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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: VI - THEORY EXAMINATION (2023- 2024)

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-a. Auto refresh of a page can be set after 5 seconds with following code? Select the correct option. (CO1) 1
- (a) `session.setIntHeader("Refresh", 5)`
 - (b) `response.setIntHeader("Refresh", 5)`
 - (c) `request.setIntHeader("Refresh", 5)`
 - (d) None of the above
- 1-b. Select the correct code to add an attribute in a HTTP Session object in servlets. (CO1) 1
- (a) `session.addAttribute(name,value)`
 - (b) `session.setAttribute(name,value)`
 - (c) `session.createAttribute(name,value)`
 - (d) None of the above.
- 1-c. The implicit Object is used to access the servlet context. (CO2) 1
- (a) `pageContext`
 - (b) `config`
 - (c) `application`
 - (d) `out`
- 1-d. Choose one Implicit Object which is used to get information about the servlet configuration? (CO2) 1

- (a) page
 - (b) config
 - (c) application
 - (d) out
- 1-e. Which are the ioc container in spring? (CO3) 1
- (a) BeanFactory
 - (b) ApplicationContext
 - (c) Both BeanFactory & ApplicationContext
 - (d) None of the above
- 1-f. The correct syntax for annotation wiring is _____. (CO3) 1
- (a) to bean configuration.
 - (b) to bean configuration.
 - (c) to bean configuration.
 - (d) to bean configuration.
- 1-g. This component contains the data of the application. (CO4) 1
- (a) Controller
 - (b) Model
 - (c) View
 - (d) None of the above
- 1-h. _____ is the default value of an input tag. (CO4) 1
- (a) number
 - (b) date
 - (c) email
 - (d) text
- 1-i. A superclass is defined as an object without a matching database table in _____ Inheritance, and its attributes and mappings are inherited by its subclasses. (CO5) 1
- (a) Table per class strategy
 - (b) Joined table strategy
 - (c) Single table strategy
 - (d) Mapped Superclass
- 1-j. Several instances of one entity are connected with many instances of another entity in a _____ relationship. (CO5) 1
- (a) @ManyToOne Relation
 - (b) @OneToMany Relation
 - (c) @OneToOne Relation
 - (d) @ManyToMany Relation

2. Attempt all parts:-

- 2.a. Describe the use of HttpServletRequest and HttpServletResponse. (CO1) 2

- 2.b. Discuss the concepts of application Implicit Object in JSP. (CO2) 2
- 2.c. Describe Spring DAO support. (CO3) 2
- 2.d. Can we create a non-web application in Spring Boot? Explain how. (CO4) 2
- 2.e. Illuminate the purpose of cascading operations in JPA. (CO5) 2

SECTION-B

30

3. Answer any five of the following:-

- 3-a. Discuss the concept of servlet how it gets access to its init parameters. (CO1) 6
- 3-b. Explain the Servlet API. (CO1) 6
- 3-c. Demonstrate the purpose and key features of the request Implicit Object in JSP development, and provide an example of how it can be used to access request data. (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 importance of Spring bean configuration file. (CO3) 6
- 3.f. Create the bean class and .html page for student registration showing private variables and methods. (CO4) 6
- 3.g. Demonstrate the purpose of EntityManager in JPA. (CO5) 6

SECTION-C

50

4. Answer any one of the following:-

- 4-a. Build a program that provide the GenericServlet class and its method implementation (CO1) 10
- 4-b. Describe the procedure to connect MySQL or Oracle with Java (CO1) 10

5. Answer any one of the following:-

- 5-a. Develop a JSP application that uses the various Implicit Objects available in JSP to create a simple online shopping cart. Your application should demonstrate the use of Implicit Objects such as request, response, pageContext, session, application, and out. Write a brief report on the steps you followed to create the application, including details on the Implicit Objects and how they are used to build web applications. (CO2) 10
- 5-b. Build a JSP application that uses the JSP standard tag library (JSTL) to implement database connectivity. Your application should use JSTL tags to connect to a database, retrieve data, and display the data on a JSP page. Write a brief report on the steps you followed to create the application, including details on the JSP API and how it relates to database connectivity using JSTL tags. (CO2) 10

6. Answer any one of the following:-

- 6-a. Discuss the role of JDBCTemplate also demonstrate update and delete operation on Student(sid, sname, saddress) Table using JDBCTemplate. (CO3) 10
- 6-b. Implement a program in java spring to create a Student(sid, sname, saddress) Table and insert three record in this table. (CO3) 10

7. Answer any one of the following:-

7-a. Define Spring Boot Auto Configuration Classes and its need. Show code for configuration transaction manager. (CO4) 10

7-b. Construct a web based application using concept of Spring MVC for two students and compare their marks. (CO4) 10

8. Answer any one of the following:-

8-a. Give brief overview to fetch a record using NamedQuery. (CO5) 10

8-b. Insert a record using JPA. Also discuss the mechanism used to connect database. (CO5) 10

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