016-17

ii) Which one of the following is a valid declaration of  
an Applet ?

- a) Public class MyApplet extends  
java.applet.Applet {
- b) Public Applet MyApplet {
- c) Public class MyApplet extends applet  
implements Runnable {
- d) Abstract class MyApplet extends  
java.applet.Applet {
- e) Class MyApplet implements Applet {

iii) What is the range of the char type ?

- a) 0 to  $2^{16}$
- b) 0 to  $2^{15}$
- c) 0 to  $2^{16} - 1$
- d) 0 to  $2^{15} - 1$ .

iv) What is the output of this program ?

```
class area {  
    public static void main(String  
args[])  
{  
    double r, pi, a;  
    r = 9.8;  
    pi = 3.14;  
    a = pi * r * r;  
    System.out.println(a);  
}  
}
```

- a) 301.5656
- b) 301
- c) 301.56
- d) 301.56560000.

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v) What is an example of polymorphism ?

- a) Inner class                      b) Anonymous classes
- c) Method overloading      d) Method overriding.

vi) Exception is defined in which package ?

- a) java.util                      b) java.lang
- c) java.awt                      d) java.io

vii) The relation between classes can be represented by

- a) polymorphism              b) method
- c) message                      d) inheritance.

viii) The import statement is always

- a) the first non-comment statement in a java program file
- b) the default non-comment statement in java program file
- c) a non-comment statement and can be defined anywhere in the program
- d) none of these.

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ix) Method overloading occurs only when

- a) the names and the type signature of two methods are not identical
- b) the names and the type signature of two methods are identical
- c) the names and the return types of two methods are identical
- d) only the names are identical.

x) Which of the following values can a Boolean variable contain ?

- a) True & False                      b) 0 & 1
- c) Any integer value              d) True.

### GROUP - B

#### ( Short Answer Type Questions )

Answer any *three* of the following.       $3 \times 5 = 15$

2. What is byte code ? What does the JVM do ? Why is Java called compiled-interpreted language ?       $2 + 3$
3. Discuss Applet life-cycle indicating the functions.

4. a) What is command line argument ?  
b) Compare string and stringBuffer class.
5. What is the base class of Error and Exception ?  
Differentiate between throw and throws. 1 + 4

**GROUP - C**

**( Long Answer Type Questions )**

Answer any three of the following. 3 × 15 = 45

6. a) What is mutable strings ?  
b) What are the benefits of organizing classes into package ?  
c) How can you create your own package and add classes in that ? Explain with the help of an example.  
d) Explain with the help of an example, how java gets benefited by using interface. 2 + 2 + ( 2 + 3 ) + 6
7. Write short notes on any three of the following : 3 × 5  
a) Wrapper class  
b) Meta class  
c) Abstraction  
d) Polymorphism.

8. a) Write a program running a main thread and a child thread simultaneously.  
b) List various attributes of Applet tag used in HTML.  
c) Write a Java program that uses the draw polygon () method of Graphics class to draw a triangle with End points ( 25, 30 ), ( 75, 80 ) and ( 50, 50 ).

6 + 3 + 6

9. a) Why does Java have two ways to create child threads (by extending thread or implementing Runnable ) and which approach is better ?  
b) Define an exception called "NotEqualException" that is thrown when a float value is not equal to 3.14. Write a program that uses that user defined exception.  
c) Write a multithreading program to generate the square roots to the first 30 natural numbers using Runnable interface.  
d) What do you mean by Synchronization ? Why do we need it ?

2 + 5 + 5 + 3

CS/B.TECH/CSE/ODD SEM/SEM-5/CS-504D/2016-17

10. a) How is applet different from frame and page ?
- b) How are threads made to communicate with each other ? Explain with example.
- c) Explain any three events with suitable example.

5 + 5 + 5

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Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.TECH (CSE)/SEM-8/CS-802E/2011**

**2011**

**ADVANCED JAVA PROGRAMMING**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

- i) Which HTTP methods are NOT considered idempotent ?
  - a) GET
  - b) POST
  - c) HEAD
  - d) PUT.
- ii) Which HTTP methods are used to show the client what the server is receiving ?
  - a) GET
  - b) RETURN
  - c) TRACE
  - d) OPTIONS.
- iii) When using a RequestDispatcher, the use of which methods can often lead to an IllegalStateException ?
  - a) read
  - b) flush
  - c) write
  - d) getOutputStream.





- iv) Which type of objects can store attribute ?
- a) HttpServletRequest      b) ServletConfig  
c) ServletResponse      d) RequestDispatcher.
- v) Which deployment descriptor elements may appear before the < web-app > element ?
- a) < listener >  
b) < context-param >  
c) < servlet >  
d) No XML element may appear before the < web-app > element.
- vi) Which type of objects are available to the jspInit () method ?
- a) ServletConfig      b) JspServletConfig  
c) JspServletContext      d) HttpServletRequest.
- vii) Which JSP lifecycle step is out of order ?
- a) Translate the JSP into a servlet  
b) Compile servlet source code  
c) Call jsp Service ()  
d) Instantiate the servlet class.
- viii) Which are valid JSP implicit variables ?
- a) stream      b) context  
c) listener      d) exception.
- ix) Given a JSP page with the line :  
\$ {101 % 10}  
The output is
- a) 1      b) 10  
c) 1001      d) 101 % 10



- x) Where should web.xml be stored in a WAR file ?
- a) In / WEB-INF/classes    b) In / WEB-INF/lib
- c) In / WEB-INF                d) In / META-INF.

### GROUP – B

#### ( Short Answer Type Questions )

Answer any *three* of the following.                 $3 \times 5 = 15$

2. Explain JINI Technology ? What is JNDI ? What is the significance of it ?     $2 + (2 + 1)$
3. Explain the use of following JSP tags action elements :  
i) useBean    ii) getProperty    iii) setProperty.                 $1 + 2 + 2$
4. What is the significance of Entity Bean ? Explain CMP and BMP Entity Bean.     $[2 + 3]$
5. Briefly explain MVC Architecture. What is the advantage of 3 tier architecture over 2 tier architecture ?                 $3 + 2$
6. What are Servlets ? Briefly explain the various sessions Management Technique available in Servlets.                 $1 + 4$

### GROUP – C

#### ( Long Answer Type Questions )

Answer any *three* of the following.                 $3 \times 15 = 45$

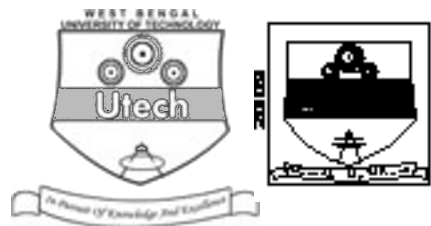
7. a) What is the difference between Servlets and CGI ?
- b) What is Servlets API ? Describe the Life cycle of Servlets.
- c) What is Servlets container ? What role does it play ?  
Briefly define different containers available in Servlets.

$3 + 2 + 5 + 5$



8. a) What is JDBC ? Discuss different types of JDBC Driver available in java.
- b) Give a brief description of the following :
- i) Statement ii) PreparedStatement iii) Callable Statement
- c) Write a Java Program, which will display all the records from a database (use JDBC-ODBC bridge driver, Table Name = "EMP" with fields like [empid Number, Ename text (10), Salary number]. Assume access database is running in your machine & DSN is TEST)
- 2 + 4 + 3 + 6
9. a) What is Enterprise Java Bean ? How does it differ from normal Java Bean ?
- b) What are the types of Bean available in EJB ? Explain in short.
- c) Explain the feature of entity bean ? What are the ways to persist entity bean ?
- 1 + 2 + 5 + 4 + 3
10. a) What are the differences between JSP and JDBC ?
- b) Describe the Life cycle of JSP
- c) Explain in brief the various tags available in JSP
- d) Describe static, active and dynamic web pages.
- 3 + 4 + 5 + 3
11. a) What is XML ? How does it differ from HTML ?
- b) Briefly define the architecture of XML with a neat sketch diagram.
- c) What is the advantage of XML ? Describe the XML schema in brief.
- 2 + 2 + 5 + 3 + 3

**CS/B.TECH (CSE) (SUPPLE)/SEM-8/CS-802E/09**  
**ADVANCED JAVA PROGRAMMING ( SEMESTER - 8 )**



1. ....  
Signature of Invigilator

2. ....  
Signature of the Officer-in-Charge

Reg. No.

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Roll No. of the  
Candidate

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**CS/B.TECH (CSE) (SUPPLE)/SEM-8/CS-802E/09**  
**ENGINEERING & MANAGEMENT EXAMINATIONS, JULY – 2009**  
**ADVANCED JAVA PROGRAMMING ( SEMESTER - 8 )**

Time : 3 Hours ]

[ Full Marks : 70

**INSTRUCTIONS TO THE CANDIDATES :**

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.  
b) For **Groups – B & C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

**No additional sheets are to be used and no loose paper will be provided**

**FOR OFFICE USE / EVALUATION ONLY**

Marks Obtained

	Group – A										Group – B					Group – C					Total Marks	Examiner's Signature
Question Number																						
Marks Obtained																						

.....  
**Head-Examiner/Co-Ordinator/Scrutineer**

**S-53030 (29/07)**



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ON THIS PAGE**



**CS/B.TECH (CSE) (SUPPLE)/SEM-8/CS-802E/09**  
**ADVANCED JAVA PROGRAMMING**  
**SEMESTER - 8**



Time : 3 Hours ]

[ Full Marks : 70

**GROUP – A****( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

i) What does XSL stand for ?

- a) eXtensible Stylesheet Language
- b) eXtensible Style Listing
- c) eXtra Style Language
- d) eXpandable Style Language.

ii) There is a way of describing XML data, how ?

- a) XML uses a description node to describe data
- b) XML uses a DTD to describe the data
- c) XML uses XSL to describe data
- d) XML uses XQL to describe data.

iii) PreparedStatement object is similar to

- |                      |                     |
|----------------------|---------------------|
| a) Connection object | b) Statement object |
| c) ResultSet object  | d) String object.   |



iv) ACID, the acronym for the four properties guaranteed by transactions, is

- a) Atomic, Control, Information and Duration
- b) Autonomy, Central, Information and Duration
- c) Atomicity, Consistency, Isolation and Durability
- d) Action, Continuous, Isolation and Durability.




v) A J2EE component is a self-contained

- a) functional hardware
- b) functional model
- c) model
- d) functional software.

vi) An enterprise bean is a

- a) Server-side component
- b) Client-side component
- c) Model View Controller
- d) Mapping element.

vii) XML element is referred to as

- a) a root
- b) tag
- c) node
- d) branch.

viii) For J2EE configuration,

- a) netbeans is required
- b) tomcat is required
- c) j2sdk is required
- d) JAVA\_CLIENT is required.

ix) XML is standardized by

- a) W3C
- b) SUN Micro System
- c) Apache Software Foundation
- d) IBM.

x) Entity Beans represent persistent data in

- a) a database table
- b) EJB application
- c) a Bean JAR
- d) Client Machine.

**GROUP – B****( Short Answer Type Questions )**Answer any *three* of the following.

3 × 5 = 15

2. Explain MVC architecture relating to J2EE with figure.
3. Depending upon the 'client interaction', there are two types of 'Session Bean'. What are those ? When Session Bean can be used ? When EJB application needs 'Message-Driven Beans' ?
4. What are J2EE components and services ?
5. Why Session Management is necessary in a Client-Server Application ? How can you create a Session in Servlet ?
6. J2EE Supports 'Distributed Transaction'. Explain with example.

**GROUP – C****( Long Answer Type Questions )**Answer any *three* of the following.

3 × 15 = 45

7. State the advantages of 'distributed transactional applications' over general applications'. What are the roles performed by different components available in the 'j2ee' web tier ? Name the different tiers in 'j2ee architecture' with a clear sketch of 'j2ee architecture'.
8. What are ear, war and jar files ? What are J2EE Deployment Descriptors ?
9. What advantage does a Java servlet have over a traditional CGI program ? Explain the different stages of a servlet life cycle. Discuss the JSP Life Cycle with a diagram.
10. Mention different kinds of EJB. Draw the differences between a Web server and an application server. Explain the use of 'java classpath'.





3 × 5

11. Write short notes on any *three* the following :

- a) RMI
- b) JDO
- c) Client-Server Application
- d) JDBC.



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END

Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Tech (CSE)/SEM-8/CS-802E/2010**

**2010**

**ADVANCED JAVA PROGRAMMING**

**Time Allotted : 3 Hours**

**Full Marks : 70**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :  $10 \times 1 = 10$

- i) The use of a DTD in XML development is
  - a) required when validating XML documents
  - b) no longer necessary after the XML editor has been customized
  - c) used to direct conversion using an XSLT processor
  - d) a good guide to populating a templates to be filled in when generating an XML document automatically.
- ii) Which of the following is not a transaction isolation level in EJB ?
  - a) Transaction \_ read \_ uncommitted
  - b) Transaction \_ read \_ committed
  - c) Transaction \_ repeatable \_ read
  - d) Transaction \_ synchronous.

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[ Turn over

**CS/B.Tech (CSE)/SEM-8/CS-802E/2010**

- iii) DOM stands for
- a) Domain Object Model
  - b) Document Object Model
  - c) Document Oriented Methodology
  - d) Domain Oriented Markup.
- iv) What is the initial contact point for handling a web request in a Page-centric architecture ?
- a) A JSP Page
  - b) A JavaBean
  - c) A Servlet
  - d) A session Manager.
- v) Entity beans that have container-managed relationships with other entity beans, must be accessed in the same ..... scope as those related beans to provide a local client view.
- a) local
  - b) global
  - c) logical
  - d) physical.
- vi) Scaling of an application to increase availability and throughput is called
- a) Mapping
  - b) Transforming
  - c) Clustering
  - d) Optimizing.
- vii) Main purpose of XML is
- a) to reuse data
  - b) to save and transport data
  - c) to make connection between data
  - d) none of these.

CS/B.Tech (CSE)/SEM-8/CS-802E/2010

viii) Which of the following is true ?

- a) doGet () has higher data transfer capacity than doPost ()
  - b) doPost () and doGet () has same data transfer capacity
  - c) doPost () has unlimited data transfer capacity whereas doGet () has limited data transfer capacity
  - d) doGet() has unlimited data transfer capacity whereas doPost () has limited data transfer capacity.
- ix) Stub is a member to which of the following technologies ?
- a) JINI
  - b) JDO
  - c) JAXB
  - d) RMI.
- x) Which of the following JDBC driver types is called "native" ?
- a) Type 2
  - b) Type 1
  - c) Type 4
  - d) Type 1.

**GROUP - B****( Short Answer Type Questions )**Answer any *three* of the following.  $3 \times 5 = 15$ 

2. What is Servlet ? How is it different from CGI technology ?  
 $2 + 3$
3. Critically compare between JSP and Servlet. Discuss the main features of the life cycle of JSP.  
 $2 + 3$
4. What is the difference between Message Driven beans and Stateless Session beans ?
5. Explain layer architecture of RMI. Does RMI-IIOP support dynamic downloading of classes ? Justify your answer.  $3 + 2$
6. What is a directory service ? How to use LDAP to work with a directory service ?  
 $2 + 3$

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**GROUP - C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. a) Define HTTP Tunneling. 3  
 b) Explain how servlets differ from RMI. Explain the advantages and disadvantages of each technology. 7  
 c) Describe different types of servlet collaboration. 5
8. a) Explain the 3 main components of MVC architecture, i.e., Model, view and controller. 6  
 b) Explain the difference between DOM and SAX. 4  
 c) What is the difference between Java Bean and Enterprise Java Bean ? 5
9. a) What makes J2EE suitable for distributed multitiered Applications ? 5  
 b) Explain JTA and JTS in brief. 5  
 c) What are implicit objects in JSP ? What is the difference between forward and send Redirect ? 5
10. a) What is JDO ? How is it different from Value Object ? 5  
 b) What is the difference between Bean Factory and Application context ? 5  
 c) How does EJB invocation happen ? 5
11. Write short notes on any *three* of the following :  $3 \times 5$ 
  - a) JAXP and JAXB
  - b) JNDI
  - c) Significance of JINI in web Application
  - d) n-tier architecture
  - e) FAT controller.



Name : .....  
Roll No. : .....  
Invigilator's Signature : .....

**CS/B.TECH (CSE)/SEM-8/CS-802E/2011**

**2011**

**ADVANCED JAVA PROGRAMMING**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

- i) Which HTTP methods are NOT considered idempotent ?
  - a) GET
  - b) POST
  - c) HEAD
  - d) PUT.
- ii) Which HTTP methods are used to show the client what the server is receiving ?
  - a) GET
  - b) RETURN
  - c) TRACE
  - d) OPTIONS.
- iii) When using a RequestDispatcher, the use of which methods can often lead to an IllegalStateException ?
  - a) read
  - b) flush
  - c) write
  - d) getOutputStream.

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[ Turn over

CS/B.TECH (CSE)/SEM-8/CS-802E/2011



- iv) Which type of objects can store attribute ?
- a) HttpServletRequest      b) ServletConfig  
c) ServletResponse      d) RequestDispatcher.
- v) Which deployment descriptor elements may appear before the < web-app > element ?
- a) < listener >  
b) < context-param >  
c) < servlet >  
d) No XML element may appear before the < web-app > element.
- vi) Which type of objects are available to the jspInit () method ?
- a) ServletConfig      b) JspServletConfig  
c) JspServletContext      d) HttpServletRequest.
- vii) Which JSP lifecycle step is out of order ?
- a) Translate the JSP into a servlet  
b) Compile servlet source code  
c) Call jsp Service ()  
d) Instantiate the servlet class.
- viii) Which are valid JSP implicit variables ?
- a) stream      b) context  
c) listener      d) exception.
- ix) Given a JSP page with the line :  
\$ {101 % 10}  
The output is
- a) 1      b) 10  
c) 1001      d) 101 % 10

CS/B.TECH (CSE)/SEM-8/CS-802E/2011



x) Where should web.xml be stored in a WAR file ?

- a) In / WEB-INF/classes    b) In / WEB-INF/lib  
c) In / WEB-INF                d) In / META-INF.

**GROUP – B****( Short Answer Type Questions )**Answer any *three* of the following.  $3 \times 5 = 15$ 

2. Explain JINI Technology ? What is JNDI ? What is the significance of it ?  $2 + (2 + 1)$
3. Explain the use of following JSP tags action elements :  
i) useBean    ii) getProperty    iii) setProperty.  $1 + 2 + 2$
4. What is the significance of Entity Bean ? Explain CMP and BMP Entity Bean.  $[2 + 3]$
5. Briefly explain MVC Architecture. What is the advantage of 3 tier architecture over 2 tier architecture ?  $3 + 2$
6. What are Servlets ? Briefly explain the various sessions Management Technique available in Servlets.  $1 + 4$

**GROUP – C****( Long Answer Type Questions )**Answer any *three* of the following.  $3 \times 15 = 45$ 

7. a) What is the difference between Servlets and CGI ?  
b) What is Servlets API ? Describe the Life cycle of Servlets.  
c) What is Servlets container ? What role does it play ?  
Briefly define different containers available in Servlets.

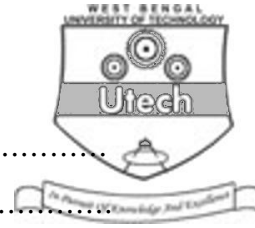
 $3 + 2 + 5 + 5$



CS/B.TECH (CSE)/SEM-8/CS-802E/2011



8. a) What is JDBC ? Discuss different types of JDBC Driver available in java.
- b) Give a brief description of the following :
- i) Statement ii) PreparedStatement iii) Callable Statement
- c) Write a Java Program, which will display all the records from a database (use JDBC-ODBC bridge driver, Table Name = "EMP" with fields like [empid Number, Ename text (10), Salary number]. Assume access database is running in your machine & DSN is TEST)
- 2 + 4 + 3 + 6
9. a) What is Enterprise Java Bean ? How does it differ from normal Java Bean ?
- b) What are the types of Bean available in EJB ? Explain in short.
- c) Explain the feature of entity bean ? What are the ways to persist entity bean ?
- 1 + 2 + 5 + 4 + 3
10. a) What are the differences between JSP and JDBC ?
- b) Describe the Life cycle of JSP
- c) Explain in brief the various tags available in JSP
- d) Describe static, active and dynamic web pages.
- 3 + 4 + 5 + 3
11. a) What is XML ? How does it differ from HTML ?
- b) Briefly define the architecture of XML with a neat sketch diagram.
- c) What is the advantage of XML ? Describe the XML schema in brief.
- 2 + 2 + 5 + 3 + 3



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.TECH(CSE)/SEP.SUPPLE/SEM-8/CS-802E/2012**

**2012**

**ADVANCED JAVA PROGRAMMING**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :  $10 \times 1 = 10$ 
  - i) What is the full form of Java IDL ?
    - a) Internet Definition Language
    - b) Internal Domain Language
    - c) Intranet Definition Language
    - d) Internal Definition Language.
  - ii) In MVC architecture, 'view' component are basically
    - a) HTML
    - b) JSPs
    - c) EJB
    - d) Java Beans.
  - iii) Which of the following is an Application Programming Interface ?
    - a) JNDI
    - b) LDAP
    - c) RMI
    - d) JNI.
  - iv) Which of the following tools is used to generate the stubs and skeletons for a remote service ?
    - a) java
    - b) rmiregistry
    - c) javac
    - d) rmic.

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[ Turn over

CS/B.TECH(CSE)/SEP.SUPPLE/SEM-8/CS-802E/2012



- v) Which of the following is equivalent to the given EJB QL expression for p.age BETWEEN 20 AND 30 ?
- a)  $p.age \geq 20$  AND  $p.age \leq 30$
  - b)  $p.age > 20$  AND  $p.age < 30$
  - c)  $p.age > 20$  AND  $p.age \leq 30$
  - d)  $p.age \geq 20$  AND  $p.age < 30$ .
- vi) Which of the following best defines lazy loading of beans ?
- a) Container loads every bean at start
  - b) Whole bean is loaded late
  - c) Only starts loading on first call of getter methods
  - d) None of these.
- vii) Which is/are true for XML ?
- a) It is user definable tag
  - b) It is content driven
  - c) Both (a) and (b)
  - d) None of these.
- viii) Which of the following packaging options of enterprise beans are recommended for most applications ?
- a) Package all enterprise beans for an application in one EJB module
  - b) Package all related enterprise beans for an application in one EJB module
  - c) Package each enterprise bean for an application in its own EJB module
  - d) None of these.
- ix) In webservice terminology SOAP stands for
- a) Simple Object Access Protocol
  - b) Simple Object Access Procedure
  - c) Standard Object Access Protocol
  - d) none of these.
- x) Which of the following should not be used to share data between servlets in a distributed web application ?
- a) Attributes of http Session
  - b) Database
  - c) Attributes of Servlet Context
  - d) Enterprise JavaBeans.

CS/B.TECH(CSE)/SEP.SUPPLE/SEM-8/CS-802E/2012

**GROUP – B****( Short Answer Type Questions )**Answer any *three* of the following. $3 \times 5 = 15$ 

2. a) What is a proxy server ? What is a Firewall ?  
b) How is security achieved in Java ? 2 + 3
3. a) What are the components of J2EE application ?  
b) What is a thin client ?  
c) According to you, are Java Beans J2EE components ?  
Briefly discuss. 2 + 1 + 2
4. a) What is MVC ? Briefly discuss the reasons why it is used.  
b) What are the implicit objects in JSP ? Give examples. 3 + 2
5. a) What is XML ? How does it differ from HTML ?  
b) Compare static webpage and dynamic webpage. 2 + 3
6. What do you mean by DTD and XSD ? Provide suitable examples.

**GROUP – C****( Long Answer Type Questions )**Answer any *three* of the following. $3 \times 15 = 45$ 

7. a) Explain Life Cycle of JSP.  
b) What happens when a browser is requesting for a Servlet program ?  
c) Explain JSP plug-in feature with an example. 5 + 5 + 5
8. a) What are the different components of EJB ? Discuss with examples.  
b) Compare JSP and ASP.  
c) Where do we use prepared statement and callable statement ?  
d) Explain Session handling mechanism of Servlet.

 $6 + 3 + 3 + 3$

CS/B.TECH(CSE)/SEP.SUPPLE/SEM-8/CS-802E/2012



9. a) Create an XML document that describes your details in the following hierarchy :

ID :

Name :

Firstname

Lastname

Age :      Years

Months

Department :

Phoneno :

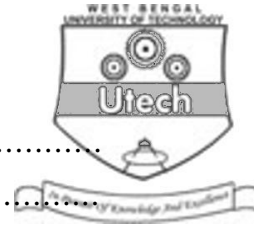
Country code

Area code

Phone

- b) Write an XSL to display the details of the above XML document.
- c) Distinguish between SAX and DOM parsing.      6 + 6 + 3
10. a) Describe RMI Layered architecture.
- b) What role does JNDI play in J2EE ?
- c) With the help of an example, explain an LDAP Tree structure. Show how a particular data may be accessed from it.      5 + 4 + 6
11. a) What do you mean by Elements, Template data, Actions in a JSP page ?
- b) What is the difference between Web Server and Application Server ?
- c) Explain JDBC connectivity with an example.      6 + 3 + 6

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Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Tech/CSE/SEM-8/CS-802E/2013**

**2013**

**ADVANCED JAVA PROGRAMMING**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

i) HTTP is a

- a) Stateful protocol      b) Stateless protocol  
c) both (a) & (b)      d) none of these.

ii) The JSP tags are interpreted by

- a) JSP compiler      b) JSP debugger  
c) JSP engines      d) none of these.

iii) Driver Manager class is the member of which of the  
following packages ?

- a) java.util      b) javax.servlet  
c) java.io      d) java.sql

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[ Turn over

CS/B.Tech/CSE/SEM-8/CS-802E/2013



- iv) The DOM parser of XML implies
- a) Linear parsing
  - b) Hierarchical parsing
  - c) both (a) & (b)
  - d) none of these.
- v) Which of the following statements is false ?
- a) Any XML sub-element cannot be further subdivided
  - b) The term DTD is related to XML
  - c) XML document can include attributes also for a particular sub-element
  - d) XSL document can include some query representation based on the XML document.
- vi) Which of the following mentioned methods is first called during JSP life cycle ?
- a) `jspInit()`
  - b) `_jspService()`
  - c) `_jspDestroy()`
  - d) None of these.
- vii) JSP document is compiled into
- a) ASP
  - b) Servlet
  - c) XML
  - d) JAXB.
- viii) What is the full form of IDL ?
- a) Internet Definition Language
  - b) Internet Domain Language
  - c) Definition Interface Language
  - d) Intranet Derivation Language.
- ix) Which of the following tools is used to generate the stubs and skeletons for a remote service ?
- a) `javac`
  - b) `jdk`
  - c) XSL
  - d) `rmic`.

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- x) Which of the following methods is called first and only once, when a new applet is first loaded?
- a) start                      b) paint
- c) init                        d) stop.

**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. What do you mean by Servlet ? What are the different steps involved in the Servlet life cycle ? 2 + 3
3. Briefly discuss the MVC architecture. What is the advantages of 3-tier architecture over 2-tier architecture ? 3 + 2
4. Discuss the main steps involved in the JSP life cycle. Compare the roles of JSP and Servlet. 3 + 2
5. What do you mean by JNDI ? What is the significance of DTD in XML document ? What is the full form of JAXB ? 2 + 2 + 1
6. What is JDBC ? What are the different types of JDBC Drivers that are available in java ? 1 + 4

### GROUP – C

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

- |    |    |   |       |
|----|----|---|-------|
| 7. | a) | What is the difference between Servlets and CGI ?<br>Explain. | 3     |
|    | b) | What are the static, dynamic and active web pages ?           | 3     |
|    | c) | Explain the various tags available in JSP.                    | 5     |
|    | d) | Discuss the role of doGet() and doPost() methods in short.    | 2 + 2 |



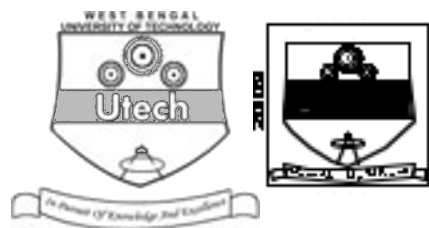
CS/B.Tech/CSE/SEM-8/CS-802E/2013



8. a) What do you mean by XML ? Are there any advantages of using XML ? Explain. 2 + 3
- b) What is XSL ? Compare the functionalities of SAX and DOM parsers in XML ? 2 + 3
- c) Write one example of an XML document with root element, sub-element as well as its attribute and also indicate these items. 3
- d) Is there any difference between XML schema and XML DTD ? Explain. 2
9. a) What do you mean by EJB ? How is it different from normal Java Bean ? 2 + 3
- b) Briefly discuss the different types of Beans that are available in EJB. 5
- c) Discuss some of the services of the EJB container. 5
10. a) Explain the RMI procedure involving the different steps with a diagram. 5
- b) Discuss the different layers of RMI architecture. 5
- c) What do you mean by CORBA ? Compare Java RMI and CORBA. 2 + 3
11. Write short notes on any *three* of the following : 3 × 5
- a) J2EE *n*-tier architecture
  - b) RMI registry
  - c) JAXP and JAXB
  - d) CORBA architecture
  - e) COOKIES.
-

# ADVANCED JAVA PROGRAMMING ( SEMESTER - 8 )

CS/B.Tech(CSE)/SEM-8/CS-802E/09



1. ....  
Signature of Invigilator

2. ....  
Signature of the Officer-in-Charge

Reg. No.

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Roll No. of the  
Candidate

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CS/B.Tech(CSE)/SEM-8/CS-802E/09  
ENGINEERING & MANAGEMENT EXAMINATIONS, APRIL – 2009  
ADVANCED JAVA PROGRAMMING ( SEMESTER - 8 )

Time : 3 Hours ]

[ Full Marks : 70

## INSTRUCTIONS TO THE CANDIDATES :

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- In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.
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- Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
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## FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

	Group – A								Group – B				Group – C				Total Marks	Examiner's Signature
Question Number																		
Marks Obtained																		

.....  
Head-Examiner / Co-Ordinator / Scrutineer

8876 E/F ( 27/04 )



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# ADVANCED JAVA PROGRAMMING

## SEMESTER - 8



Time : 3 Hours ]

[ Full Marks : 70

### GROUP – A

#### ( Multiple Choice Type Questions )

1. Choose the correct alternatives for the following :

10 × 1 = 10

i) SXLT is developed by

a) www

b) w3c

c) ECMA

d) IBM.

ii) Which of the following protocols are stateless in nature ?

a) HTTP

b) FTP

c) UUCP

d) TCP.

iii) What is the full form of IDL ?

a) Internet Definition Language

b) Internet Domain Language

c) Intranet Definition Language

d) Intranet Domain Language.

iv) Which type of JDBC driver can be dynamically downloaded to the client ?

a) Type1

b) Type2

c) Type3

d) Type4.



v) DCOM is equivalent to

a) EJB

b) RMI

c) JSP

d) HTML.

vi) Output of dynamic webpage is

a) applet

b) html

c) http

d) activex control.

vii) Each CGI request ..... process.

a) always uses the existing

b) may or may not create a new

c) always creates a new

d) none of these.

viii) SAX stands for

a) Simple Access for XML

b) Single Access for XML

c) Simple API for XML

d) None of these.

ix) A ..... is used by an XML-enabled browser to transform an XML document into HTML document so that the content can be displayed by the browser.

a) XSD

b) XSLT

c) DTD

d) None of these.

x) In webservice terminology SOAP stands for

a) Simple Object Access Procedure

b) Standard Object Access Procedure

c) Simple Object Access Protocol

d) None of these.

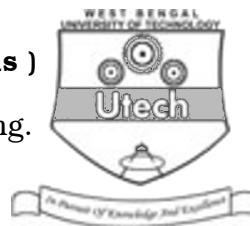


5

**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.



3 × 5 = 15

2. Compare 3-tier, n-tier and enterprise architectures.
3. List the advantages of MVC design pattern.
4. State and explain the following with proper Java code :
  - a) GenericServlet
  - b) HttpServlet
  - c) service.
5. What is CORBA ? Explain Corba Component Model ( CCM ).
6. Explain LDAP tree structure with a suitable example.

2 + 2 + 1

1 + 4

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.

3 × 15 = 45

7.
  - a) What is the difference between Servlets and CGI ?
  - b) What is Servlets API ? Describe the Life cycle of Servlets.
  - c) What is Servlets container ? What role does it play ? Briefly define different containers available in Servlets.
8.
  - a) What are the differences between RMI and CORBA ?
  - b) Explain RMI architecture with suitable diagram.
  - c) What are the differences between EJB and Java Beans ?

3 + 2 + 5 + 5

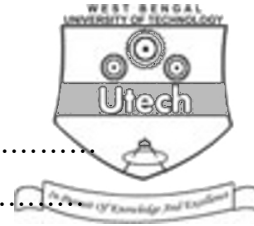
3 + 7 + 5



9. a) Describe JSP life cycle.
- b) What is the difference between page 'forward' and 'include' in JSP ?
- c) State the difference between ASP and JSP.
- d) Differentiate between scriptlets and declarations in a JSP page.  $4 + 4 + 4 + 3$
10. a) What is EIS ? What are the benefits of JINI ?
- b) What are the benefits of using JDO ?
- c) What are the differences between JDO and CMP ?  $(3 + 4) + 4 + 4$
11. a) What is XML ? How does it differ from HTML ?
- b) Briefly define the architecture of XML with a neat sketch diagram.
- c) What is the advantage of XML ? Describe the XML schema in brief.  $2 + 2 + 5 + 3 + 3$

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END



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Tech (CSE)/SEM-8/CS-802E/2010**

**2010**

**ADVANCED JAVA PROGRAMMING**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :  $10 \times 1 = 10$ 
  - i) The use of a DTD in XML development is
    - a) required when validating XML documents
    - b) no longer necessary after the XML editor has been customized
    - c) used to direct conversion using an XSLT processor
    - d) a good guide to populating a templates to be filled in when generating an XML document automatically.
  - ii) Which of the following is not a transaction isolation level in EJB ?
    - a) Transaction \_ read \_ uncommitted
    - b) Transaction \_ read \_ committed
    - c) Transaction \_ repeatable \_ read
    - d) Transaction \_ synchronous.





- iii) DOM stands for
- a) Domain Object Model
  - b) Document Object Model
  - c) Document Oriented Methodology
  - d) Domain Oriented Markup.
- iv) What is the initial contact point for handling a web request in a Page-centric architecture ?
- a) A JSP Page
  - b) A JavaBean
  - c) A Servlet
  - d) A session Manager.
- v) Entity beans that have container-managed relationships with other entity beans, must be accessed in the same ..... scope as those related beans to provide a local client view.
- a) local
  - b) global
  - c) logical
  - d) physical.
- vi) Scaling of an application to increase availability and throughput is called
- a) Mapping
  - b) Transforming
  - c) Clustering
  - d) Optimizing.
- vii) Main purpose of XML is
- a) to reuse data
  - b) to save and transport data
  - c) to make connection between data
  - d) none of these.



- viii) Which of the following is true ?
- doGet () has higher data transfer capacity than doPost ()
  - doPost () and doGet () has same data transfer capacity
  - doPost () has unlimited data transfer capacity whereas doGet () has limited data transfer capacity
  - doGet() has unlimited data transfer capacity whereas doPost () has limited data transfer capacity.
- ix) Stub is a member to which of the following technologies ?
- JINI
  - JDO
  - JAXB
  - RMI.
- x) Which of the following JDBC driver types is called "native" ?
- Type 2
  - Type 1
  - Type 4
  - Type 1.

### GROUP – B

#### ( Short Answer Type Questions )

Answer any *three* of the following.  $3 \times 5 = 15$

- What is Servlet ? How is it different from CGI technology ?  
2 + 3
- Critically compare between JSP and Servlet. Discuss the main features of the life cycle of JSP.  
2 + 3
- What is the difference between Message Driven beans and Stateless Session beans ?
- Explain layer architecture of RMI. Does RMI-IIOP support dynamic downloading of classes ? Justify your answer. 3 + 2
- What is a directory service ? How to use LDAP to work with a directory service ?  
2 + 3

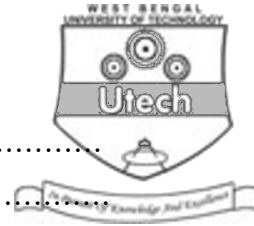


**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. a) Define HTTP Tunneling. 3  
b) Explain how servlets differ from RMI. Explain the advantages and disadvantages of each technology. 7  
c) Describe different types of servlet collaboration. 5
  8. a) Explain the 3 main components of MVC architecture, i.e., Model, view and controller. 6  
b) Explain the difference between DOM and SAX. 4  
c) What is the difference between Java Bean and Enterprise Java Bean ? 5
  9. a) What makes J2EE suitable for distributed multitiered Applications ? 5  
b) Explain JTA and JTS in brief. 5  
c) What are implicit objects in JSP ? What is the difference between forward and send Redirect ? 5
  10. a) What is JDO ? How is it different from Value Object ? 5  
b) What is the difference between Bean Factory and Application context ? 5  
c) How does EJB invocation happen ? 5
  11. Write short notes on any *three* of the following :  $3 \times 5$ 
    - a) JAXP and JAXB
    - b) JNDI
    - c) Significance of JINI in web Application
    - d) n-tier architecture
    - e) FAT controller.
-



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.TECH(CSE)/SEM-8/CS-802E/2012**

**2012**

**ADVANCED JAVA PROGRAMMING**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

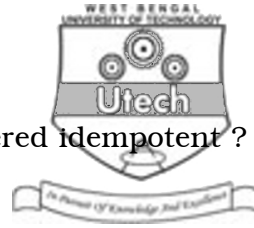
**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

- i) Tree based Parser is
  - a) SAX
  - b) DOM
  - c) DTD
  - d) none of these.
- ii) Which HTTP methods are used to show the client what the server is receiving ?
  - a) GET
  - b) PUT
  - c) TRACE
  - d) RETURN.
- iii) Which method of HttpServletResponse is used to redirect an HTTP request to another URL ?
  - a) sendURL ( )
  - b) redirectURL ( )
  - c) redirectHttp ( )
  - d) sendRedirect ( )



- iv) Which HTTP methods are not considered idempotent ?
- a) GET b) POST  
c) HEAD d) PUT.
- v) Which of the following methods are not declared in `HttpServletRequest` as opposed to in `ServletRequest` ?
- a) `getMethod ( )` b) `getHeader ( )`  
c) `getCookie ( )` d) `getInputStream ( )`.
- vi) Session Beans represent
- a) process b) Data  
c) Stack d) none of these.
- vii) When using a `RequestDispatcher`, the use of which methods can often lead to an `IllegalStateException` ?
- a) `read` b) `flush`  
c) `write` d) `getOutputStream`.
- viii) Which are valid JSP implicit variables ?
- a) `stream` b) `context`  
c) `exception` d) `listener`.
- ix) Given a JSP page with line  
`$(101% 10)`
- a) 1 b) 10  
c) 1001 d) 101% 10
- x) Which of the following tools is used to generate the stubs and skeletons for a remote service ?
- a) `javac` b) `rmic`  
c) `java` d) `rmiregistry`.



**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

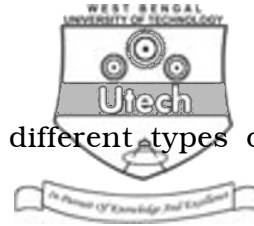
2. Discuss about the different Tier architectures.
3. What are the different approaches of Session Tracking ?
4. Why do we need dynamic webpage and active webpage ?  
What are the disadvantages of static webpage ?  $3 + 2$
5. What do you mean by DTD and XSD ? Give suitable examples.
6. Explain LDAP tree structure with suitable example.

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7.
  - a) What is Applet ? Describe the life-cycle of an applet.
  - b) What is the difference between HTTP servlet and Generic servlet ?
  - c) What are cookies ? Briefly explain at least two ways by which we can create a cookie.
  - d) "HTTP protocol is a stateless protocol". Explain briefly. $2 + 3 + 4 + 3 + 3$
8.
  - a) What are the uses of Serialization ?
  - b) What makes J2EE suitable for distributed client tier applications ?
  - c) Describe JSP life cycle.
  - d) What are scriptlets and declaration in a JSP page.  
Explain with examples.  $3 + 5 + 3 + 4$



9. a) What is EJB ? Briefly discuss the different types of EJB.  
b) Compare EJB and JavaBean.  
c) What are the EJB containers ?  
d) What are the differences between Type-1 and Type-4 JDBC drivers ? 4 + 4 + 4 + 3
10. a) Why are XML documents useful with Java ?  
b) Name the packages which define all the interfaces of the SAX parser.  
c) What is the advantage of XML ?  
d) Write a Java program which will display the elements of the following XML file :  

```
<Employees_details>
<Employee>
<Emp_Id>E001</Emp_Id>
<Emp_Name>B.GATES</Emp_Name>
</Employee>
<Employee>
<Emp_Id>E002</Emp_ID>
<Emp_Name>P.C.SIRCAR</Emp_Name>
</Employee>
</Employees_details>
```

3 + 3 + 3 + 6
11. Write short notes on any *three* of the following : 3 × 5
- a) JINI
  - b) JAXP & JAXB
  - c) JNDI
  - d) LDAP tree structure
  - e) Benefits of using JDO.





# MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : PCC-CS503 Object Oriented Programming

Full Marks : 70

Time Allotted : 3 Hours

The Figures in the margin indicate full marks.

Candidate are required to give their answers in their own words as far as practicable

## Group-A (Very Short Answer Type Question)

1. Answer any ten of the following :

[ 1 x 10 = 10 ]

- (i) In which memory a String is stored, when we create a string using new operator?
- (ii) \_\_\_\_\_ is an abstract machine. It is a specification that provides runtime environment in which java bytecode can be executed.
- (iii) Which of the following keywords are used to control access to a class Member?  
 A) new  
 B) abstract  
~~C) public~~  
 D) interface
- (iv) An abstract class, which declared with the "abstract" keyword, cannot be instantiated. True or False?
- (v) Out of the following which one is not correctly matched ?  
 A) JAVA - Object Oriented Language  
~~B) FORTRAN - Object Oriented Language~~  
 C) C++ - Object Oriented Language  
 D) BASIC - Procedural Language
- (vi) "A package is a collection of classes, interfaces and sub-packages"  
 The above statement is true or false?
- (vii) Which of the following statements is valid array declaration?  
 A) int number ()  
~~B) float average [ ]~~  
 C) int marks  
 D) count int[ ]
- (viii) Java virtual machine is \_\_\_\_\_. Fill in the blank.  
 A) platform dependent totally  
 B) independent  
~~C) depends on machine architecture only~~  
 D) depends on OS only
- (ix) Which method is used to set the graphics current color to the specified color in the graphics class?
- (x) Java is robust because \_\_\_\_\_. Fill in the blank.  
~~A) it is object oriented~~  
 B) garbage collection is present  
 C) inheritance is present  
 D) exception handling
- (xi) Consider the following 2 statements(S1 and S2).  
 (S1) C++ uses compiler only.  
 (S2) Java uses compiler and interpreter both.  
 Above statements are true or false?



(XII) What is the length of the application box made by the following Java program?

```
import java.awt.*;
import java.applet.*;
public class myapplet extends Applet
{
    public void paint(Graphics g)
    {
        g.drawString("A Simple Applet", 20, 20);
    }
}
```

- A) 20
- B) 50
- C) 100
- D) System dependent

**Group-B (Short Answer Type Question)**

Answer any three of the following

[ 5 x 3 = 15 ]

- 2. What is qualified association? Describe with an example [ 5 ]
- 3. What is an object? Why Java is called an object oriented language? Write the difference between procedural oriented programming and object oriented programming. [ 5 ]
- 4. Explain static keyword with suitable Java code. [ 5 ]
- 5. What is dynamic method dispatch in Java? Explain with an example. [ 5 ]
- 6. What AWT? What is Event Listener? [ 5 ]

**Group-C (Long Answer Type Question)**

Answer any three of the following

[ 15 x 3 = 45 ]

- 7. Discuss the differences between the following: [ 5+5+5 ]
  - i) 'throw' and 'throws' clause
  - ii) final and finally
  - iii) Abstract classes and Interfaces
- 8. Write short notes of the following: [ 5+5+5 ]
  - i) Link and Association
  - ii) Thread Life-Cycle
  - iii) Abstraction
- 9. Write short notes of the following: [ 5+5+5 ]
  - i) Dynamic method dispatch
  - ii) Dynamic binding
  - iii) Encapsulation
- 10. Create a package and write a java file with four methods for four basic arithmetic operations such as addition, subtraction, multiplication and division. These methods should save the file in the package. Write one more program that imports the above file to use those four methods. [ 15 ]
- 11. (a) What are exceptions? Explain the user defined exceptions and system defined exceptions with suitable examples. [ 2+6 ]
  - (b) Briefly explain the use of "this" and "super" keywords. [ 4 ]
  - (c) Difference between '==' operator and "equals" methods in the context of string object. [ 3 ]

\*\*\* END OF PAPER \*\*\*