Question 1

Name the phases of Waterfall life cycle model. Mention activities (objectives) and deliverables in each phase.

Answer:

The steps are:

1. System Engineering
2. Requirement analysis
3. Design
4. Construction
5. Testing
6. Installation
7. Maintenance

3. What is the advantages of XML?

1. XML is platform independent and programming language independent.

2. XML supports unicode.

3. The data stored and transported using XML can be changed at any point of time without affecting the data presentation.

4. XML allows validation using DTD and Schema.

5.XML is not limited to the fixed set of tags.

6.XML is completely compatible with Java™ and 100% portable.

7. XML is extendable.

6: What is a JDBC DriverManager?

A: JDBC DriverManager is a class that manages a list of database drivers. It matches connection requests from the java application with the proper database driver using communication subprotocol.

8: What are the basic steps to create a JDBC application?

A: Following are the basic steps to create a JDBC application:

Import packages containing the JDBC classes needed for database programming.

Register the JDBC driver, so that you can open a communications channel with the database.

Open a connection using the DriverManager.getConnection () method.

Execute a query using an object of type Statement.

Extract data from result set using the appropriate ResultSet.getXXX () method.

Clean up the environment by closing all database resources relying on the JVM's garbage collection.

8.What are the common tasks or steps of JDBC?

1. Create an instance of a JDBC driver or load JDBC drivers through jdbc.drivers;  
2. Register a driver;  
3. Specify a database;  
4. Open a database connection;  
5. Submit a query;  
6. Receive results

9: What is difference between statement and prepared statement?

A: Prepared statements offer better performance, as they are pre-compiled. Prepared statements reuse the same execution plan for different arguments rather than creating a new execution plan every time. Prepared statements use bind arguments, which are sent to the database engine. This allows mapping different requests with same prepared statement but different arguments to execute the same execution plan. Prepared statements are more secure because they use bind variables, which can prevent SQL injection attack.

9: What is a statement?

A: Statement encapsulates an SQL statement which is passed to the database to be parsed, compiled, planned and executed.