

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: VI - THEORY EXAMINATION (2025 - 2026)

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.

SECTION-A

20

1. Attempt all parts:-

- (1.1) Select the true statement about javax.servlet.error.message (CO1, K1). 1
- (a) This attribute gives exact error message which can be stored and analysed after storing in a java.lang.String data type.
 - (b) This attribute gives information about exception type which can be stored and analysed after storing in a java.lang.Class data type.
 - (c) This attribute gives status code which can be stored and analysed after storing in a java.lang.Integer data type.
 - (d) This attribute gives information about URL calling the servlet and it can be stored and analysed after storing in a java.lang.String data type.
- (1.2) Select the advantage of using JDBC connection pool (CO1, K1). 1
- (a) Slow performance
 - (b) Using more memory
 - (c) Using less memory
 - (d) Better performance
- (1.3) Find out which one is not an Implicit Object in JSP (CO2, K2). 1
- (a) request
 - (b) response
 - (c) session
 - (d) user
- (1.4) The following class used to represent a JSP page in Java code is (CO2, K2). 1
- (a) HttpServletRequest
 - (b) HttpServletResponse

- (c) PageContext
(d) JspPage
- (1.5) The annotation do we use to mark the class as a Service class/component is (CO3, K2). 1
(a) @Component
(b) @Service
(c) @Controller
(d) @Repository
- (1.6) This Spring annotation is used to handle HTTP PUT requests (CO3, K2). 1
(a) @GetMapping
(b) @PutMapping
(c) @DeleteMapping
(d) @PostMapping
- (1.7) To represent the drop-down list in Spring MVC Tag.(CO4, K2). 1
(a) form:input
(b) form:checkbox
(c) form:select
(d) form:radiobutton
- (1.8) To disable a specific auto-configuration class in Spring Boot (CO4, K2). 1
(a) @EnableAutoConfiguration(exclude={'AutoConfiguration'})
(b) @EnableAutoConfiguration(exclude={0})
(c) @EnableAutoConfiguration(exclude={true})
(d) @EnableAutoConfiguration(exclude={className})
- (1.9) Select annotation which is used to create Pk-Fk relation b/w two tables (CO5, K1). 1
(a) JoinColumn
(b) ForeignKey
(c) JoinedKey
(d) None of these
- (1.10) Choose attribute of @OneToMany is used to mark an entity as owned (CO5, K2). 1
(a) cascade
(b) mappedBy
(c) property Ref
(d) None

2. Attempt all parts:-

- (2.1) Discuss the role of JDBC Driver (CO1, K2). 2
(2.2) Discuss the purpose to use request Implicit Object in JSP (CO2, K2). 2
(2.3) Discuss the limitations with auto wiring (CO3, K2). 2
(2.4) Explain role of dependency Injection (CO4, K2). 2
(2.5) Discuss about the ORM Framework (CO5, K2). 2

SECTION-B

30

Answer any one of the following:-

- (3.1) Discuss the concept of servlet how it gets access to its init parameters (CO1, K2). 6
- (3.2) Explain the steps required to setup a connection using JDBC (CO1, K2). 6

Answer any one of the following:-

- (3.3) Discuss the purpose and key features of the application Implicit Object in JSP development, and provide an example of how it can be used to access global application data (CO2, K2). 6
- (3.4) Elaborate the purpose and key features of the javax.servlet.jsp.tagext.TagSupport class in JSP development, and provide an example of how it can be used (CO2, K3). 6

Answer any one of the following:-

- (3.5) Discuss the different types of Spring Bean autowiring (CO3, K2). 6
- (3.6) Differentiate between constructor injection and setter injection (CO3, K3). 6

Answer any one of the following:-

- (3.7) Explain with architecture diagram of spring Model View and Controller (CO4, K3). 6
- (3.8) Explain exception handling in spring boot with example (CO4, K3). 6

Answer any one of the following:-

- (3.9) Describe the steps involved in persisting an entity, including entity manager configuration, entity class annotations, and transaction management (CO5, K3). 6
- (3.10) Illustrate the concept of entities in JPA in detail. (CO5, K3). 6

SECTION-C

50

4. Answer any one of the following:-

- (4.1) Explain the concept of Stored Procedure in JDBC? Discuss the difference between Stored procedure and Function (CO1, K2). 10
- (4.2) Describe the Transaction Management in JDBC and why do we need it (CO1, K2). 10

5. Answer any one of the following:-

- (5.1) Simplify the role of the JspWriter class in JSP development, and discuss how it can be used to generate dynamic content for a JSP (CO2, K4). 10
- (5.2) Clarify the differences between the single-threaded and multi-threaded JSP models, and explain how the JSP container handles concurrent requests in each model (CO2, K3). 10

6. Answer any one of the following:-

- (6.1) Implement a program to using set, list and map java collection with dependency injection (CO3, K3). 10
- (6.2) Differentiate between the Spring Framework vs Node JS (CO3, K3). 10

7. Answer any one of the following:-

- (7.1) Discuss about the Spring Boot AOP, their advantages over OOP and define the layers web, business, and data layer (CO4, K2). 10
- (7.2) Define port used to connect to server. Explain about various methods to change port in Spring Boot (CO4, K1). 10

8. Answer any one of the following:-

- (8.1) Explain three types of inheritance mapping strategies with the help of suitable 10

example (CO5, K2).

- (8.2) Differentiate between `EntityManager.find()` and `EntityManager.getReference()` methods in JPA (CO5, K3). 10

REG_JAN_JUNE_2026