Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM:VI CARRY OVER THEORY EXAMINATION - AUGUST 2023

Subject: Advanced Java Programming

Time: 3 Hours　　　　　　　　　　　　　　　　　　　　　　**Max. Marks: 100**

General Instructions:

IMP: *Verify that you have received the question paper with the correct course, code, branch etc.*

1. *This Question paper comprises of* **three Sections -A, B, & C.** *It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.*

2. *Maximum marks for each question are indicated on right -hand side of each question.*

3. *Illustrate your answers with neat sketches wherever necessary.*

4. *Assume suitable data if necessary.*

5. *Preferably, write the answers in sequential order.*

6. *No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.*

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SECTION A　　　　　　　　　　　　　　**20**

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1. Attempt all parts:-

1-a.　　　What is the correct sequence to create a database connection?　(CO1)　　　1

　　　　　i. Import JDBC packages.

　　　　　ii. Open a connection to the database.

　　　　　iii. Load and register the JDBC driver.

　　　　　iv. Execute the statement object and return a query resultset.

　　　　　v. Create a statement object to perform a query.

　　　　　vi. Close the resultset and statement objects.

　　　　vii. Process the resultset.

　　　　viii. Close the connection.

(a) i, ii, iii, v, iv, vii, viii, vi

(b) i, iii, ii, v, iv, vii, vi, viii

(c) ii, i, iii, iv, viii, vii, v, vi

(d) i, iii, ii, iv, v, vi, vii, viii

1-b.   When destroy() method of a filter is called?   (CO1)   1

(a) The destroy() method is called only once at the end of the life cycle of a filter

(b) The destroy() method is called after the filter has executed doFilter method

(c) The destroy() method is called only once at the begining of the life cycle of a filter

(d) The destroyer() method is called after the filter has executed

1-c.   The following implicit Object is used to store and retrieve information that is specific to a particular user   (CO2)   1

(a) request

(b) response

(c) session

(d) application

1-d.   The implicit Object is used to get information about the JSP page being executed   (CO2)   1

(a) page

(b) config

(c) application

(d) exception

1-e.   Which Spring annotation is used to extract the URI template variable value?   (CO3)   1

(a) @PathVariable

(b) @ParamRequest

(c) @ModelAttribute

(d) None of the above

1-f.   What is true about collection configuration elements?   (CO3)   1

(a) This helps in wiring a list of values, allowing duplicates.

(b) This helps in wiring a list of values but without any duplicates.

(c) This can be used to inject a collection of name-value pairs where name and value can be of any type.

(d) This can be used to inject a collection of name-value pairs where the name and value are both Strings.

1-g. The logic performed by a controller often produces some information that needs to be carried to the user/browser. This information in spring mvc is known as _____ (CO4)   1

    (a) Model

    (b) View

    (c) Controller

    (d) All of the above

1-h. This component contains the data of the application.   (CO4)   1

    (a) Controller

    (b) Model

    (c) View

    (d) None of the above

1-i. ____ is a factory class that generates EntityManager instances.   (CO5)   1

    (a) Entity

    (b) EntityManagerFactory

    (c) EntityManager

    (d) Persistence unit

1-j. Which attribute of @OneToMany is used to mark an entity as owned?   (CO5)   1

    (a) cascade

    (b) mappedBy

    (c) property Ref

    (d) Nonewrong

2. Attempt all parts:-

2.a. Define the use of welcome-file-list?   (CO1)   2

2.b. Discuss the purpose to use response Implicit Object in JSP.   (CO2)   2

2.c. Can We Have Multiple Spring Configuration Files in One Project? Explain.   2
(CO3)

2.d. State the purpose of @PathVariable annotation in Spring MVC?   (CO4)   2

2.e. Discuss about the ORM Framework.   (CO5)   2

SECTION B   **30**

3. Answer any <u>five</u> of the following:-

3-a.	Distinguish the following interfaces- Statement and PreparedStatement ? (CO1)	6
3-b.	Discuss the difference between Get and Post method? (CO1)	6
3-c.	Compare and contrast JSP and Servlets, and discuss the advantages and disadvantages of using each. (CO2)	6
3-d.	Discuss the initialization phase of the JSP life cycle, and explain how it prepares the servlet for execution by initializing all necessary resources. (CO2)	6
3.e.	Discuss the different types of Spring Bean autowiring. (CO3)	6
3.f.	Explain with snippet of code: @RequestHeader using 'value' element, @RequestMapping (CO4)	6
3.g.	Discuss the steps to find an entity. (CO5)	6

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SECTION C   **50**

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4. Answer any <u>one</u> of the following:-

4-a.	Write a program to connect to the database and extract data from the Employee table and display the following : a.) Details of all the employees b.) Display details of all employees who are from Banglore , c.) Display details of all employees whose salary is less than 25,000. (CO1)	10
4-b.	How can I connect MySQL or Oracle with Java? Describe each and every step using Program. (CO1)	10

5. Answer any <u>one</u> of the following:-

5-a.	Discuss the architecture of JSP, and explain how it works with web servers to generate dynamic web content. (CO2)	10
5-b.	Build a JSP application that uses the JSP include directive to include another JSP page. Your application should include a parent JSP page that contains the JSP include directive and a separate child JSP page that contains the content to be included. Write a brief report on the steps you followed to create the application, including details on the JSP life cycle and how the JSP include directive affects the processing of JSP pages. (CO2)	10

6. Answer any <u>one</u> of the following:-

6-a.	Differentiate between BeanFactory and ApplicationContext. (CO3)	10
6-b.	Demonstrate CRUD(create, read, update, delete) operation on a database table using java spring. (CO3)	10

7. Answer any <u>one</u> of the following:-

7-a.	Describe dispatcher Servlet. Explain the role of dispatcher servlet with example. (CO4)	10

7-b.   Explain spring boot annotations. Show with code process of @Autowired,   10
        @Component, and @Configuration annotation. (CO4)

8. Answer any <u>one</u> of the following:-

8-a.   What is JPQL and how is it used in JPA? (CO5)   10

8-b.   How to fetch a record using NamedQuery?   (CO5)   10