



Name :

Roll No. :

Invigilator's Signature :

**CS/M.Sc.(Info.Sc.)/SEM-3/MI-305/2012-13
2012**

WEB TECHNOLOGY & ADVANCE JAVA

Time Allotted : 3 Hours

Full Marks : 70

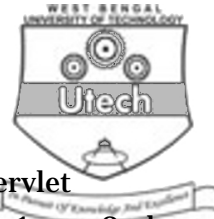
The figures in the margin indicate full marks.

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

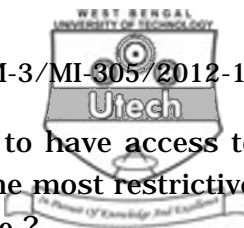
GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$
 - i) To run a compiled Java program, the machine must have what loaded and running ?
 - a) Java virtual machine b) Java compiler
 - c) Java bytecode d) A web browser.
 - ii) Which JDBC driver Type(s) can be used in either applet or Servlet code ?
 - a) Both Type 1 and Type 2
 - b) Both Type 1 and Type 3
 - c) Both Type 3 and Type 4
 - d) Type 4 only.
 - iii) What is sent to the user via HTTP, invoked using the HTTP protocol on the user's computer and run on the user's computer as an application ?
 - a) A Java application b) A Java applet
 - c) A Java Servlet d) None of these.



- iv) A JSP is transformed into a/an
- a) Java applet
 - b) Java Servlet
 - c) Either 1 or 2 above
 - d) Neither 1 nor 2 above.
- v) Which JDBC driver Type(s) is/are the JDBC-ODBC bridge ?
- a) Type 1
 - b) Type 2
 - c) Type 3
 - d) Type 4.
- vi) What will be the output of the program ?
- ```
public class Foo {
 public static void main(String[] args) {
 try {
 return;
 }
 finally {
 System.out.println("Finally");
 }
 }
}
```
- a) Finally
  - b) compilation fails
  - c) The code runs with no output
  - d) An exception is thrown at runtime.
- vii) How does Tomcat execute a JSP ?
- a) As a CGI script code
  - b) As an independent process
  - c) By one of Tomcat's threads
  - d) None of these.
- viii) What is byte-code ?
- a) Machine-specific code
  - b) Java code
  - c) Machine-independent code
  - d) None of these.



- ix) You want subclasses in any package to have access to members of a super class. Which is the most restrictive access that accomplishes this objective ?
- a) Public
  - b) Protected
  - c) Private
  - d) None of these.
- x) XML is
- a) server side scripting language
  - b) client side scripting language
  - c) extensible markup language
  - d) none of these.

### GROUP - B

#### ( Short Answer Type Questions )

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

2. Write the difference between get and post method. Explain with suitable examples.
3. Comparatively explain the advantages and disadvantages of 3-tier architecture over 2-tier architecture.
4. How a jsp file executes. Explain with proper diagram ?
5. What is Servlet ? How it is different from CGI technology ?

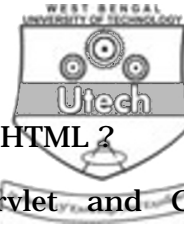
$2 + 3$

### GROUP - C

#### ( Long Answer Type Questions )

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

6. Write short notes on any *three* of the following :  $3 \times 5 = 15$ 
  - a) MVC architecture
  - b) XML DOM and DOM Parser
  - c) Servlet life cycle
  - d) Type III driver
  - e) Java beans.



7. a) What is XML ? How it is different from HTML ?  
b) What is the difference between Servlet and CGI Technology ?  
c) What is the difference between page include and page forward ? Explain with examples.  
d) Write a Java program for database connectivity using JDBC Driver.  $2 + 2 + 3 + 4 + 4$
8. a) What is static page and dynamic page ?  
b) Explain briefly various tags available in JSP.  
c) What are the differences between JSP and JDBC ?  
d) Name few in build objects of JSP and state their functionality.  $2 + 5 + 4 + 4$
9. a) What is JDBC ? What are the different types of drivers available in Java ?  
b) Give a brief description of the followings :  
i) Statement  
ii) Prepared Statement  
iii) Callable Statement.  
c) Write a program ( using JDBC-ODBC Driver ) to display the records of the below database table :

| <b>Roll</b> | <b>Name</b>  | <b>Marks</b> |
|-------------|--------------|--------------|
| 1           | Rahul Bose   | 7.56         |
| 2           | Sonali Sinha | 8.94         |

$2 + 4 + 3 + 6$