

MASTER OF COMPUTER APPLICATIONS (MCA_NEW)

**ASSIGNMENTS
OF MCA_NEW (2Yrs) PROGRAMME
SEMESTER-II**

(July - 2024 & January - 2025)

MCS-218, MCS-219, MCS-220, MCS-221

MCSL-222, MCSL-223



**SCHOOL OF COMPUTER AND INFORMATION SCIENCES
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI – 110 068**

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Important Notes

1. Submit your assignments to the Coordinator of your Study Centre on or before the due date.
2. Assignment submission before due dates is compulsory to become eligible for appearing in corresponding Term End Examinations. For further details, please refer to Programme Guide of MCA (2Yrs).
3. To become eligible for appearing the Term End Practical Examination for the lab courses, it is essential to fulfill the minimum attendance requirements as well as submission of assignments (on or before the due date). For further details, please refer to the Programme Guide of MCA (2yrs).
4. The viva voce is compulsory for the assignments. For any course, if a student submitted the assignment and not attended the viva-voce, then the assignment is treated as not successfully completed and would be marked as ZERO.

Course Code	:	MCS-220
Course Title	:	Web Technologies
Assignment Number	:	MCA_NEW(II)/220/Assign/2024-25
Maximum Marks	:	100
Weightage	:	30%
Last date of Submission	:	31st October, 2024 (For July, 2024 Session) 15th April, 2025 (For January, 2025 Session)

This assignment has nine questions of 80 Marks. Answer all questions. Rest 20 marks are for viva voce. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

- Q1:** (a) What is need of design pattern? Explain the use of Repository Design Pattern with the help of an example. **(5 Marks)**
- (b) What is the difference between JAR and WAR files? Describe the process of creation, deployment and extraction of WAR files. **(5 Marks)**
- Q2:** (a) What is Servlet interface? Differentiate between GenericServlet and HttpServlet? **(5 Marks)**
- (b) Briefly explain servlet life cycle. Also, explain the request and response in the context of HTTP? **(5 Marks)**
- Q3:** (a) Explain the advantages of Java Server Pages over the servlet. Also, write a JSP program for Fibonacci Series. **(5 Marks)**
- (b) Explain the various components of JSP with suitable code. **(5 Marks)**
- Q4:** What do you mean by JDBC? Explain how we retrieve data from database using suitable JSP program. **(5 Marks)**
- Q5:** What are the Struts2 core components? Explain the working and flow of Struts 2 with the help of suitable diagram. **(5 Marks)**
- Q6:** (a) Explain process of creating records using Spring Boot and Hibernate. **(5 Marks)**
- (b) Explain how testing of custom login form can be performed with the help of an example. **(5 Marks)**
- Q7:** Explain how CRUD operations are mapped to SQL statements, with suitable example. **(5 Marks)**
- Q8:** (a) Write the unit test case to execute it as a user with RequestPostProcessor for the URL pattern “/” which returns model attribute with key as “message” and value as “Hello World”. **(5 Marks)**
- (b) What is Role-based Login? Explain how user’s access can be restricted using Role-based Login. **(5 Marks)**
- Q9:** Write short notes on the following: **(15 Marks)**
- (a) JSP Standard Tag Library (JSTL)
- (b) Spring Framework
- (c) Cross Site Request Forgery (CSRF)