

Code : 051607

B.Tech 6th Semester Exam., 2019**WEB APPLICATION DESIGN AND
DEVELOPMENT**

Time : 3 hours

Full Marks : 70

Instructions :

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

1. Choose the correct option for each of the following (any seven) : $2 \times 7 = 14$

(a) Which type of driver provides JDBC access via one or more ODBC drivers?

- (i) Type 1 driver
- (ii) Type 2 driver
- (iii) Type 3 driver
- (iv) Type 4 driver

(b) Which packages contain the JDBC classes?

- (i) java.jdbc and javax.jdbc
- (ii) java.jdbc and java.jdbc.sql
- (iii) java.sql and javax.sql
- (iv) java.rdb and javax.rdb

(c) How can you execute a stored procedure in the database?

- (i) Call method execute() on a CallableStatement object
- (ii) Call method executeProcedure() on a Statement object
- (iii) Call method execute() on a StoredProcedure object
- (iv) Call method run() on a ProcedureCommand object

(d) Which type of driver converts JDBC calls into the network protocol used by the database management system directly?

- (i) Type 1 driver
- (ii) Type 2 driver
- (iii) Type 3 driver
- (iv) Type 4 driver

- (e) Which of the following is not an interface?
- (i) Driver Manager
 - (ii) Connection
 - (iii) Statement
 - (iv) Result Set
- (f) Which of the following statements is true?
- (i) DELETE does not free the space containing the table and TRUNCATE free the space containing the table.
 - (ii) Both DELETE and TRUNCATE free the space containing the table.
 - (iii) Both DELETE and TRUNCATE does not free the space containing the table.
 - (iv) DELETE free the space containing the table and TRUNCATE does not free the space containing the table.

- (g) A typical _____ program creates some remote objects, makes references to these objects accessible, and waits for clients to invoke methods on these objects.
- (i) server
 - (ii) client
 - (iii) thread
 - (iv) concurrent
- (h) An object acting as a gateway for the client side is
- (i) skeleton
 - (ii) stub
 - (iii) remote
 - (iv) server
- (i) What programming language(s) or scripting language(s) does Java Server Pages (JSP) support?
- (i) VBScript only
 - (ii) Jscript only
 - (iii) Java only
 - (iv) All of the above

- (i) Which of the scripting of JSP not putting content into service method of the converted servlet?
- Declarations
 - Scriptlets
 - Expressions
 - All of the mentioned
2. In the context of Web Application, answer the following questions : 7×2=14
- Write the differences between TCP and UDP.
 - Write the differences between session and entity beans.
3. (a) What is EJB (Enterprise Java Beans)? Write the advantage and disadvantage of EJB.
- (b) Explain the following EJB annotations :
- @Timeout
 - @javax.ejb.PostActivate
 - @javax.ejb.Remote
 - @javax.ejb.Stateful
 - @PostConstruct
 - @PreDestroy
 - @PreUpdate 7+7=14

4. (a) Write the following protocol and write their port numbers :
- FTP, TELNET, SMTP, HTTP, HTTPS,
LOGIN, ECHO
- (b) Explain, what you mean by DNS. 7+7=14
5. (a) Write detailed description of enterprise application development process.
- (b) As an application designer, explain, how to design a chat application like WhatsApp or Facebook Messenger. 7+7=14
6. What is XML? Write XML file to store personal and educational information of student. 14
7. Explain Servlet with its life cycle. Give an example code. 14
8. The following method was written to determine whether its String parameter reads identically left-to-right and right-to-left (the so called palindrome) : 14
- ```
boolean isPalindrome(String s) {
 int i = 0, j = s.length() - 1;
 while (i != j &&
 s.charAt(i) == s.charAt(j) {
```

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```
 i++;
 j--;
 }
 return (i == j);
}
```

This method compiles fine, yet unfortunately, the code contains a logic error, which may result in a run-time error, or wrong output.

- (a) Find the error and explain what problem it will cause.
  - (b) Fix the error (write the correct statement).
  - (c) Write an alternative, recursive implementation.
9. Write short notes on the following :  $3\frac{1}{2} \times 4 = 14$

(a) J2EE

(b) Web Application Life Cycle

(c) Remote Method Invocation

(d) JSTL