


Subject Name: Advanced Java Programming
Subject Code: 3160707
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	QUESTIONS	Marks
	<u>UNIT-1 JAVA NETWORKING</u>	
	<u>TOPIC:1 (About java.net Package)</u> Network Basics and Socket overview, java.net package Socket, ServerSocket, InetAddress, URL, URLConnection	
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	How do I convert a numeric IP address like 192.18.97.39 into a hostname like java.sun.com in java network programming? [LJIET] Answer: By InetAddress.getByName("192.18.97.39").getHostName() where 192.18.97.39 is the IP address. How do you get the IP address of a machine from its hostname?(DEC-22 NEW) [LJIET] Answer: By getHostName() method	1
2	Define Network Programming? [LJIET] Answer: It refers to writing programs that execute across multiple devices (computers), in which the devices are all connected to each other using a network.	1
3	What is a Socket? [LJIET] Answer: Sockets provide the communication mechanism between two computers using TCP. A client program creates a socket on its end of the communication and attempts to connect that socket to a server.	1
4	The java.net.InetAddress class represents an? [LJIET] A) Socket B) IP Address C) Protocol D) MAC Address Answer: B) IP Address	1
5	In InetAddress class which method returns the host name of the IP Address?[LJIET] A) public String getHostName() B) public String getHostAddress() C) public static InetAddress getLocalHost() D) None of the above Answer: A) public String getHostName()	1
6	How to display IP address and host name for local machine. (MAY-17 OLD) [LJIET] Answer: We can display IP address and host name using following methods. InetAddress addr = InetAddress.getLocalHost(); System.out.println("Local HostAddress: "+addr.getHostAddress()); String hostname = addr.getHostName();	1



	System.out.println("Local host name: "+hostname);	
	DESCRIPTIVE QUESTIONS	
1	Compare Socket with ServerSocket.(JUNE-22 NEW) [LJIET]	3
2	Discuss the difference between the Socket and ServerSocket class.(NOV-17 OLD,JUNE-22 OLD,DEC-22 OLD) [LJIET]	3
3	Difference between Socket and ServerSocket (MAY-17 OLD) [LJIET] OR Difference between Socket and Server Socket (MAY-18 OLD) [LJIET]	3.5
4	Explain the following classes with their use. i. URLConnection class ii. DatagramSocket and DatagramPacket class (JUNE-12 OLD) [LJIET]	7
5	Use of the URL class. (MAY-13 OLD)[LJIET]	3.5
6	Write a sample code for client send a "Hello" message to server(DEC-19 OLD)[LJIET]	4
7	Explain the function of the following classes: (DEC-13 OLD) [LJIET] (1) URL (2) URLConnection	7
8	Write short note on Protocol handler. (JUNE-14 OLD)[LJIET]	7
9	What are the components of URL? Show the use of URL class with an example (AUG-21 OLD)[LJIET]	3
	<u>TOPIC:2(About TCP, UDP Socket Programming)</u> TCP/IP client sockets, TCP/IP server sockets , Datagrams	
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	Which classes are used for connection-oriented socket programming in java?[LJIET] A) Socket B) ServerSocket C) Both A & B D) None of the above Answer: C) Both A & B	1
2	Which class can be used to create a server socket. This object is used to establish communication with the clients in java network programing?[LJIET] A) ServerSocket B) Socket C) Both A & B D) None of the above Answer: A) ServerSocket	1
3	Which methods are commonly used in ServerSocket class java network programing ?[LJIET] A) public OutputStream getOutputStream() B) public Socket accept() C) public synchronized void close() D) None of the above Answer: B) public Socket accept()	1
4	The client in socket programming must know which information in java network programing?[LJIET] A) IPaddress of Server B) Port number	1



	C) Both A & B D) None of the above Answer: C) Both A & B	
5	Which classes are used for connection-less socket programming in java?[LJIET] A) DatagramSocket B) DatagramPacket C) Both A & B D) None of the above Answer: C) Both A & B	1
6	The DatagramSocket and DatagramPacket classes are not used for connection-less socket programming in java.True/False [LJIET] Answer: False	1
7	How to display the expiration date and last modified date for the following URL http://www.star.com/news/.(MAY-17 OLD) [LJIET] Answer: getExpiration() and getLastModified()	1
	DESCRIPTIVE QUESTIONS	
1	Write a java program to find an IP address of the machine on which the program runs.(NOV-18 OLD) [LJIET]	3
2	Explain the following classes with their use. i. URLConnection class ii. DatagramSocket (iii) DatagramPacket class. (MAY-19 OLD) [LJIET]	3
3	Explain the following classes with their use. DatagramSocket and DatagramPacket class (JUNE-12 OLD)[LJIET]	3.5
4	What are the differences between a TCP socket and UDP socket? How are they created in Java?(DEC-22 NEW)[LJIET]	3
5	Give differences between Socket class versus ServerSocket class (MAY-16 OLD, MAY-17 OLD) [LJIET]	3.5
6	Explain Socket, ServerSocket, InetAddress classes. Write a java program to find an IP address of the machine on which the program runs. (NOV-11 OLD, NOV-18 OLD) [LJIET]	7
7	Write a client program to send any string from its standard input to the server program. The server program reads the string, finds number of characters and digits and sends it back to client program. Use connection-oriented or connection-less communication. (NOV-11 OLD) [LJIET] OR Write a java program where client sends a string as a message and sever counts the characters in the received message from client. Server sends this value back to the client. Server should be able to serve multiple clients simultaneously.(JUNE-22 NEW) [LJIET]	7
8	Write a client-server program using TCP sockets to echo the message send by the client. (MAY-13 OLD, MAY-19 OLD) [LJIET] OR Demonstrate Socket and ServerSocket with client server echo communication example. (NOV-19 OLD) [LJIET]	7
9	What is Server Socket? How it works in java ? Explain it with example. (JUNE-14 OLD)[LJIET] OR What is Server Socket? Explain in detail with an example. (OCT-16 OLD [LJIET] OR What is server Socket ? How it work in java ? Explain it with example. (MAY-19 OLD)[LJIET]	7
10	What is Datagram Socket? Explain in detail with example. (JUNE-14 OLD,OCT-16 OLD [LJIET] OR What is datagram socket explain with example. (MAY-19 OLD) [LJIET]	7



11	<p>Write a TCP or UDP client and server program to do the following: client> java client localhost/IP Port <enter> Enter text: This is my text to be changed by the SERVER <enter> Response from server: revres EHT YB DEGNAHC EB OT TXET YM SI SIHt client> exit (JAN-13 OLD)[LJIET]</p> <p>OR</p> <p>Write a TCP or UDP client and server program to do the following: client> java client localhost/IP Port <enter> Enter text: I hope, this time I clear Advance Java <enter> Response from server: avaJ ecnavdA raelc I emit siht ,epoh I client> exit (NOV-18 OLD)[LJIET]</p> <p>OR</p> <p>Write a TCP or UDP client and server program to do the following: client> java client localhost/IP Port <enter> Enter text: Welcome to Gujarat Technological UNIVERSITY <enter> Response from server: ytisrevinu LACIGOLONHCEt TARAJUg TO EMOCLEw client> exit (MAY-16 OLD)[LJIET]</p>	7
12	Write an UDP client and server program to do the following: Client send any string and server respond with its capital string. (DEC-14 OLD)[LJIET]	7
13	Write a client server program using TCP where client sends two numbers and server responds with sum of them. (DEC-14 OLD)[LJIET]	7
14	<p>Write a Java Client and Server Program to get date time from server on the client request. (MAY-15 OLD)[LJIET] OR</p> <p>Write a TCP Client-Server program to get the Date & Time details from Server on the Client request. (OCT-16 OLD) [LJIET]</p>	7
15	<p>Write a TCP or UDP client and server program to do the following: client> java client localhost/IP Port <enter> Enter text: Welcome to Gujarat Technological UNIVERSITY <enter> Response from server: ytisrevinu LACIGOLONHCEt TARAJUg TO EMOCLEw client> exit (MAY-16 OLD)[LJIET]</p>	7
16	<p>Write a client-server program using TCP or UDP where the client sends 10 numbers and server responds with the numbers in sorted order. (MAY-16 OLD)[LJIET]</p> <p>OR</p> <p>Write a client-server program using UDP where the client sends 10 numbers and server responds with the numbers in sorted order. (DEC-22 OLD)[LJIET]</p>	7
17	Write a UDP Client-Server program in which the Client sends any string and Server responds with Reverse string. (OCT-16 OLD) [LJIET]	7
18	Write a client server program using TCP where client sends a string and server checks whether that string is palindrome or not and responds with appropriate message. (MAY-17 OLD, MAY-18 OLD) [LJIET]	7
19	Write a client-server program using UDP socket. Client send list of N numbers to server and server respond the sum of N numbers. (NOV-17 OLD) [LJIET]	7
20	Write a client-server program using UDP socket. Client send the list of N strings and server responds the concatenation of those strings. (NOV-17 OLD) [LJIET]	7



21	Write java network program using network API in which client sends one string to server and server replies with length of string. (MAY-17 OLD) [LJIET]	7
22	Write a connection-oriented client server application where the client sends any string from its standard input and the server program responds back with the reversed string (NOV-17 OLD) [LJIET] OR Write a client-server application using TCP Sockets where client can send message and server respond with the reverse of them.(NOV-18 OLD) [LJIET]	7
23	Show the two-way communication between server and client with an example. (MAY-18 OLD) [LJIET]	7
24	Write a client-server java programs using TCP sockets to get server date on client machine. (MAY-19 OLD) [LJIET]	7
25	Write a Java Client and Server Program to get IP address of host name/domain. (NOV-19 OLD) [LJIET]	7
26	Discuss URL and URL Connection class with java code snippets (NOV-21 OLD)[LJIET]	4
27	Discuss the URL and URLConnection class with their use in network programming. (DEC-13 OLD)[LJIET]	7
28	Explain the usage of InetAddress class. (DEC-21 NEW)[LJIET]	3
29	Write a program in which client sends string from its standard input to the server. The server reads the string, converts the string into upper case and sends back to client. Use connection-oriented communication.(DEC-21 NEW)[LJIET]	7
30	Write a client server program using TCP. Client send list of N numbers to server and server respond the sum of N numbers with appropriate output (JAN-21 OLD)[LJIET]	7
31	Write a client server program using TCP where the client sends two numbers and the server responds by displaying their sum. (AUG-21 OLD)[LJIET]	7
32	Write a client server socket program to retrieve file from server on client request. If file is not available valid message is sent to client.(JUNE-22 OLD) [LJIET]	7
33	Write a client server socket program to retrieve server time on clientrequest.(JUNE-22 OLD) [LJIET]	7
<u>UNIT-2 JDBC PROGRAMMING</u>		
<u>TOPIC:1 (About JDBC Theory And java.sql Package Overview)</u>		
The JDBC Connectivity Model, Database Programming: Connecting to the Database, Creating a SQL Query, Getting the Results, UpdatingDatabase Data, Error Checking and the SQLException Class, The SQLWarning Class		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	What is Connection Pooling? (MAY-16 OLD)[LJIET] Answer: It's a technique to allow multiple clients to make use of a cached set of shared and reusable connection objects providing access to a database. Connection Pooling feature is supported only on J2SDK 1.4 and later releases.	1
2	What is JDBC? [LJIET] Answer: JDBC is a standard Java API for database-independent connectivity between the Java programming language and a wide range of databases.	1



3	<p>What is advantage and need of connection pooling in JDBC? [LJIET]</p> <p>Answer:</p> <p>-> Opening/Closing database connections is an expensive process and hence connection pools improve the performance of execution of commands on a database for which we maintain connection objects in the pool.</p> <p>-> It facilitates reuse of the same connection object to serve a number of client requests.</p> <p>-> Less time required for the users to wait for establishing the connection to the database.</p>	1
4	<p>Which of the following holds data retrieved from a database after you execute an SQL query using Statement objects? [LJIET]</p> <p>A) ResultSet B) JDBC driver</p> <p>C) Connection D) Statement</p> <p>Answer: A) ResultSet</p>	1
5	<p>The JDBC-ODBC Bridge support multiple concurrent open statements per connection. True Or False? [LJIET]</p> <p>Answer: False - No. You can open only one Statement object per connection when you are using the JDBC-ODBC Bridge.</p>	1
6	<p>Which of the following manages a list of database drivers in JDBC? [LJIET]</p> <p>A) DriverManager B) JDBC driver</p> <p>C) Connection D) Statement</p> <p>Answer: A) DriverManager</p>	1
7	<p>Which of the following type of JDBC driver, talks with the server-side middleware that then talks to database? [LJIET]</p> <p>A) Type-1 - JDBC-ODBC Bridge plus ODBC driver</p> <p>B) Type-2 - Native-API, partly Java driver</p> <p>C) Type-3 - JDBC-Net, pure Java driver</p> <p>D) Type-4 - Native-protocol, pure Java driver</p> <p>Answer: C) Type-3 - JDBC-Net, pure Java driver</p>	1
8	<p>How can I determine whether a particular Isolation level is supported by database or not? (MAY-17 OLD) [LJIET]</p> <p>Answer: Using Insert, update and delete operations on database</p>	1
9	<p>How to make ResultSet cursors held open when the method commit is called?(MAY-17 OLD) [LJIET]</p> <p>Answer: HOLD_CURSORS_OVER_COMMIT</p>	1
10	<p>How to know information about columns in ResultSet object? (MAY-17 OLD) [LJIET]</p> <p>Answer: ResultSetMetaData</p>	1
DESCRIPTIVE QUESTIONS		
1	Discuss concept of JDBC. (MAY-19 OLD) [LJIET]	3
2	List types of driver used in JDBC. Explain Thin driver. (DEC-19 OLD) [LJIET]	3
3	<p>What is Object serialization? What is need of it? (MAY-17 OLD, MAY-18 OLD)[LJIET]</p> <p>OR</p> <p>Explain object serialization in detail with example.(NOV-11 OLD)[LJIET]</p> <p>OR</p> <p>Explain Object serialization and how it can be done in java.(JAN-13 OLD, DEC-14 OLD)[LJIET]</p> <p>OR</p> <p>Explain the concept of object Serialization. (MAY-16 OLD)[LJIET]</p> <p>OR</p> <p>Discuss Object Serialization with one example. (NOV-21 OLD)[LJIET]</p>	3,5,4,7
4	What is serialization/deserialization of objects? Why do you need it? Give the example with necessary code.(JUNE-12 OLD)[LJIET]	7



	OR Explain serialization/deserialization of Object with necessary code in java. (NOV-16 OLD)[LJIET]	
5	Describe following with proper illustrations: Type-4 JDBC driver. (DEC-13 OLD)[LJIET]	3.5
6	Explain the JDBC URL with appropriate examples. (MAY-13 OLD)[LJIET]	3.5
7	Describe the various categories of database drivers available. Also explain classes supported for establishing database connection with suitable example. (NOV-11 OLD)[LJIET]	7
8	What is connection URL? How do you make a database connection? Explain various ways to make the database connection using JDBC code snippets.(DEC-22 NEW)[LJIET]	7
9	What is connection URL? How do you make a database connection? Explain various ways to make the database connection using JDBC code snippets..(DEC-22 NEW)[LJIET]	7
10	<p>Explain various JDBC drives. (JUNE-14 OLD)[LJIET]</p> <p>OR</p> <p>List out different types of JDBC driver and explain each. (DEC-14 OLD)[LJIET]</p> <p>OR</p> <p>What is JDBC? What are the various types of JDBC Driver? Write code snippet for each type of JDBC connection. (MAY-15 OLD)[LJIET]</p> <p>OR</p> <p>Explain JDBC driver types. (JAN-13 OLD)[LJIET]</p> <p>OR</p> <p>Explain JDBC driver types in detail.(MAY-17 OLD)[LJIET]</p> <p>OR</p> <p>What is JDBC? List out all various types of JDBC Driver. Explain Thick and Thin driver. Write code snippet for each type of JDBC connection. Comment on selection of driver. (MAY-16 OLD)[LJIET]</p> <p>OR</p> <p>What is JDBC? Explain the types of JDBC drivers? Write a code snippet for each type of JDBC connection. (OCT-16 OLD) [LJIET]</p> <p>OR</p> <p>List the different types of JDBC drivers. Compare the various driver types for their advantages and disadvantages. (MAY-18 OLD) [LJIET]</p> <p>OR</p> <p>List different types of JDBC drivers and explain any two of them. (NOV-18 OLD) [LJIET]</p> <p>OR</p> <p>Explain various types of JDBC drivers and comment on selection of driver. (NOV-18 OLD, NOV -11 OLD)[LJIET]</p> <p>Explain various JDBC Drivers. (MAY-19 OLD)[LJIET]</p> <p>OR</p> <p>Discuss JDBC and its driver types? Which driver type is best and why? (NOV-19 OLD)[LJIET]</p> <p>OR</p> <p>What is JDBC driver? Explain its role and compare various JDBC drivers.(DEC-22 NEW)[LJIET]</p>	7
11	List different types of JDBC drivers and explain difference between Type-1 and Type 4 Driver with Code Snippet.(DEC-22 OLD) [LJIET]	7



12	Explain following classes : DriverManager, Connection, Statement, Resultset. [LJIET]	7
13	Write the steps to connect to the database in java application. [LJIET]	7
14	What is JDBC driver? What is its role? List the types of drivers and explain working of type-4 driver. Give the different ways to create the JDBC connection with example. (JUNE-12 OLD)[LJIET] OR What is JDBC driver? What is its role? List the types of drivers and explain Working of type -3 and type-4 driver (DEC-15 OLD)[LJIET]	7
15	Which basic java package is used to interact with database? List and explain some commonly used classes of this package. (MAY-16 OLD)[LJIET]	7
16	Write JDBC program to display contents of tbl_student on screen. (MAY-16 OLD)[LJIET]	7
17	How do you make selection of various JDBC drivers? Explain various types of drivers with examples. (NOV-17 OLD)[LJIET]	7
18	List the different types of JDBC drivers and explain any one of them.(AUG-21 OLD)[LJIET]	4
19	Compare the types of JDBC drivers?(JUNE-22 NEW) [LJIET]	4
TOPIC:2 (Types of Statements) The Statement Interface, PreparedStatement, CallableStatement		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	Which of the following is correct about stored procedures in JDBC? [LJIET] A) A stored procedure is a group of SQL statements that form a logical unit and perform a particular task. B) Stored procedures can be called using CallableStatement class in JDBC API. C) Both of the above. D) None of the above. Answer: C) Both of the above	1
2	Which of the following is correct about Statement? [LJIET] A) Used for general-purpose access to your database. B) Useful when you are using static SQL statements at runtime. C) The Statement interface cannot accept parameters. D) All of the above. Answer : D - All of the above	1
3	If one intends to work with a ResultSet, which of these PreparedStatement methods will not work? [LJIET] A) executeUpdate() B)execute() C) executeQuery() D)None Answer : A) executeUpdate()	1
4	Which character is used to represent an input parameter in a CallableStatement? [LJIET] A) * B) & C) ? D)% Answer : C) ?	1
5	This method is use to execute any SQL statement with a "SELECT" clause, that return the result of the query as a result set. [LJIET] A) executeUpdate() B)execute()	1



	C) executeQuery() D)None Answer : C) executeQuery()	
6	This method is used to execute INSERT, DELETE, UPDATE , and other SQL DDL such as CREATE, DROP Table. [LJIET] A) executeUpdate() B)execute() C) executeQuery() D)None Answer : A) executeUpdate()	1
7	This object does not contain the stored procedure itself but contains only a call to the stored procedure. [LJIET] A) Statement B) PreparedStatement C) CallableStatment D)None Answer : C) CallableStatment	1
DESCRIPTIVE QUESTIONS		
1	Write difference between statement and prepared statement interface. (DEC-19 OLD) [LJIET]	3
2	What is the use of PreparedStatement? How will you use it?(DEC-22 NEW) [LJIET]	3
3	Discuss CallableStatement with example. (NOV-17 OLD, DEC-22 OLD) [LJIET] What is the use of CallableStatement? How will you use it??(DEC-22 NEW) [LJIET]	3,4
4	Explain the use of Callable Statement and Prepared Statement with example. (NOV-11 OLD,DEC-15 OLD, NOV-18 OLD) [LJIET] OR Explain role of Prepared Statement and Callable Statement with example. (MAY-17 OLD) [LJIET] OR Explain Prepared statements with suitable example(DEC-15 OLD) [LJIET] Give the use of Statement, PreparedStatement and CallableStatement object and Write code to insert three records into student table using PreparedStatement (assume student table with Name, RollNo, and Branch field). (DEC-14 OLD) [LJIET] OR Write a program to insert student records to database using prepared statement. (NOV-17 OLD) [LJIET] OR What is CallableStatement? Show that how to use it to call a stored procedure running at database layer. (DEC-13 OLD,NOV-18 OLD) [LJIET] OR Explain the use of CallableStatement and PreparedStatement with example. (NOV -11 OLD MAY-19 OLD,NOV-18 OLD) [LJIET]	7
5	When callable statement is used? Write java servlet to store data in database using callable statement. (JUNE-22 OLD) [LJIET]	7
6	Explain the use of the PreparedStatement object of the JDBC with an appropriate example. (MAY-13 OLD, NOV-18 OLD,DEC-22 OLD) [LJIET]	7
7	What is Callable statement? Write a procedure to insert a row into the table student(roll_no,name,%ge) and call it using callable statement in JDBC application. ? (JUNE-12 OLD) [LJIET] OR What is Callable Statement? Show that how to use it to call a stored procedure running at database layer. (DEC-13 OLD) [LJIET]	7



8	Explain the use of PreparedStatement with appropriate example. (OCT-16 OLD, JUNE-22 NEW) [LJIET]	7
9	Show the use of PreparedStatement object to run precompiled SQL statement. Also write example of java snippet for PreparedStatement. (MAY-16 OLD)[LJIET]	7
10	What is the use of Statement class in JDBC? List and explain various types of statements in JDBC (MAY-17 OLD)[LJIET]	7
11	Explain usage of following classes with respect to JDBC. Also explain some of their important methods. 1. Statement 2. Connection 3. ResultSet (MAY-17 OLD)[LJIET]	7
12	How does java application call Stored Procedures from DBMS? Explain with example. (NOV-17 OLD)[LJIET]	7
13	What are the properties of a transaction? Show the use of PreparedStatement object to run precompiled SQL statement with appropriate example. (MAY-18 OLD)[LJIET]	7
14	Write a servlet code to demonstrate prepare statement and callable statement to retrieve and store employee data. (MAY-19 OLD) [LJIET]	7
15	Write a servlet code to demonstrate prepare statement and callable statement to retrieve and store bank account operations.(NOV-21 OLD)[LJIET]	7
16	Explain the use of PreparedStatement and CallableStatement with example (DEC-21 NEW)[LJIET]	4
17	Write a program to insert student records to database using callable statement with appropriate output. (JAN-21 OLD) [LJIET]	7
18	What is the use of PreparedStatement? Explain it with example.(AUG-21 OLD) [LJIET]	7
<p align="center">TOPIC:3 (Query Execution and Transaction Management) The ResultSet Interface, Updatable Result Sets, JDBCTypes, Executing SQL Queries, ResultSetMetaData, Executing SQLUpdates, Transaction Management.</p>		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	What is phantom read in JDBC? Which isolation level prevents it? (MAY-16 OLD)[LJIET] Answer: A phantom read is the situation where a transaction executes a query multiple times and get different data. Suppose a transaction is executing a query to get data based on a condition and then another transaction inserts a row that matches the condition. Now when same transaction will execute the query again, a new row will be part of the result set. This new row is referred as Phantom Row and this situation is termed as Phantom Read. Phantom read can be prevented only with TRANSACTION_SERIALIZABLE isolation level.	1
2	Which of the following is a Metadata interfaces of JDBC? [LJIET] A) DatabaseMetaData B) ResultSetMetaData C) Both of the above. D) None of the above. Answer: C) Both of the above	1
3	Which class or interface contains the transaction control methods setAutoCommit, commit, and rollback? [LJIET] A) DriverManager B) ResultSet C) Connection D) Statement Answer: C) Connection	1
DESCRIPTIVE QUESTIONS		
1	Explain ResultSetMetaData with suitable program. (NOV-18 OLD,DEC-22 OLD) [LJIET]	3



2	Explain use of DatabaseMetaData with example. (MAY-17 OLD, MAY-18 OLD)[LJIET] OR Explain DataBaseMetaData with example.(NOV-18 OLD)[LJIET]	3
3	Write a sample code to store image in Database.(DEC-19 OLD)[LJIET]	4
4	Explain the use of JDBC and Write the difference between JDBC and ODBC and write the program to create the database class that has one constructor which has code to load the JDBC driver and establish the connection with the database and implement the following methods i) execSQLQuery(sqlstring) ii) execSQLUpdate(sqlstring) [LJIET]	7
5	Explain How Transaction processing is handled by JDBC with example. [LJIET]	7
6	Explain following in brief: (1) MVC and (2) JDBC Architecture (DEC-13 OLD)[LJIET]	7
7	What is metadata? Explain metadata for resultset and database both. Explain the difference between execute(), executeUpdate() and executeBatch() method. [LJIET]	7
8	Discuss the use of execute(), executeUpdate() and executeQuery() methods. (DEC-21 NEW)[LJIET]	3
9	Write Java application program to change the basic = basic + 500 of all the employees whose age is greater then 40 from employee table then display how many record updated. [LJIET]	7
10	Write a program using JDBC for getting personal information – name, birthdate, sex, address, phone no, email-id & store it in database. Also provide list of all records, all male, all female & all minors (age below 18). [LJIET]	7
11	Write database application that prints different records from a table. Find out the name of table, no. of columns, no. of records and type of the columns. [LJIET]	7
12	Consider Bank table with attributes AccountNo, CustomerName, Balance, Phone and Address. Write a database application which allows insertion, updation and deletion of records in Bank table. Print values of all customers whose balance is greater than 20,000. (NOV- 11 OLD, JUNE-12 OLD)[LJIET] OR Consider Bank table with attributes AccountNo, CustomerName, Balance, Phone and Address. Write a database application which allows insertion, updation and deletion of records in Bank table. Print values of all customers whose balance is greater than 20,000.(DEC-22 OLD)[LJIET]	7
13	Write a JDBC program to insert and retrieve photo in databse. (JAN-13 OLD)[LJIET]	7
14	Write a database application to perform basic SQL operations using JDBC on table employee with attributes empno, name, designation, department and salary (NOV-17 OLD)[LJIET]	7
15	Explain JDBC Transaction Management in detail.(DEC-19 OLD)[LJIET]	7
16	What is ResultSet interface. Write various method for ResultSet interface. Write a code to update record using this interface.(DEC-19 OLD, DEC-22 OLD)[LJIET]	7
17	Describe JDBC component and architecture. (NOV-21 OLD)[LJIET]	7
18	What is a statement? What are the different types of JDBC Statements?(NOV-21 OLD)[LJIET]	3
19	Write a JDBC program for banking application in which consider bank table with attributes AccountNo, CustomerName, Phone and Address, and perform followings: 1. Insert two records using prepared statement. 2. Display all the records (DEC-21 NEW)[LJIET]	7
20	List out classes of javax.servlet.http package.(NOV-21 OLD)[LJIET]	3



21	What is a DatabaseMetaData? List out methods and explain any two with appropriate code. (JAN-21 OLD)[LJIET]	3
<u>UNIT-3 SERVLET API AND OVERVIEW</u>		
<u>TOPIC:1 (About Servlet Basics)</u>		
Servlet Model: Overview of Servlet, Servlet Life Cycle, HTTP Methods Structure and Deployment descriptor		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	How does the JVM execute a servlet compared with a regular Java class? (MAY-16 OLD)[LJIET] Answer: Servlets are standard Java classes and are executed by the Java Virtual Machine in exactly the same way as any other. However, the environment or context in which Servlets are executed is different. A Servlet is not invoked directly through a main method, the class is loaded and run by a Servlet Container (Web Server – Like Tomcate, GlassFish).	1
2	Consider a scenario in which 4 users are accessing a servlet instance. Among which one user called destroy() method. What happens to the rest 3 users? (MAY-16 OLD)[LJIET] Answer: By default servlet is multithreaded, for every client request a new thread will be created and assigned to that to perform the service. so if one thread initiates destroy() only itself will be terminated but other threads not terminates. So remaining 3 users can access servlet without any alteration.	1
3	What happens if you add a main method to servlet? (MAY-16 OLD)[LJIET] Answer: If we keep main method in servlet, there is not any compile time error, but it won't be invoked because servlet is invoked by servlet containers and in servlet container you only life cycle method of servlet	1
4	Servlet is Java class. Then why there is no constructor in Servlet? Can we write the constructor in Servlet? Justify your answer. (MAY-16 OLD)[LJIET]. Answer: Yes, we can write a constructor in Servlet if required. Constructor is called when Servlet instance is created . init() method is invoked by container to initialize servlet object. You may want to use init() for your init tasks since instead of making constructor.	1
5	How the GET method is different from POST method? (NOV-16 OLD) [LJIET] Answer:	1



GET	POST
1) In case of Get request, only limited amount of data can be sent because data is sent in header.	In case of post request, large amount of data can be sent because data is sent in body.
2) Get request is not secured because data is exposed in URL bar.	Post request is secured because data is not exposed in URL bar.
3) Get request can be bookmarked	Post request cannot be bookmarked
4) Get request is idempotent . It means second request will be ignored until response of first request is delivered.	Post request is non-idempotent
5) Get request is more efficient and used more than Post	Post request is less efficient and used less than get.

6	Are Servlets MultiThreaded? [LJIET] Answer: Yes, Servlets are MultiThreaded. The servlet container allocates one thread to handle each new request for a servlet without any special programming.	1
7	How many objects of a servlet is created for single servlet class in single application? [LJIET] A) One B)No of Request for it C)100 D)None of above Answer: A) One	1
8	How to delete a session in servlet? (MAY-17 OLD) [LJIET] Answer: To destroy a session you can either call session.invalidate() method or session.setMaxInactiveInterval(0)	1
9	How to get the name of the HTTP method with which the request was made? (MAY-17 OLD) [LJIET] Answer: Extends the <code>ServletRequest</code> interface to provide request information for HTTP servlets.	1
10	How to get the fully qualified name of the client that sent the request in servlet? (MAY-17 OLD) [LJIET] Answer: A servlet can use <code>getRemoteAddr()</code> and <code>getRemoteHost()</code> to retrieve the client's IP Address and client's host name from a http request.	1
11	How to send a page that auto-refreshes to a new page after a given time period to a user until their requests are being processed. (MAY-17 OLD) [LJIET] Answer: using <code>setIntHeader()</code> method	1
12	List out the important methods of <code>HttpServletResponse</code> . (DEC-22 NEW) [LJIET] Answer: <code>String getCharacterEncoding()</code> <code>String getContentType()</code> <code>ServletOutputStream getOutputStream()</code> <code>PrintWriter getWriter()</code> <code>void setCharacterEncoding(String charset)</code> <code>void setContentLength(int len)</code> <code>void setContentType(java.lang.String type)</code> <code>void setBufferSize(int size)</code>	1



	int getBufferSize() void flushBuffer() boolean isCommitted() void reset()		
	DESCRIPTIVE QUESTIONS		
1	Differentiate between GenericServlet and HttpServlet (NOV-18 OLD)[LJIET] OR Differentiate between GenericServlet and HttpServlet. (JAN-21 OLD)[LJIET]	3	
2	List advantages of JSP over Servlet. (NOV-18 OLD,JUNE-22 OLD) [LJIET]	3	
3	Discuss the application design with MVC architecture. (NOV-17 OLD) [LJIET]	3	
4	How MVC architecture is better than conventional approach? (JUNE-22 OLD) [LJIET]	3	
5	What do you mean by MVC architecture? Explain its role in modern applications and list its advantages. (MAY-13 OLD)[LJIET] OR What do you mean by MVC architecture? Explain its role in modern applications with its advantages. (MAY-19 OLD, DEC-22 OLD) [LJIET] OR What do you mean by MVC architecture? Explain its role in modern applications with its advantages. (JUNE-22 NEW) [LJIET]	3	
6	Explain following in brief: (1) MVC and (2) JDBC Architecture (DEC-13 OLD)[LJIET]	7	
7	Briefly explain the Servlet life cycle. (NOV-17 OLD)[LJIET]	4	
8	Discuss the use of GET and POST with example. (NOV-17 OLD) [LJIET] OR Discuss the use of GET and POST method in servlet with code snippet. (JUNE-22 OLD) [LJIET]	4	
9	What is Servlet? Explain Servlet Life Cycle. (NOV-18 OLD)[LJIET] OR What is Servlet? Explain the life cycle methods of it. (JUNE-22 NEW) [LJIET]	4	
10	Differentiate between doGet() & doPost() methods. (DEC-22 OLD) [LJIET]	3	
11	Write difference between (1) Generic Servlet and Http Servlet (2) doGet and doPost (DEC-19 OLD)[LJIET]	4	
12	Explain Request and Response object in Servlet. (JUNE-14 OLD, NOV-16 OLD , DEC-19 OLD, OCT-16 OLD, MAY-17 OLD,DEC-22 OLD) [LJIET]	3,4,7	
13	Explain MVC architecture in detail. (DEC-13 OLD,MAY-13 OLD,JUNE-14 OLD,MAY-15 OLD)[LJIET] OR Explain MVC and Hibernate Architecture. (DEC-15 OLD)[LJIET] OR Explain MVC Architecture in Details with Figure. (MAY-15 OLD)[LJIET] OR Give significance of MVC architecture in building n-tier application. Explain in detail. (NOV-11 OLD)[LJIET] OR Write a short note on MVC architecture. (MAY-16 OLD)[LJIET] OR Explain MVC architecture in detail with figure. (OCT-16 OLD, NOV-16 OLD)[LJIET] OR	3,7	



	Explain MVC Architecture. (MAY-19 OLD)[LJIET] OR Draw and explain MVC architecture. (NOV-21 OLD)[LJIET] OR Explain MVC Architecture in Details with neat diagram. (NOV-19 OLD)[LJIET]	
14	List various HTTP requests methods and explain any three of them. (MAY-18 OLD)[LJIET]	7
15	Explain web Application, Web Container (NOV-11 OLD)[LJIET], Web Architecture. [LJIET]	7
16	Explain HTTP Protocol, Request and Response . [LJIET]	7
17	Give the characteristics of the HTTP protocol and explain the GET, HEAD and PUT methods of the HTTP protocol. (MAY-13 OLD, DEC-15 OLD, MAY-19 OLD)[LJIET]	7
18	Explain Servlet Life Cycle in detail. (JUNE-12 OLD, NOV-11 OLD, JAN-13 OLD, JUNE-14 OLD, DEC-15 OLD)[LJIET] OR Explain Servlet Life Cycle with example to demonstrate every state. (MAY-15 OLD)[LJIET] OR Draw and explain Servlet life cycle. (MAY-16 OLD)[LJIET] OR Explain the Servlet life cycle with life cycle methods. (JUNE-12 OLD, NOV-16 OLD)[LJIET] OR Describe the servlet life cycle with life cycle methods (MAY-13 OLD, MAY-19 OLD)[LJIET] OR Draw and explain life cycle of Servlet. (JUNE-14 OLD, MAY-19 OLD)[LJIET] OR Briefly explain servlet lifecycle (NOV-17 OLD) [LJIET]	7
19	List out methods used in servlet lifecycle. Write a servlet which retrieve students marksheet data based on student registration number entered from result.html html page and print on browser screen. (JUNE-22 OLD) [LJIET]	7
20	Draw and explain J2EE architecture. (MAY-17 OLD, MAY-19 OLD)[LJIET] OR Explain J2EE architecture with functionality of all components. (NOV-19 OLD)[LJIET] OR Write short note on J2EE architecture. Explain various components. (DEC-15 OLD)[LJIET] OR Write a note on J2EE architecture. (MAY-16 OLD)[LJIET]	7
21	Explain Servlet life cycle & importance of context and config object. (JAN-13 OLD, NOV-18 OLD)[LJIET]	7
22	Explain Servlet life cycle & importance of context object. (Dec-15 OLD, JAN-13 OLD)[LJIET]	7
23	What is deployment descriptor? Explain various tags of DD. What is the use of DD? [LJIET]	7
24	List and Explain various stages of Servlet life cycle. Explain role of web container. (MAY-16 OLD)[LJIET]	7
25	Write sample deployment descriptor file (web.xml). Explain various configuration parameters of it. (MAY-16 OLD)[LJIET] OR What is web.xml? Explain it with code. (MAY-18 OLD)[LJIET]	7
26	What is a role of MVC in designing multi tiered application? Explain technologies used at each tier. (NOV-17 OLD)[LJIET]	7



27	Web Server Vs. Application Server (NOV-17 OLD)[LJIET]	3.5
28	Explain the servlet life cycle. (MAY-18 OLD)[LJIET]	7
29	What is web.xml file? What is its importance?(MAY-18 OLD)[LJIET]	3.5
30	Write and discuss web.xml file parameter.(JUNE-22 OLD) [LJIET]	32
31	What are various ways of session tracking? Explain any two of them. (MAY-18 OLD)[LJIET]	7
32	Differentiate the followings: (Any Three) (MAY-16 OLD)[LJIET] (I) GenericServlet vs HttpServlet (II) doGet() vs doPost() (III) Servlets vs CGI (IV) Session and Cookie (V) JSP vs Servlet	7
33	Explain Servlet and HTTP Servlet with example. (NOV-19 OLD) [LJIET]	7
34	Differentiate HTTP Get and Post methods. (DEC-21 NEW)[LJIET]	3
35	List and Explain various stages of Servlet life cycle. (DEC-19 OLD)[LJIET]	7
36	What is a deployment descriptor file? Explain it with code for managing the different errors or exceptions (JAN-21 OLD)[LJIET]	4
37	Explain Servlet Life Cycle with example and demonstrate every state in detail. (JAN-21 OLD)[LJIET]	4
38	What is session? List the different ways to manage the session and explain any one way with appropriate code. (JAN-21 OLD)[LJIET]	7
TOPIC:2 (Servlet API classes, Objects) ServletContext and ServletConfig interface, Attributes in Servlet, Request Dispatcher interface		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	What is the purpose of RequestDispatcher Interface?[LJIET] Answer: The RequestDispatcher interface provides the facility of dispatching the request to another resource it may be html, servlet or jsp. This interceptor can also be used to include the content of antoher resource.	1
2	What is the difference between ServletConfig & ServletContext Object? (NOV-16 OLD)[LJIET] Answer: The container creates object of ServletConfig for each servlet whereas object of ServletContext is created for each web application.	1
DESCRIPTIVE QUESTIONS		
1	Write a servlet that redirect requests alternatively to JSP Pages named Odd and Even. (MAY-17 OLD, MAY-18 OLD) [LJIET]	3
2	Mention advantages of J2EE. (MAY-19 OLD) [LJIET]	3
3	List out and describe advantages of J2EE.(JUNE-22 OLD) [LJIET]	4



4	<p>Explain use of ServletConfig and ServletContext object with example. (MAY-17 OLD, MAY-18 OLD, DEC-19 OLD) [LJIET]</p> <p>OR Discuss the possible uses of the ServletContext and ServletConfig object. (NOV-17 OLD) [LJIET] OR</p> <p>Differentiat ServletConfig and ServletContext objects. (DEC-21 NEW)[LJIET]OR</p> <p>Explain difference between ServletConfig and ServletContext object. (NOV-18 OLD, JUNE-22 OLD) [LJIET] OR</p> <p>Differentiate ServletConfig and ServletContext.(DEC-22 NEW) [LJIET]</p>	4
5	<p>What is Request Dispatcher? What is the difference between Request dispatcher's forward() and include() method? (MAY-17 OLD, MAY-18 OLD,DEC-22 OLD) [LJIET]</p> <p>OR</p> <p>Explain the purpose of RequestDispatcher using the methods forward () and include().(JUNE-22 NEW) [LJIET]</p>	4
6	<p>What is Request Dispatcher? What is the difference between RequestDispatcher's forward() and include() method? Explain it in detail with program. (JAN-21 OLD, DEC-21 NEW)[LJIET]</p>	7
7	<p>What is difference between Attribute and Parameter? [LJIET]</p>	7
8	<p>Discuss Servlet life cycle methods. Explain role of web container. (NOV-11 OLD, DEC-21 NEW)[LJIET]</p>	4
9	<p>Explain the concept of Servlet context.(MAY-16 OLD)[LJIET]</p>	7
10	<p>Write a servlet code which reads the student details from web page and stores it in database. (DEC-21 NEW)[LJIET]</p>	7
11	<p>Explain ServletContext life-cycle event handling with necessary code example. (NOV-16 OLD)[LJIET]</p>	7
12	<p>Write a servlet RegistrationServlet to get the values from registration.html html page and display the contents. Write the web.xml file.(NOV-17 OLD) [LJIET]</p>	7
13	<p>Write a Login servlet. Take input username and password from html file login.html and authenticate the user. Write the web.xml. (NOV-17 OLD) [LJIET]</p>	7
14	<p>Write a note on Servlet API? Discuss about some important classes of it. (MAY-17 OLD) [LJIET]</p>	7
15	<p>Explain architecture of J2EE. List out java technologies supported by J2EE along with their applications. (NOV-11 OLD,DEC-15 OLD,NOV-18 OLD)[LJIET]</p>	
16	<p>Draw and explain J2EE architecture (MAY-17 OLD) [LJIET]</p>	7
17	<p>Discuss all possible clients for J2EE application along with J2EE architecture. (NOV-17 OLD) [LJIET]</p>	7
18	<p>Write a Servlet program which maintains a counter for the number of times it has been accessed since its loading. (NOV-17 OLD) [LJIET]</p>	7
19	<p>Write a Web application using servlet to reverse the input number.(NOV-21 OLD)[LJIET]</p>	4
20	<p>Write a Web application using servlet to find whether entered String is palindrome or not. (NOV-21 OLD)[LJIET]</p>	4
21	<p>Define Session. Write a Java servlet which store items in shopping carts and generate invoice at end to demonstrate Session.(NOV-21 OLD)[LJIET]</p>	7
22	<p>Write a java code to explain the use of RequestDispatcher. (AUG-21 OLD)[LJIET]</p>	3



23	Compare ServletConfig with ServletContext.(AUG-21 OLD)[LJIET]	3
24	Why Native JDBC api driver is better than other type of JDBC Driver? Write jdbc code to connect, select and print resultset data of employee database on browser using servlet. (JUNE-22 OLD)[LJIET]	7
25	Elaborate BLOB Data type. Write java servlet to insert employee personal data with photograph using BLOB data type. (JUNE-22 OLD)[LJIET]	7
26	Elaborate BLOB Data type. Write java code to insert and retrieve BLOB data type values.(NOV-21 OLD)[LJIET]	7
27	Elaborate CLOB Data type. Write java code to insert and retrieve CLOB data type values.(NOV-21 OLD)[LJIET].	7
TOPIC:3 (Session and Cookie And Events)		
Cookies and Session Management: Understanding state and session, Understanding Session Timeout and Session Tracking, URL Rewriting		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	The getSession() method with 'true' as its parameter [getSession(true)] it will return the previous session object when [LJIET] A) the session is existing B)No session existing C) request is null D) response is null Answer: A) the session is existing	1
2	Which of the following are the session tracking techniques?[LJIET] A) URL rewriting, using session object, using response object, using hidden fields B) URL rewriting, using session object, using cookies, using hidden fields C) URL rewriting, using request object, using response object, using hidden fields D) URL rewriting, using session object, using response object, using hidden fields Answer: B) URL rewriting, using session object, using cookies, using hidden fields	1
3	session is instance of which class/interface to manage session in Servlet ?[LJIET] A) Session B) HttpSession C) HttpServletSession D) ServletSession Answer: B) HttpSession	1
DESCRIPTIVE QUESTIONS		
1	Differentiate the followings: (Any Three) (MAY-16 OLD) [LJIET] (IV) Session and Cookie	2
2	What is session? List the different ways to manage the session.(NOV-17 OLD,JUNE-22 OLD) [LJIET] OR What is a session? List out various session management techniques.(JUNE-22 NEW) [LJIET]	3
3	Explain functionality of Cookie. (MAY-19 OLD) [LJIET]	3
4	Write working of session management in servlet.(DEC-19 OLD)[LJIET]	3
5	What is session? Explain session management using HttpSession. (MAY-19 OLD) [LJIET]	4
6	What do you mean by Session? Write 4 session tracking method in detail. [LJIET]	7
7	Write JSP Page to demonstrate shopping cart using session feature of JSP. (MAY-15 OLD , MAY-18 OLD)[LJIET]	7
8	Write a JSP application for login module with reset password feature using database connectivity. (DEC-21 NEW)[LJIET]	7
9	What is session object in JSP? Explain its use with proper example.	7



	(MAY-18 OLD)[LJIET]	
10	What is session? Demonstrate the use of Session in JSP.(JUNE-22 NEW) [LJIET]	7
11	What do you mean by Cookie? How to read and write with Cookie object. [LJIET]	7
12	What are cookies and sessions? How can you use them in Java EE? Compare them. (DEC-13 OLD,DEC-15 OLD)[LJIET]	7
13	List the servlet session level events and show that how servlet destroy event is handled? (JUNE-12 OLD)[LJIET]	7
14	Explain various Servlet Events and its use. How to register listener for web-app in Deployment Descriptor. [LJIET] OR Describe following with proper illustrations: Servlet Events. (DEC-13 OLD)[LJIET] OR List out different types of servlet event and explain it. (DEC-14 OLD)[LJIET]	3,5,7
15	What are cookies? Write a servlet that reads and prints all the previous cookies and add a cookie with your name. (JUNE-12 OLD, NOV-18 OLD)[LJIET]	7
16	Develop any Servlet application which demonstrates use of session management. (NOV -11 OLD, MAY-13 OLD,DEC-15 OLD, NOV-16 OLD)[LJIET] OR Write a Java Servlet to demonstrate the use of Session Management. (OCT-16 OLD)[LJIET]	7
17	Explain event handling in Java Servlet with example(s). (JAN-13 OLD, NOV-18 OLD)[LJIET]	7
18	What is Session? Define Session Tracking.What are the session tracking technique?(NOV-16 OLD)[LJIET]	7
19	What do you mean by session tracking? What are the session tracking techniques? Demonstrate any of them. (DEC-22 NEW)[LJIET]	7
20	How cookies are used to track a session? Explain with example. (NOV-16 OLD)[LJIET]	7
21	Write a Servlet to set the cookies for first and last name entered by user. (NOV-16 OLD)[LJIET]	7
22	Explain various Session tracking mechanisms in servlet with example. (MAY-17 OLD,MAY-18 OLD,DEC-22 OLD) [LJIET]	3,7
23	List out interfaces of javax.servlet.http package.(NOV-21 OLD)[LJIET]	3
24	What is session? List out and discuss session tracking techniques.(AUG-21 OLD)[LJIET]	7
25	What are cookies? Demonstrate the use of cookies in servlet.(AUG-21 OLD,JUNE-22 NEW) [LJIET]	7
TOPIC:4 (Filter API) The Filter API: Filter, FilterChain, Filter Config		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	What is filter?[LJIET] Answer: A filter is an object that is invoked either at the preprocessing or postprocessing of a request. It is pluggable.	1
DESCRIPTIVE QUESTIONS		



1	What is Filter? List the applications of filter.(NOV-17 OLD, NOV-18 OLD, DEC-21 NEW,JAN-21 OLD)[LJIET]	3
2	What is filter? List Different filter interfaces.(DEC-22 OLD) [LJIET]	3
3	What is a filter? What does it do? (MAY-18 OLD)[LJIET]	3.5
4	What is FilterConfig? How will you use it?(DEC-22 NEW) [LJIET]	4
5	Explain the configuration of filter using deployment descriptor. (MAY-18 OLD) [LJIET]	4
6	What do you mean by filter? What is the advantage of it? How to create a filter in your application? [LJIET]	7
7	What is servlet filters? Give the necessary API for filters and explain their use. (DEC-13 OLD)[LJIET]	7
8	What is filter? What is its use? List the different filter interfaces with their important methods. (JUNE-12 OLD ,MAY-15 OLD, NOV-18 OLD) [LJIET] OR What is filter? What is its use? List different filter interfaces with their important methods.(OCT-16 OLD)[LJIET]	7
9	Enlist and explain the need of filters with a program. (JAN-13 OLD)[LJIET]	7
10	What is doFilter() method? What are its parameters? Give its use with proper example. (MAY-13 OLD)[LJIET]	7
11	What is the use of filter in Servlet? Explain with suitable example. (MAY-17 OLD, MAY-19 OLD) [LJIET]	7
12	Write short note servlet filter and filter chain. Mention one example with configuration file. (NOV-19 OLD)[LJIET]	7
13	What is filter? Explain the configuration of filter using deployment descriptor. (AUG-21 OLD,JUNE-22 NEW) [LJIET] OR What is filter? How will you configure filter using deployment descriptor?(DEC-22 NEW) [LJIET]	3,4
TOPIC:5 (Servlet Programs – All Topic)		
1	Write a Web application using servlet to find whether entered number is prime or not. (MAY-19 OLD) [LJIET]	4
2	Write a servlet which counts the number of digits into an integer received as parameter. Give the necessary web.xml file to deploy the servlet. (JUNE-12 OLD)[LJIET]	7
3	Write a Servlet that takes two numbers as an input and display all the prime numbers between them. Also write web.xml description for the servlet.(NOV-18 OLD) [LJIET]	7
4	Write a Servlet that takes two numbers as an input and display Multiplication of that no's. Also write web.xml description for the servlet.(DEC-22 OLD) [LJIET]	7
5	Write a servlet which accept two numbers using POST methods and display the maximum of them. (DEC-14 OLD)[LJIET]	7
6	Write a web application using servlet to compute an area of a circle. Get the radius from the client. Write necessary web.xml file. (DEC-13 OLD)[LJIET]	7
7	What is servlet configuration? Show it with example web.xml file. (DEC-13 OLD)[LJIET]	7
8	Write a Web application using servlet to find the sum of all the digits of an input integer. (MAY-13 OLD,MAY-19 OLD)[LJIET]	8,4
9	Write a Java Servlet to print BE Semester 7 Marksheet of entered enrollment number by user using JDBC. (MAY-15 OLD, MAY-18 OLD)[LJIET]	7



10	Write a Java Servlet to print BE Semester Marksheet of entered enrollment number and sem no by student using JDBC. (MAY-19 OLD) [LJIET]	7
11	Write servlet which displayed following information of client. I.Client Browser II.Client IP address III.Client Port No IV. Query String name and values(JUNE-22 OLD) [LJIET]	4
12	Write servlet which displayed following information of client. I. Client Browser II. Client IP address III. Client Port No IV. Server Port No V. Local Port No VI. Method used by client for form submission VII. Query String name and values (MAY-16 OLD)[LJIET]	7
13	Write Servlet program to display "Hello world" on screen. (MAY-16 OLD)[LJIET]	7
14	Design a form to input details of an employee and submit the data to a servlet. Write code for servlet that will save the entered details as a new record in database table Employee with fields (EmpId, EName, Email, Age). (MAY-17 OLD, MAY-18 OLD) [LJIET]	7
15	Write Servlet program to create cookie. Also write code to display contents of cookie on page. (MAY-17 OLD, MAY-18 OLD) [LJIET]	7
16	How are the requests serviced by Servlets? Discuss Servlet life cycle methods. (NOV-17 OLD) [LJIET]	7
17	Write a Java Servlet to print stock price when user enter stock code and submit. (NOV-19 OLD) [LJIET]	7

UNIT-4 JAVA SERVER PAGES (JSP AND JSTL)

TOPIC:1 (Basics Of JSP)

JSP Overview: The Problem with Servlets, Life Cycle of JSP Page, JSP Processing, JSP Application Design with MVC, Setting Up the JSP Environment, JSP Implicit Objects, JSP Form Processing

Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	Can one JSP or Servlet extend another Servlet or JSP? Justify your answer.(MAY-16 OLD) [LJIET] Answer: We can extent one servlet to another like normal servlets extends HttpServlet. we can extend one jsp to another jsp like we have page directive in that we have attribute "extends".	1
2	How many jsp implicit objects are there and these objects are created by the web container that are available to all the jsp pages?[LJIET] A) 7 B) 9 C) 11 D) 3 Answer: B) 9	1
3	session implicit object is instance of which class/interface in JSP ?[LJIET] A) Session B) HttpSession C) HttpServletSession D) ServletSession Answer: B) HttpSession	1
4	Which tag is used to execute java source code in JSP? [LJIET] A) Declaration Tag B) Scriptlet tag C) Expression tag D) None of the above	1



	Answer : B) Scriptlet tag	
5	What is the output of the following code snippet of JSP page ? [LJIET] <pre><% session.setAttribute("name", "LJ"); %> <%= session.getAttribute("LJ") %></pre> A) null B) name C) LJ D) none Answer: A) null	1
6	What is the output of the following code snippet of JSP page ? [LJIET] <pre><% session.setAttribute("name", "LJ"); %> <%= session.getAttribute("name") %></pre> A) null B) name C) LJ D) none Answer: C) LJ	1
7	_jspService() method of HttpJspPage class should not be overridden in JSP. True Or False [LJIET] Answer: True	1
8	Which of the following method can be used to read a form parameter in JSP? [LJIET] A) request.getParameter("name") B) response.getParameter("name") C) request.getValue("name") D) response.getValue("name") Answer: A) request.getParameter("name")	1
9	What is difference between include directive and jsp:include action tag? (MAY-17 OLD) [LJIET] Answer: 1. Include directive includes the file at translation time (the phase of JSP life cycle where the JSP gets converted into the equivalent servlet) whereas the include action includes the file at runtime. 2. Syntax difference: Include directive: <% @ include file="file_name" %> whereas include action has like this <jsp:include page="file_name" />	1
10	How to declare in a JSP page that Indicates whether or not the page is intended to be an error page of some other JSP page. (MAY-17 OLD) [LJIET] Answer: using <i>isErrorPage</i> attribute	1
11	How do we print " creates a new line in HTML" in JSP? (MAY-17 OLD) [LJIET] Answer: We can use c:out escapeXml attribute to escape the HTML elements so that it get's shown as text in the browser, for this scenario we will write code like below. <pre><c:out value="
 creates a new line in HTML" escapeXml="true"></c:out></pre>	1
DESCRIPTIVE QUESTIONS		
1	Differentiate the followings: (Any Three) (MAY-16 OLD)[LJIET] (V) JSP vs Servlet	2
2	Compare JSP and Servlet. (NOV-17 OLD, AUG-21 OLD) [LJIET]	3
3	List JSP implicit objects and explain any two.(NOV-17 OLD)[LJIET]	3
4	List JSP implicit object? Explain any two with example.(DEC-19 OLD)[LJIET]	4
5	Explain any four implicit objects of JSP. (Dec-21 NEW)[LJIET]	4
6	Explain JSP Object scope: (i) Page (ii) Request (iii) Session (iv) Application with example. (MAY-15 OLD,MAY-19 OLD,JUNE-22 OLD,NOV-21 OLD) [LJIET]	4,7
7	Briefly explain JSP life cycle. (NOV-17 OLD) [LJIET]	4



	<p>OR</p> <p>Explain JSP life cycle phases. (NOV-18 OLD) [LJIET]</p> <p>OR</p> <p>Discuss JSP life cycle phases.(JUNE-22 OLD) [LJIET]</p>	
8	<p>Explain Life cycle of JSP. (DEC-14 OLD)[LJIET] OR</p> <p>Write a short note on JSP lifecycle. (MAY-17 OLD) [LJIET] OR</p> <p>List and Explain various stages of JSP life cycle. Briefly give the function of each phase. (MAY-16 OLD)[LJIET] OR</p> <p>Draw and explain JSP page life cycle. (MAY-16 OLD)[LJIET] OR</p> <p>List & explain various stages of JSP life cycle. (NOV-16 OLD,MAY-17 OLD)[LJIET] OR</p> <p>Discuss various stages of JSP life cycle.(JUNE-22 NEW) [LJIET]</p>	7
9	Draw and explain JSP architecture. (JUNE-14 OLD)[LJIET]	7
10	Compare JSP with Servlet. (JUNE-14 OLD, OCT-16 OLD)[LJIET]	7
11	<p>Explain the JSP implicit objects with their use. (JUNE-12 OLD)[LJIET]</p> <p>OR Show the use of JSP inbuilt objects: request and response, with their use in application. (DEC-13 OLD,DEC-15 OLD)[LJIET] OR</p> <p>Enlist and explain usage of various implicit JSP objects. (MAY-16 OLD) [LJIET] OR</p> <p>List & explain implicit objects in JSP. (NOV-16 OLD)[LJIET]</p> <p>OR</p> <p>Enlist JSP implicit objects. Explain any three of it. (MAY-17 OLD)[LJIET]</p>	7
12	Explain JSP inbuilt objects with their use in application.(JUNE-22 NEW) [LJIET]	7
13	Write a JSP page to display your semester mark sheet. Give the necessary files to deploy it. (MAY-13 OLD)[LJIET]	7
14	Develop JSP page to display student information with subjects for particular semester from database.(NOV-17 OLD) [LJIET]	7
15	What is Session? Why it is used? What are different methods used to implement session? Explain with one example. (NOV-19 OLD)[LJIET]	7
16	Write a Java Servlet to demonstrate the use of Session Management(OCT-16 OLD)[LJIET]	7
17	List and explain various phases of JSP life cycle? (DEC-19 OLD)[LJIET]	7
18	Describe functionality of Cookie with respective methods. How to implement cookie in JSP ? Demonstrate using JSP Code.(NOV-21 OLD)[LJIET]	7
19	<p>What are the differences between Java Bean and basic java class? Explain Java Bean Architecture (NOV-11 OLD,DEC-14 OLD)[LJIET]</p> <p>OR</p> <p>Differentiate : Java Bean and basic java class and Explain Java Bean Architecture and Show the use of JSP inbuilt objects: request and response, with their use in application (DEC-15 OLD)[LJIET]</p>	7
20	Discuss functionality of Java Beans. Write a JSP Page to demonstrate Java Bean.(NOV-21 OLD)(JUNE-22 OLD) [LJIET]	4
21	Develop a jsp code which store and retrieve product detail from web page and stores/retrieve it in Mysql database(NOV-21 OLD)[LJIET]	7
22	<p>Explain JSP (i) page (ii) include (iii) taglib directive with attribute, description. Also write example of java snippet for each directive. (MAY-15 OLD)[LJIET]</p> <p>OR</p> <p>Explain JSP (i) page (ii) include (iii) taglib directive with attribute, description. (NOV-21 OLD, MAY-19 OLD)[LJIET]</p>	3,7



	OR Show the use of JSP page directive tag with its attributes. (DEC-13 OLD)[LJIET]	
23	Explain JSP page directives with example .(DEC-21 NEW)[LJIET]	7
24	Compare Directive Include and Standard Action Include in JSP.(JAN-21 OLD)[LJIET]	4
25	List out all Implicit object in JSP and explain any three in detail. (JAN-21 OLD) [LJIET]	4
26	Explain the life cycle of JSP page.(AUG-21 OLD) [LJIET]	4
27	Explain Life cycle of JSP (DEC-14 OLD) [LJIET]	7
28	Explain different stages of JSP Page Life Cycle. (MAY-17 OLD,DEC-22 OLD) [LJIET]	4,7
29	Discuss any four implicit objects of JSP.(AUG-21 OLD) [LJIET]	4
30	What is JSTL? Explain the core tags of the SQL tag library.(AUG-21 OLD,JUNE-22 NEW) [LJIET]	7 4
31	What are the implicit objects of JSP? Write a JSP page to demonstrate the use them.(DEC-22 NEW) [LJIET]	7
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	In JSP Action tags which tags are used for bean development?[LJIET] A) jsp:useBean B) jsp:setProperty C) jsp:getProperty D) All mentioned above Answer: D) All mentioned above	1
2	Which JSP Action tags is used to include the content of another resource, it may be jsp, html or servlet? [LJIET] A) jsp:include B) jsp:forward C) jsp:plugin D) jsp:page Answer: A) jsp:include	1
3	In JSP page directive which attribute defines the MIME(Multipurpose Internet Mail Extension) type of the HTTP response? [LJIET] A) import B) contentType C) extends D) info Answer: B) contentType	1
4	What are the attributes for the JSP page directive? (DEC-22 NEW) [LJIET] Answer: <ul style="list-style-type: none"> • import • contentType • extends • info • buffer • language • isELIgnored • isThreadSafe • autoFlush • session • pageEncoding • errorPage • isErrorPage 	
5	Difference between include directive and include action in JSP. [LJIET]	1



	<p>Answer: Resource included by including directive is loaded during jsp translation time while resource included by including action is loaded during request time.</p> <p>-> Syntax: include directive is <code><% @ include file="head.jsp" %></code> and include action in JSP is <code><jsp:include page="head.jsp" %></code></p>	
6	<p>file attribute is of _____ directive of JSP? [LJIET]</p> <p>A) page B) include C) taglib D) none</p> <p>Answer: B) include</p>	1
7	<p>import attribute is of _____ directive of JSP? [LJIET]</p> <p>A) page B) include C) taglib D) none</p> <p>Answer: A) page</p>	1
8	<p>uri attribute is of _____ directive of JSP? [LJIET]</p> <p>A) page B) include C) taglib D) none</p> <p>Answer: C) taglib</p>	1
DESCRIPTIVE QUESTIONS		
1	What is difference between include directive and jsp:include action tag? (NOV-18 OLD, DEC-21 NEW) [LJIET]	3
2	Explain use of <code><jsp:useBean></code> action tag with example. (MAY-17 OLD) [LJIET] Explain use of <code><jsp:useBean></code> action tag with example (DEC-19 OLD) [LJIET]	3
3	Compare the include and forward action tags in JSP. (MAY-18 OLD) [LJIET]	3
4	Explain use of action tag with example. (MAY-18 OLD) [LJIET]	3
5	List page directive in JSP? Explain any two with example (DEC-19 OLD) [LJIET]	3
6	Java Beans Vs. Simple Java classes (NOV-17 OLD) [LJIET]	3.5
7	Explain Following JSP directive (i) page (ii) include (iii) taglib with attribute, description. (JUNE-22 OLD) [LJIET]	3
8	Explain any two page directive in JSP with example. (NOV-18 OLD) [LJIET]	4
9	Explain the given attributes of JSP directive with example (NOV-16 OLD) [LJIET] 1. isErrorPage 2. Import 3. contentType 4. language	4
10	What are the different methods to call java code from JSP page? Explain them. (MAY-18 OLD) [LJIET]	4
11	Discuss Java Bean life cycle with one example. (MAY-19 OLD) [LJIET]	4
12	Write a JSP Page which use available java bean. Discuss functionality of used java beans. (MAY-19 OLD) [LJIET]	4
13	Discuss JSP Exception Handling. (MAY-19 OLD, JUNE-22 OLD, DEC-22 OLD) [LJIET]	3,4
14	What is Expression Language EL in JSP explain with suitable example program? (JUNE-22 NEW) [LJIET]	4
15	Explain 1) Scriptlet 2) Declaration 3) Expression 4) EL Expression in detail. [LJIET]	7
16	Explain directive tag. And types of directive in JSP in detail. [LJIET]	7
17	Write a Java Bean to connect to database and insert in the database. Query will be passed as a message to bean. (NOV-18 OLD) [LJIET]	7
18	Explain all JSP Action in detail. [LJIET]	7
19	Explain the following with respect to JSP Unified EL. (JUNE-12 OLD) [LJIET] i. Value expressions ii. Method expressions	7



20	Discuss the Expression Language feature of JSP and mention various implicit objects available in the EL with description. (MAY-15 OLD, NOV-19 OLD)[LJIET]	7
21	Give an example showing the use of EL functions. (MAY-13 OLD)[LJIET]	7
22	Explain the action tags used to access the JavaBeans from a JSP page with example. (MAY-13 OLD, DEC-15 OLD, OCT-16 OLD, NOV-16 OLD, MAY-18 OLD, MAY-19 OLD)[LJIET]	7
23	Enlist and explain the purpose and use of action tags in JSP. (JAN-13 OLD, NOV-18 OLD)[LJIET]	7
24	What are various action tags in JSP. Explain any five of them with syntax. (MAY-18 OLD)[LJIET]	7
25	Write small web application which takes marks of three subject and pass to servlet. Servlet forward to model class having method getClass() and getPercentage(). Display class and percentage in .jsp page. (MAY-16 OLD)[LJIET]	7
26	Write a student bean class with property student_name, enrollment_no, address and cpi. Write jsp page to set and display all property. (MAY-16 OLD)[LJIET]	7
27	Explain usage of JSP Page directive with various attributes of it. (MAY-16 OLD)[LJIET]	7
28	Write a program to create HTML form with one text box to enter number in it. When page is submitted to JSP, it should print entered number is odd or even. (MAY-16 OLD)[LJIET]	7
29	Explain the three ways of including a JSP in another JSP with example. (NOV-16 OLD)[LJIET]	7
30	Write a java bean named "student" having roll no and name having getter & setter methods. Write a JSP page to set the roll number and name for a student object and then print them by reading from object. (NOV-16 OLD, MAY-18 OLD)[LJIET]	7
31	Write a web application using JSP to get an integer N(N>0) and display all the prime numbers up to N. (NOV-16 OLD)[LJIET]	7
32	Explain the various types of EL expression with example. (NOV-16 OLD)[LJIET]	7
33	Explain JSP directives with examples. (NOV-17 OLD)[LJIET] OR Explain different JSP directive with their attribute by example and description. (NOV-19 OLD)[LJIET]	7
34	Explain UseBean action tag in JSP with appropriate code. (JAN-21 OLD) [LJIET]	4
35	What is a use of page directive tag? List out all attribute and explain any two in detail. (JAN-21 OLD) [LJIET]	3
36	What is a use of directive taglib in JSP? Write down a program for creating your own tag by using taglib in JSP with appropriate output.(JAN-21 OLD) [LJIET]	7
37	What are the directive tags of JSP? Write a JSP page to demonstrate the use of them.(DEC-22 NEW) [LJIET]	7
38	What are JSP action tags? Explain any four.(AUG-21 OLD) [LJIET]	4
39	Which action tags are used to access the JavaBeans from a JSP page?(JUNE-22 NEW) [LJIET]	3
40	Develop a web application as following to demonstrate the use of <jsp:useBean>. Create a Java Bean named Employee with attributes name and age. Create a web page to set the properties of Employee using <jsp:useBean>. Create a web page to display the properties of Employee using <jsp:useBean>.(DEC-22 NEW) [LJIET]	7



41	What is session object in JSP? Explain it with example. (DEC-14 OLD)[LJIET]	7
42	What is Java Bean? Demonstrate the use of Java Bean in JSP page.(AUG-21 OLD)[LJIET]	7
	[Note: All Unit-3 - Session related question can be asked in this topic]	
	TOPIC:4 (JSTL) JSP Standard Tag Libraries, JSP Custom Tag, JSP XML Processing.	
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	Differentiate between include directive and jsp:include tag.(NOV-16 OLD)[LJIET] Answer: Resource included by including directive is loaded during jsp translation time while resource included by including action is loaded during request time. -> Syntax: include directive is <% @ include file="head.jsp" %> and include action in JSP is <jsp:include page="head.jsp" %>	1
	DESCRIPTIVE QUESTIONS	
1	Write a JSP program using JSTL SQL taglib to display student details in tabular form by iterating through the database table student. (MAY-17 OLD) [LJIET]	4
2	List the JSTL core tags and explain any four with example.(NOV-17 OLD) [LJIET] OR List the JSTL core tags and explain any two with example.(NOV-18 OLD, DEC-22 OLD) [LJIET]	4
3	What is JSTL? Write a code snippet to show the use of flow control tags.(DEC-22 NEW) [LJIET]	3
4	Explain various tags in JSTL with example : (i) Core (ii)XML. (MAY-19 OLD, MAY-15 OLD, NOV-19 OLD ,DEC-22 OLD) [LJIET]	4,7
5	Explain various tags in JSTL with example : (i)SQL (ii) Functions (MAY-15 OLD)[LJIET]	7
6	Explain JSTL in detail. (NOV-11 OLD)[LJIET] OR What is JSTL? Discuss various tags in JSTL with example. (Nov-19 OLD)[LJIET]	7
7	Explain the features of core tag library for JSP. (JUNE-12 OLD) [LJIET] OR Explain JSP tag library with example. (DEC-14 OLD, DEC-15 OLD, OCT-16 OLD, NOV-18 OLD, NOV-11 OLD)[LJIET] OR What is a JSTL? List out all library and explain any one with appropriate code in detail. (JAN-21 OLD)[LJIET] Explain JSP tag library with examples. (DEC-15 OLD,NOV-18 OLD)[LJIET]	7
8	Explain any four JSTL core tags. (DEC-21 NEW)[LJIET]	4
9	Write a note on SQL tag library. (JUNE-14 OLD,DEC-15 OLD)[LJIET]	7
10	Explain the JSP core tag library. (DEC-13 OLD)[LJIET] OR Explain JSTL core tags. (MAY-17 OLD) [LJIET] OR Describe the features of Core Tag library.(MAY-18 OLD) [LJIET]	7
11	What is XML tag library? Explain the XML core tags and show their use. (MAY-13 OLD)[LJIET]	6
12	Explain transaction handling using JSTL. (JAN-13 OLD,DEC-15 OLD, MAY-19 OLD)[LJIET]	7
13	Write a JSTL program to parse & display text of XML file. (JAN-13 OLD)[LJIET] OR Write JSTL program to parse and display text of XML file.(DEC-14 OLD)[LJIET]	7



14	Write a login.jsp page to get the login information from user and authenticate user with the database with JSTL SQL tags.(NOV-17 OLD) [LJIET]	7
15	Develop a web application as following to demonstrate the use of JSTL SQ tag library. <ul style="list-style-type: none"> • Create a web page to store the registration detail (Name, email and contact number) of user in the database. • Create a web page for user to update registration detail in the database. • Create a web page to display the list of all registered users. (DEC-22 NEW) [LJIET] 	7
16	Write and explain various tags of JSTL core and sql library. (MAY-17 OLD) [LJIET]	7
17	Explain following tags in JSTL with example : (i) SQL (ii)Function(MAY-19 OLD)[LJIET] OR What is JSTL? Explain following tags in JSTL with example : (i) SQL (ii)Function(NOV-21 OLD)[LJIET]	7
18	Explain features of JSTL.(NOV-21 OLD)[LJIET]	4
19	Explain the JSP XML tag library. (Dec-13 OLD)[LJIET]	7
BASED ON ALL TOPIC		
20	Write lines of code in JSP for following. I.Session read and write II.URL rewriting sending and retrieving parameter(s) III.URL redirection(JUNE-22 OLD) [LJIET]	3
21	Write line(s) of code in JSP for following. (JAN-13 OLD, MAY-16 OLD)[LJIET] <ol style="list-style-type: none"> Session read and write URL rewriting sending and retrieving parameter(s) URL redirection Print “hello world” as output Include the other JSP file statically Expression to display date as output Method of setting the JSP parameters to use in JSTL 	7
22	Write a program to create login form using HTML. When form is submitted to JSP, fetch submitted details and check whether user is valid or not? (User details can be hardcoded. No need of database). (MAY-17 OLD) [LJIET]	7
23	Develop a jsp code which reads the student detail from web page and stores it in database. (MAY-19 OLD) [LJIET]	7
24	What is custom tag? Give the elements of custom tags and describe their features? (MAY-18 OLD)[LJIET]	7
25	What is a custom tag? Explain the life cycle of tag handler.(JUNE-22 NEW) [LJIET]	3
26	Explain JSP Core Tag library and SQL Tag library with examples. (DEC-15 OLD,NOV-17 OLD) [LJIET] OR Explain serialization of objects. Why do you need it? Explain SQL tag Library (MAY-19 OLD) [LJIET]	7
27	Write a JSP code which take item code as input and generate output as item name and description. (NOV-19 OLD) [LJIET]	7



28	Write a web application which takes id, name, mobile no, semester, marks, percentage pass to servlet. Servlet forward to model class having method getid(), getname(), getmobno(), getsem(), getmarks() and getPercentage().Display all the information in .jsp page (DEC-19 OLD) [LJIET]	7
29	Write a student bean class with property student_id, name, semester, address and percentage. Write jsp page to set and display all property(DEC-19 OLD) [LJIET]	7
30	Write a Java Servlet to retrieve stock price using JSP Tags.(NOV-21 OLD)[LJIET]	4
<u>UNIT-5 JAVA SERVER FACES 2.0 (JSF)</u>		
<u>TOPIC:1 (About JSF)</u>		
Introduction to JSF, JSF request processing Life cycle, JSF Expression Language		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	What is JSF?[LJIET] Answer : Java Server Faces (JSF) technology is a front end framework which makes the creation of user interface components easier by reusing the UI components. JSF is designed based on the Model View Controller pattern (MVC) which segregates the presentation, controller and the business logic.	1
2	What is signature of immediate value expressions in JSF?[LJIET] A) \${ exp} B) %{exp} C)#{exp} D)*{exp} Answer: A) \${exp}	1
3	What is signature of immediate value expressions in JSF?[LJIET] A) \${ exp} B) %{exp} C)#{exp} D)*{exp} Answer: C)#{exp}	1
DESCRIPTIVE QUESTIONS		
1	List the JSF validation tags and explain any two.(NOV-17 OLD, NOV-18 OLD,JUNE-22 OLD, DEC-22 OLD) [LJIET]	3,7
2	Draw the JSF request processing life cycle and list various stage. (DEC-19 OLD) [LJIET]	4
3	Explain the JSF request processing life cycle. (DEC-21 NEW)[LJIET]	7
4	Explain working of JSF expression language. (DEC-19 OLD) [LJIET]	4
5	What is JSF (or JavaServer Faces)? What are the advantages of JSF? What Is a JavaServer Faces Application? [LJIET]	7
6	Explain what is the JSF architecture?[LJIET]	7
7	What are JSF life cycle phases?[LJIET] OR Explain JSF life cycle phases. (MAY-17 OLD, MAY-18 OLD, DEC-22 OLD) [LJIET] OR Discuss JSF life cycle phases.(JUNE-22 NEW) [LJIET]	47
8	Explain JSF Application Life cycle with diagram. (MAY-19 OLD) [LJIET]	7
9	What is Managed Bean? What is Backing Bean? What are the differences between a Backing Bean and Managed Bean?[LJIET]	7
10	What is EL? Write a code snippet to show the use of method expressions in JSF page.(DEC-22 NEW) [LJIET]	7



11	How do you declare the managed beans in the faces-config.xml file? How to declare the page navigation (navigation rules) in faces-config.xml file ?[LJIET]	7
12	Draw the JSF request processing life cycle and briefly give the function of each phase. (MAY-16 OLD, NOV-18 OLD)[LJIET]	7
13	List the JSF validation tag and explain any Two. (DEC-19 OLD)[LJIET]	7
14	What is JSF? List and explain its features.(AUG-21 OLD,JUNE-22 NEW) [LJIET]	3
15	Briefly explain the functions of each phase of JSF request processing life cycle (AUG-21 OLD) [LJIET]	7
<p style="text-align: center;">TOPIC:2 (JSF Tags and Components)</p> <p>JSF Standard Component, JSF Facelets Tag, JSF Converter Tag, JSF Validation Tag, JSF Event Handling and Database Access, JSF Libraries: PrimeFaces</p>		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	What are the three types of text fields input tags provided by JSF?[LJIET] Answer: <h:inputText> – This adds the text box next to the label field. <h:inputSecret> – This type is used for password fields where the entered data is hidden. <h:inputTextarea> – This type of fields is used while entering large number of characters.	1
2	Which is not a types of text fields input tags provided by JSF?[LJIET] A) <h:inputText> B) <h:inputSecret> C) <h:inputTextarea> D)<h:inputPassword> Answer: D)<h:inputPassword>	1
3	Write any two attributes of <h:form> tag.[LJIET] Answer: id , title, target, onclick, onsubmit	1
4	Write any two JSF Converter tags?[LJIET] Answer: < f:convertNumber >, < f:convertDateTime>	1
5	Which one is required configurations for JSF framework?[LJIET] A) faces-cfg.xml B) faces-config.xml C) fc-config.xml D) faces-configuration.xml Answer: B) faces-config.xml	1
6	What are different JSF Converter tags? (MAY-17 OLD) [LJIET] Answer: 1. f:convertNumber 2. f:convertDateTime 3. Custom Converter	1
DESCRIPTIVE QUESTIONS		
1	How can you apply JSF Input Validation using input validators?(DEC-22 NEW)[LJIET]	2
2	Discuss JSF Converter Tag. (MAY-19 OLD, NOV-21 OLD) [LJIET]	3
3	List the JSF facelets tags and explain any two.(NOV-17 OLD, NOV-18 OLD, DEC-19 OLD,DEC-22 OLD) [LJIET]	3,4
4	What is the JSF facelets? Explain any two facelets tags. (DEC-21 NEW)[LJIET]	3
5	List the JSF standard converter tags and explain any three in detail. (DEC-21 NEW)[LJIET]	4
6	What is JSF tag library? Explain any four html tag. (MAY-18 OLD) [LJIET]	4
7	Write a code snippet to show the use of JSF action event.(DEC-22 NEW) [LJIET]	4
8	What are the three types of text fields tags provided by JSF? Explain with example.[LJIET]	7
9	What are the JSF basic tags? Explain use of all.[LJIET]	7



10	What are the different types of validations in JSF? Explain validation tags of JSF.[LJIET]	7
11	What is the significance of facelets tag? What are some of the facelets tags?[LJIET]	7
12	Write a short note on JSF Facelets. (OCT-16 OLD) [LJIET]	7
13	What is an event? How can we obtain the generated event? What are the different types of JSF events? What is a listener class?[LJIET]	7
14	Write notes on JSF Library PrimeFaces.[LJIET]	7
15	Explain JSF Standard Component in detail. (OCT-16 OLD) [LJIET]	7
17	List the JSF facelets tags and explain any one in detail. (JAN-21 OLD)[LJIET]	3
18	List the JSF validation tags and explain any three in detail.(JAN-21 OLD)[LJIET]	4
19	Explain JSF application life cycle phases in detail with neat sketch.(JAN-21 OLD)[LJIET]	7
20	Explain any four JSF HTML tags. (AUG-21 OLD)[LJIET]	4
21	How will you use <h:commandButton> and <h:dataTable>?(DEC-22 NEW)[LJIET]	
UNIT-6 HIBERNATE 4.0		
TOPIC:1 (Basics Of Hibernate)		
Overview of Hibernate, Hibernate Architecture		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	What is hibernate?[LJIET] Answer: Hibernate is an open-source and lightweight ORM tool that is used to store, manipulate and retrieve data from the database.	1
2	What is SessionFactory?[LJIET] Answer: SessionFactory provides the instance of Session. It is a factory of Session. It hOLDS the data of second level cache that is not enabled by default.	1
3	Choose true One[LJIET] A) Hibernate is an object-relational mapping (ORM) library for the Java language B) Hibernate provides a mapping for object-oriented domain model to a traditional relational database. C) Hibernate is a framework. D) All of the above Answer: D) All of the above	1
4	Hibernate caching improves the performance of the application by pooling the object in the cache. True/False[LJIET] Answer: True	1
5	What does the Session object hOLD in hibernate architecture?[LJIET] A) First Level Cache B) Second Level Cache C) Both A & B D) None of the above Answer: A) First Level Cache	1
6	What are the advantages of Hibernate over JDBC? (MAY-17 OLD) [LJIET] Answer: Hibernate is data base independent, same code will work for all data bases like ORACLE,MySQL ,SQLServer etc. In case of JDBC query must be data base specific.	1
DESCRIPTIVE QUESTIONS		
1	What are the different Hibernate interfaces? Explain their role in brief.(DEC-22 NEW) [LJIET]	3



2	What is hibernate? What is main advantage of using hibernate than using SQL? (MAY-18 OLD) [LJIET] OR What is Hibernate? What is main advantage of using hibernate than using SQL? (JAN-21 OLD) [LJIET]	3
3	What is hibernate? List the advantages of hibernate over JDBC. (NOV-17 OLD) [LJIET]	4
4	What is hibernate? What are the benefits of using it?(JUNE-22 NEW) [LJIET]	3
5	What is the function of a SessionFactory object? How will you obtain such an object?(DEC-22 NEW) [LJIET]	2
6	Give the hibernate architecture and discuss each part in brief.(JUNE-12 OLD, NOV-18 OLD) [LJIET] OR What are the different Hibernate interfaces? Explain their role in brief.(DEC-22 NEW) [LJIET]	7
7	What is Hibernate? What are the advantages of it? Explain architecture of it in detail. (JUNE-12 OLD, JAN-13 OLD) [LJIET]	7
8	Write a short not on Hibernate architecture. (JUNE-14 OLD, DEC-15 OLD, MAY-17 OLD) [LJIET] OR Give and explain the architecture of Hibernate.(DEC-13 OLD) [LJIET] OR Write a note on hibernate.(MAY-17 OLD) [LJIET] OR Explain architecture of Hibernate. (DEC-22 OLD) [LJIET] OR Draw and explain the architecture of Hibernate. (DEC-14 OLD, OCT -16 OLD, NOV-16 OLD) [LJIET] OR Draw and explain hibernate architecture. (NOV-18 OLD) [LJIET] OR Explain Hibernate Architecture and Object Relation Mapping in Hibernate with java code and required XML files. (MAY-15 OLD, MAY-19 OLD) [LJIET] OR Explain Hibernate Architecture. (MAY-19 OLD, DEC-21 NEW) [LJIET]	7
9	Explain the Hibernate cache architecture. (MAY-18 OLD) [LJIET]	3.5
10	Discuss Hibernate architecture. Write appropriate java classes/code to retrieve student data from database.(JUNE-22 OLD) [LJIET]	7
11	Write a note on Hibernate technology. (MAY-16 OLD) [LJIET] OR Write short note on Hibernate. (JAN-13 OLD, NOV-19 OLD) [LJIET] OR Write a note on hibernate (JAN-13 OLD) [LJIET]	7
12	Develop program to get all students data from database using hibernate. Write necessary xml files.(NOV-17 OLD) [LJIET]	7



13	What are various java technologies to connect with Databases? Explain Hibernate architecture for object-relational mapping. (NOV-17 OLD)[LJIET]	7
14	What is POJO? Explain Hibernate architecture in detail. (JAN-21 OLD) [LJIET]	3
15	What is hibernate? What are the main features of it?(AUG-21 OLD) [LJIET]	4
TOPIC:2 (O/R mapping, HQL)		
Hibernate MappingTypes, Hibernate O/R Mapping, Hibernate Annotation, Hibernate QueryLanguage		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	What is ORM?[LJIET] Answer: ORM is an acronym for Object/Relational mapping. It is a programming strategy to map object with the data stored in the database. It simplifies data creation, data manipulation and data access.	1
2	The Hibernate XML configuration file name is? [LJIET] A) hibernate.cfg.xml B) hibernate.config.xml C) hibernate.cg.xml D)None Answer: A) hibernate.cfg.xml	1
3	What HQL stands for? [LJIET] A) Hibernate Query Language B) High Query Language C) Hybrid Query Language D) None of the above. Answer: A) Hibernate Query Language	1
4	Which of the following element/tag is used to define specific mappings from a Java classes to the database tables? [LJIET] A) <property> B) <hibernate-config> C) <class> D)<class-config> Answer: C) <class>	1
DESCRIPTIVE QUESTIONS		
1	Discuss Hibernate Query Language. (MAY-19 OLD, NOV-21 OLD) [LJIET]	3
2	What is HQL? Write difference between HQL and SQL? (DEC-19 OLD) [LJIET]	3
3	What is HQL? How does it different from SQL?(JUNE-22 OLD) [LJIET]	4
4	What is O/R mapping? What is HQL? What are advantages of HQL? [LJIET]	7
5	Explain the OR mapping in hibernate (MAY-13 OLD)[LJIET] OR What is O/R Mapping? How it is implemented using Hibernate. Explain with example. (MAY-17 OLD) [LJIET] OR Explain O/R Mapping in Hibernate with example(NOV-18 OLD)[LJIET] How can you implement OR Mapping in Hibernate? Give an example. (DEC-13 OLD) [LJIET] Explain OR Mapping in hibernate. (NOV-16 OLD)[LJIET]	7
6	What is OR mapping? Explain the components of hibernate.cfg.xml file. (JUNE-22 NEW) [LJIET]	7
7	What is OR mapping? Give an example of Hibernate XML mapping file.(MAY-16 OLD ,DEC-22 OLD, AUG-21 OLD) [LJIET]	7,3
8	What is ORM? Explain object/relational mappings in hibernate.(NOV-18 OLD,DEC-21 NEW,DEC-19 OLD, JAN-21 OLD) [LJIET]	4,7



9	What is HQL? How does it differ from SQL? Give its advantages. (MAY-13 OLD, OCT-16 OLD, MAY-19 OLD)[LJIET] OR How does HQL differ from SQL? Write down its benefits. (MAY-18 OLD)[LJIET]OR What is HQL? How does it different from SQL? List its advantages.(MAY-16 OLD ,JUNE-22 NEW) [LJIET]	7
10	What is HQL? Write difference between HQL and SQL. (DEC-21 NEW)[LJIET]	4
11	What is HQL? What are the benefits of it? (AUG-21 OLD)[LJIET]	3
12	What is OR mapping? How will you configure hibernate mapping file to map a table and its columns from a given database? (DEC-22 NEW) [LJIET]	4
13	Draw the Hibernate architecture diagram and explain each component.(AUG-21 OLD)[LJIET]	4
UNIT-7 JAVA WEB FRAMEWORKS: SPRING MVC		
TOPIC:1 (Basics Of Spring)		
Overview of Spring, Spring Architecture, bean life cycle, XML Configuration on Spring		
Sr No	SHORT QUESTIONS (1 Mark) / MCQ / True-False/Fill in the blanks	Marks
1	Spring Framework is heavy-weight framework. True/False. [LJIET] Answer: True	1
2	Spring Framework is open source development framework. True/False. [LJIET] Answer: True	1
3	What is Spring? [LJIET] Answer: Spring is an open source development framework for enterprise Java. The core features of the Spring Framework can be used in developing any Java application, but there are extensions for building web applications on top of the Java EE platform. Spring framework targets to make J2EE development easier to use and promote good programming practice by enabling a POJO-based programming model.	1
4	Write any two modal name of Spring framework? [LJIET] Answer: Core module, Bean module, Context module, Expression Language module, JDBC module, ORM module, OXM module, Java Messaging Service(JMS) module, Transaction module, Web module, Web-Servlet module, Web-Struts module	1
5	What are the different type of bean injections? [LJIET] A) getter only B)setter only C)setter and constructor D)constructor only Answer: C)setter and constructor	1
DESCRIPTIVE QUESTIONS		
1	What is Dependency Injection? (MAY-17 OLD, MAY-18 OLD, NOV-18 OLD) [LJIET]	3
2	What is dependency injection? Explain in detail (DEC-21, JAN-21 OLD)[LJIET]	3
3	Explain architecture of Spring MVC Framework. (MAY-18 OLD,DEC-21 NEW)[LJIET]	3,7
4	What is Spring IoC container (DEC-19 OLD)[LJIET]	3
5	What is Spring IoC container? (MAY-17 OLD) [LJIET]	4
6	What is dependency Injection? What is the role IoC container in Spring?(DEC-22 NEW) [LJIET]	4
7	What is Spring AOP? What are Join points and Point cuts?(DEC-22 NEW) [LJIET]	3
8	Briefly explain spring bean life cycle. (NOV-17 OLD, NOV-18 OLD) [LJIET]	4



9	What is Spring Bean? How can you create bean in Spring boot?(JUNE-22 NEW) [LJIET]	4
10	What are the different bean scopes in spring?(JUNE-22 NEW) [LJIET]	3
11	What is Spring? What are the advantages of Spring framework? What are features of Spring?[LJIET]	7
12	How many modules are there in Spring? What are they?[LJIET]	7
13	What are the types of Dependency Injection Spring supports?[LJIET]	7
14	What is Bean Factory ? What is Application Context? What is the difference between Bean Factory and Application Context? [LJIET]	7
15	What are the common implementations of the Application Context? How is a typical spring implementation look like?[LJIET]	7
16	What is the typical Bean life cycle in Spring Bean Factory Container?[LJIET]	7
17	What is Spring's JdbcTemplate ? What is PreparedStatementCreator ?[LJIET]	7
18	What is IOC (or Dependency Injection)? What are the different types of IOC (dependency injection) ? What are the benefits of IOC (Dependency Injection)?[LJIET]	7
19	What are Bean scopes in Spring Framework ? Write use of each.[LJIET]	7
20	What is Spring Web MVC framework? List its key features. (MAY-16 OLD) [LJIET]	7
21	Explain architecture of Spring MVC Framework. Explain all modules in brief. (MAY-17 OLD) [LJIET] OR What is MVC architecture? Explain Spring architecture with neat sketch. (NOV-18 OLD,JAN-21 OLD)[LJIET]	7
22	Draw and explain Spring Framework Architecture. (MAY-19 OLD,JUNE-22 OLD) [LJIET] OR Explain the Spring Web MVC framework controllers.(JUNE-22 NEW) [LJIET]	7
23	What are the advantages of Spring MVC? Explain the flow of Spring Web MVC. (DEC-22 NEW) [LJIET]	7
24	Explain the features of Spring web MVC.(DEC-21 NEW)[LJIET]	3
25	Explain Spring Bean life cycle phases. (DEC-19 OLD)[LJIET]	7
26	Elaborate Java Spring Framework Architecture.(NOV-21 OLD)[LJIET]	7
27	What is dependency injection? Explain in detail.(JAN-21 OLD,DEC-21 NEW) [LJIET]	3
28	Explain any four Spring form tags with example.(AUG-21 OLD) [LJIET]	4
29	Briefly discuss the Spring's Web framework. (AUG-21 OLD) [LJIET]	7
30	Briefly explain the architecture of Spring framework. (AUG-21 OLD) [LJIET]	7
TOPIC:2 (Database and Transaction)		
Aspect – oriented Spring, Managing Database, Managing Transaction		
DESCRIPTIVE QUESTIONS		
1	What is AOP? What are the advantages of spring AOP? What are the AOP terminology? [LJIET]	7



2	What are the types of the transaction management Spring supports? What are the benefits of the Spring Framework transaction management?[LJIET]	7
3	Explain about the Spring DAO support ? What are the exceptions thrown by the Spring DAO classes ?[LJIET]	7
4	Develop small application using Spring MVC framework. (NOV-17 OLD) [LJIET]	7
5	Explain the architecture of Spring Framework with its all container in detail. (JAN-21 OLD)[LJIET]	7

