

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)



B. Tech (Fourth Semester - Regular) Examinations, April 2026

23BCSPC24004 – Advanced JAVA

(CSE)

Time: 3 hrs

Maximum: 60 Marks

Answer ALL questions
(The figures in the right hand margin indicate marks)

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. Differentiate between Statement and Prepared Statement.	CO1	K4
b. What is Batch Processing? Mention two advantages.	CO2	K2
c. What is Servlet Container?	CO3	K1
d. What is an Entity class in Hibernate? Mention two annotations used.	CO4	K2
e. What is the role of @SpringBootApplication annotation?	CO5	K2

PART – B

(10 x 5 = 50 Marks)

Answer **ALL** the questions

	Marks	CO #	Blooms Level
2. a. Write a JAVA JDBC program using Statement to update the name of a student based on student ID.	5	CO1	K3
b. Write a JAVA JDBC program to insert a record into student table using PreparedStatement.	5	CO1	K3
(OR)			
c. Write a JAVA JDBC program using ResultSet to retrieve and display all records from a given table.	5	CO1	K3
d. Write a JAVA program using CallableStatement to execute a stored procedure with one IN parameter.	5	CO1	K3
3.a. Write a JAVA Servlet program to store the user's city name in a cookie and retrieve it in another servlet to display it. Use Cookie, response.addCookie(), and request.getCookies().	5	CO2	K3
b. Write a JAVA Servlet program using HttpSession to store a username from a form and retrieve it in another servlet. Display the message: "Welcome to the world".	5	CO2	K3
(OR)			
c. Write a JAVA Servlet using doPost() to accept username and password from an HTML form. Display a message: "Welcome, <username>" in the browser.	5	CO2	K3
d. Write a Servlet to calculate factorial of a number.	5	CO2	K3
4.a. Create a JSP page using scriptlet tags to print numbers from 1 to 10. Explain why scriptlets are discouraged in modern JSP.	5	CO3	K3
b. Write a JSP page to calculate sum of two numbers entered by the user using request parameters.	5	CO3	K3
(OR)			
c. Write a JSP program to demonstrate use of all three JSP tags: scriptlet, expression, and declaration in a single page.	5	CO3	K3

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| d. Write a Servlet Filter program to check user login using session. | 5 | CO3 | K3 |
| 5.a. Create a Hibernate Entity class using annotations such as @Entity, @Id, and @Column. Explain how ORM mapping works. | 5 | CO4 | K3 |
| b. Write a Hibernate program to save a Student (id, name, age, course) into the database. Configure Hibernate, create a Session, save the object, and commit the transaction. | 5 | CO4 | K3 |

(OR)

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| c. Write a Hibernate program to update an Employee's salary using HQL and a Session. Execute the update and commit transaction. | 5 | CO4 | K3 |
| d. Write a Hibernate program to delete a record by ID. | 5 | CO4 | K3 |
| 6.a. Develop a REST API using Spring Boot to handle a POST request for adding a new student. The application should include a Student entity class, a JPA Repository, and a REST Controller. | 5 | CO5 | K3 |
| b. Develop a Spring Boot Product REST API with fields: id, name, category, price, stock. Implement APIs for add, view all, filter by category, and delete product using Spring Data JPA, Lombok, and constructor injection. Handle product not found case. | 5 | CO6 | K4 |

(OR)

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| c. Write a Spring Boot main class to start an application. Explain the purpose of @SpringBootApplication and embedded server. | 5 | CO5 | K3 |
| d. Develop a Spring Boot REST API to perform CRUD operations on Student entity using Controller, Service, and Repository layers. | 5 | CO6 | K4 |

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