



II-II 22IT827 OPEN SOURCE WEB TECHNOLOGIES

Module-2 (Question Bank)

QUESTION-1

Title: Digital Voting System with JSP, MySQL, and Sessions

Objective: The objective of this case study assignment is to design and develop an online voting system using JSP, MySQL for database storage, and sessions for user authentication and tracking.

Scenario: You have been tasked with developing an online voting system for electing your Class CR through Digital System. The system should allow eligible class students to register, log in, view candidate profiles, cast their votes, and display the election results securely and accurately.

Requirements:

1. User Registration:

- A. Implement a user registration system that captures voter information, including name, student ID, Branch, Section, cell number and email address.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the voter information securely in the MySQL database.
- D. Verify the eligibility of voters based on predefined criteria (e.g., only Section Students).

2. User Login:

- A. Implement a login system to authenticate registered voters.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in voter to track their activity and prevent multiple voting attempts.

3. Candidate Profiles:

- A. Display a list of candidates running for the election.
- B. Include candidate details such as name, photo, manifesto, and other necessary details.
- C. Allow voters to view the profiles of each candidate before casting their vote.

4. Casting Votes:

- A. Develop a user-friendly interface for voters to cast their votes.
- B. Implement a secure mechanism to prevent multiple votes from the same voter.
- C. Store the vote information in the database, associating it with the respective candidate and voter.

5. Election Results:

- A. Implement a results page to display the overall election results after the voting period ends.
- B. Calculate and display the vote count for each candidate.
- C. Ensure that the results are only accessible after the voting period concludes.

Deliverables:

1. **Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.
2. **User Interface:**
 - Develop a user-friendly interface for voter registration, login, candidate profiles, voting, and election results.
 - Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.
3. **JSP Code:**
 - Implement JSP code to handle user registration, login, candidate display, voting, and election result functionalities.
 - Connect to the MySQL database, execute queries, and handle errors appropriately.
 - Implement session management to authenticate users and track their activity.
4. **Documentation& PPT:**
 - Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
 - Document the functionality of each JSP script and explain the code logic.

Note: You can extend this case study assignment by adding more advanced features such as product search, user reviews and ratings, order tracking, or integration with payment gateways, depending on the complexity and time available for the assignment.

Remember to adapt and customize the assignment based on your specific requirements, and any additional features you want to include.

QUESTION-2

Title: Online Blood Donation Management System with JSP, MySQL, and Sessions

Objective: The objective of this case study assignment is to design and develop a Blood donation management system using JSP, MySQL for database storage, and sessions for user authentication and tracking.

Scenario: You have been hired as a developer to develop an Online Blood Donation Management System. This system will serve as a platform to facilitate the donation, collection, and management of blood resources.

Requirements:

1. User Registration:

- A. Users should be able to create an account by providing their name, email address, username, password and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Users should be able to log in using their username and password.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their profile across the website.

3. Blood Donor Profile Update:

- A. Once logged in, users should be able to update their profile information, such as name, cell number, photo, email address, blood type, last donation date, etc.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Update the user information in the database.

4. Blood Donation Requests:

- A. Implement search functionality to enable users to find donors based on blood type and location details and make a request for blood donation.
- B. Implement a tracking functionality where registered donors to view and respond to donation requests.

5. Security:

- A. Implement password related issue like forgot password.
- B. Use prepared statements or parameterized queries to prevent SQL injection attacks.
- C. Protect sensitive user information using sessions and proper access control.

Deliverables:

1. **Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.
2. **User Interface:**
 - Develop a user interface that allows users to register, log in, update their profile, and view their account details.
 - Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.
3. **JSP Code:**
 - Implement JSP code to handle user registration, login, profile update, and account details functionalities.
 - Connect to the MySQL database, execute queries, and handle errors appropriately.
 - Implement session management to authenticate users and track their activity.
4. **Documentation & PPT:**
 - Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
 - Document the functionality of each JSP script and explain the code logic.

Note: The case study assignment can be expanded by including additional features such as password reset, account deletion, or role-based access control, depending on the complexity and time available for the assignment.

Please note that this is a simplified outline, and you may need to adapt and customize it based on your specific requirements, and any additional features you want to include.

QUESTION-3

Title: e-Library Management System using JSP, MySQL, and Sessions

Objective: The objective of this case study assignment is to design and develop an online bookstore management system using JSP, MySQL for database storage, and sessions for user authentication and tracking.

Scenario: You have been hired as a developer by a bookstore to create an online platform for managing their inventory, processing orders, and providing a user-friendly shopping experience for customers.

Requirements:

1. User Registration:

- A. Implement a user registration system that captures information, including name, student ID, email address and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Implement a login system to authenticate registered users.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their activity.

3. Product Management:

- A. Implement functionalities to add, edit, and delete books from the inventory.
- B. Store book information such as title, author, genre, price, and quantity available.
- C. Validate the input fields to ensure that the data is entered correctly.

4. Product Listing and Search:

- A. Display a list of available books to customers.
- B. Implement a search functionality to allow users to find books by title, author, or genre.
- C. Paginate the search results for better navigation.

5. Shopping Cart:

- A. Allow users to add books to their shopping cart.
- B. Implement functionalities to update the quantity of items or remove books from the cart.
- C. Display the total price of items in the cart.
- D. Implement a form to capture shipping and billing information.
- E. Validate the input fields to ensure that the data is entered correctly.
- F. Store the order details in the database, including the purchased books and the total amount.
- G. Update the inventory to reflect the purchased items.

Deliverables:

1. **Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.

2. **User Interface:**

- Develop a user interface that provides a visually appealing and intuitive shopping experience.
- Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.

3. **JSP Code:**

- Implement JSP code to handle book management, user registration, login, product listing, product searching functionalities.
- Connect to the MySQL database, execute queries, and handle errors appropriately.
- Implement session management to authenticate users and track their activity.

4. **Documentation& PPT:**

- Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
- Document the functionality of each JSP script and explain the code logic.

Note: You can extend this case study assignment by adding more advanced features such as product search, user reviews and ratings, order tracking, or integration with payment gateways, depending on the complexity and time available for the assignment.

QUESTION -4

Title: Online Clothing Store Application with JSP, MySQL, and Sessions

Objective: The objective of this case study assignment is to design and develop an e-commerce website using JSP, MySQL for database storage, and sessions for user authentication and tracking.

Scenario: You have been hired as a developer by an Online Clothing Store Company that wants to establish an e-commerce platform. They require a fully functional website where customers can browse products, add items to their shopping cart, proceed to order Placement, and complete the Order. The company aims to provide a secure and user-friendly shopping experience.

Requirements:

1. User Registration:

- A. Users should be able to create an account by providing their name, email address, username, password and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Users should be able to log in using their username and password.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their profile across the website.

3. Product Catalog:

- A. Implement a product catalog that displays various products available for purchase.
- B. Include product details such as name, description, price, and availability.
- C. Organize products into categories for easy navigation.

4. Shopping Cart:

- A. Allow users to add products to their shopping cart.
- B. Implement functionalities to update the quantity of items or remove products from the cart.
- C. Display the total price of items in the cart.

5. Checkout Process:

- A.** Provide a seamless checkout process for users to complete their purchases.
- B.** Implement a form to capture shipping and billing information.
- C.** Validate the input fields to ensure that the data is entered correctly.
- D.** Store the order details in the database and update the inventory accordingly.
- E.** Generate an order confirmation page with a unique order ID.

Deliverables:

1. Database Schema& Functions: Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.

2. User Interface:

- Develop a user interface that provides a visually appealing and intuitive shopping experience.
- Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.

3. JSP Code:

- Implement JSP code to handle product listing, user registration, login, shopping cart management, checkout process functionalities.
- Connect to the MySQL database, execute queries, and handle errors appropriately.
- Implement session management to authenticate users and track their activity.

4. Documentation & PPT:

- Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
- Document the functionality of each JSP script and explain the code logic.

Note: You can extend this case study assignment by adding more advanced features such as product search, user reviews and ratings, order tracking, or integration with payment gateways, depending on the complexity and time available for the assignment.

Remember to adapt and customize the assignment based on your specific requirements, and any additional features you want to include.

QUESTION-5

Title: Online Conference/Workshop Management System using JSP, MySQL, and Sessions

Objective: The objective of this case study assignment is to design and develop an Online Conference/Workshop management system using JSP, MySQL for database storage, and sessions for user authentication and tracking.

Scenario: You have been tasked with creating an Online Conference/Workshop management system for a company that organizes and manages various Conferences, Workshops and trainings. The system should allow organizers to create and manage Conferences, Workshops and trainings, attendees to register for events, and administrators to oversee the entire process.

Requirements:

1. User Registration:

- A. Implement a user registration system that captures information, including name, email address and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Implement a login system to authenticate registered users.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their activity.

3. Event Creation and Management:

- A. Allow organizers to create and manage Conferences, Workshops and trainings
- B. Include event details such as title, description, date, time, location, and capacity.
- C. Implement functionalities to add, edit, and delete events.
- D. Validate the input fields to ensure that the data is entered correctly.

4. Event Registration:

- A. Allow users to browse and register for available events.
- B. Display a list of events with details such as title, date, time, and location.
- C. Implement functionalities to register or cancel event registrations.

5. Administrator Dashboard:

- A.** Develop a user-friendly dashboard for administrators to manage events and users.
- B.** Allow administrators to view, edit, and delete events.
- C.** Display attendee details such as name, email address, and other related information.
- D.** Implement functionalities for administrators to generate event reports.

Deliverables:

- 1. Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.

- 2. User Interface:**

- Develop a user interface that provides an intuitive and efficient task management experience for team members.
- Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.

- 3. JSP Code:**

- Implement JSP code to handle user registration, login, event creation and management, event registration, attendee management, and administrator functionalities.
- Connect to the MySQL database, execute queries, and handle errors appropriately.
- Implement session management to authenticate users and track their activity.

- 4. Documentation& PPT:**

- Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
- Document the functionality of each JSP script and explain the code logic.

Note: Depending on the complexity and time available for the assignment, you can enhance the case study by adding features such as event categories, payment integration, event reminders, or integration with external services like calendar applications etc.

Remember to adapt and customize the assignment based on your specific requirements, and any additional features you want to include.

QUESTION-6

Title: College Fest Management System with JSP and MySQL

Introduction: You have been assigned the task of developing a College Fest Management System using JSP and MySQL. The system will provide a platform for managing and organizing various activities and events during the college fest. This case study assignment will guide you through the process of designing and implementing a fully functional College Fest Management System.

Objective: The objective of this case study is to demonstrate your understanding and application of JSP and MySQL concepts by developing a comprehensive College Fest Management System.

Requirements:

1. User Registration:

- A. Implement a user registration system that captures information, including name, email, qualification, address and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Implement a login system to authenticate registered users.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their activity.

3. Event Management:

- A. Create a MySQL database to store event information, including event names, descriptions, dates, and locations.
- B. Develop JSP pages to allow authorized users to create, edit, and delete events.
- C. Implement a search functionality to allow users to find events based on different criteria.

4. Registration and Participation:

- A. Allow users to register for events and track their participation status.
- B. Implement a registration system that restricts the number of participants for each event.
- C. Provide notifications or reminders to registered users about their upcoming events.

5. Reporting and Analytics:

- A. Generate reports and statistics on event registrations, participants' details and event details
- B. Implement the necessary SQL queries to handle database operations, such as storing event information, managing user registrations.

Deliverables:

1. **Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.
2. **User Interface:**
 - Develop a user interface that provides an intuitive and efficient college fest experience for all users.
 - Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.
3. **JSP Code:**
 - Implement JSP code to handle user registration, login, event details, registration and User Account Management functionalities.
 - Connect to the MySQL database, execute queries, and handle errors appropriately.
 - Implement session management to authenticate users and track their activity.
4. **Documentation& PPT:**
 - Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
 - Document the functionality of each JSP script and explain the code logic.

Note: Depending on the complexity and time available for the assignment, you can enhance the case study by adding features such as registration & tracking notifications, reminders, or integration with external services like calendar applications or calorie tracking.

Remember to adapt and customize the assignment based on your specific requirements, and any additional features you want to include.

QUESTION-7

Title: Task Allocation and Management System using JSP, MySQL, and Sessions

Objective: The objective of this case study assignment is to design and develop a task management system using JSP, MySQL for database storage, and sessions for user authentication and tracking.

Scenario: You have been assigned to create a task management system for a project team. The system should allow team members to create tasks, assign tasks to team members, track task progress, and provide a centralized platform for effective project management.

Requirements:

1. User Registration:

- A. Implement a team member registration system that captures information, including ID, name, email address, cell number and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Implement a login system to authenticate registered users.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their activity.

3. Task Creation and Assignment:

- A. Allow Team Manager to create tasks and assign them to team members.
- B. Include task details such as title, description, deadline, and priority level.
- C. Implement functionalities to assign tasks to specific team members.
- D. Validate the input fields to ensure that the data is entered correctly.

4. Task Management:

- A. Display a list of tasks with details such as title, assigned team member, deadline, and status.
- B. Implement functionalities to update task status (e.g., in progress, completed) and deadline.
- C. Allow users to filter and sort tasks based on various criteria (e.g., status, priority, assigned team member).
- D. Implement search functionality to enable users to find specific tasks.

5. Dashboard and Notifications:

- A. Develop a user-friendly dashboard that displays an overview of tasks and their status.
- B. Provide notifications for task assignments, updates, and approaching deadlines.

Deliverables:

1. **Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.
2. **User Interface:**
 - Develop a user interface that provides an intuitive and efficient task management experience for team members.
 - Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.
3. **JSP Code:**
 - Implement JSP code to handle user registration, login, task creation and assignment, task management, collaboration, and notifications.
 - Connect to the MySQL database, execute queries, and handle errors appropriately.
 - Implement session management to authenticate users and track their activity.
4. **Documentation& PPT:**
 - Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
 - Document the functionality of each JSP script and explain the code logic.

Note: Depending on the complexity and time available for the assignment, you can extend the case study by adding features such as task reminders, task progress charts, file attachments, or feedback status, etc.

Remember to adapt and customize the assignment based on your specific requirements, and any additional features you want to include.

QUESTION-8

Title: Online Car Booking System with JSP and MySQL

Introduction: You have been assigned the task of developing an online car booking system using JSP and MySQL. The system will allow users to search for available cars, make reservations, and manage their bookings. This case study assignment will guide you through the process of designing and implementing a fully functional online car rental system.

Objective: The objective of this case study is to demonstrate your understanding and application of JSP and MySQL concepts by developing a fully functional online car rental system.

Requirements:

1. User Registration:

- A. Implement a user registration system that captures information, including name, email, qualification, address and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Implement a login system to authenticate registered users.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their activity.

3. Car Listings and Availability:

- A. Create a MySQL database to store car information, including details like availability, prices, and locations.
- B. Develop JSP pages to display the list of available cars.
- C. Implement a search functionality to allow users to search for cars by location, dates, and other relevant criteria.

4. Reservation and Booking System:

- A. Design a system that allows users to select cars and make reservations.

5. Account Management:

- A. Allow users to view and edit their account information, including personal details and contact information.
- B. Implement password reset functionality for forgotten passwords.

Deliverables:

1. **Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.
2. **User Interface:**
 - Develop a user interface that provides an intuitive and efficient online car rental experience for team members.
 - Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.
3. **JSP Code:**
 - Implement JSP code to handle user registration, login, car listing, tracking, availability and User Account Management functionalities.
 - Connect to the MySQL database, execute queries, and handle errors appropriately.
 - Implement session management to authenticate users and track their activity.
4. **Documentation& PPT:**
 - Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
 - Document the functionality of each JSP script and explain the code logic.

Note: Depending on the complexity and time available for the assignment, you can enhance the case study by adding features such as availability & tracking notifications, reminders, or integration with external services like calendar applications or calorie tracking.

Remember to adapt and customize the assignment based on your specific requirements, and any additional features you want to include.

QUESTION-9

Title: Travel Planning Website Development with JSP and MySQL

Objective: The objective of this case study is to demonstrate your understanding and application of JSP and MySQL concepts by developing a fully functional online fitness tracking platform.

Introduction: Your task is to develop a Travel Planning Website which will serve as a platform for users to plan, organize, and manage their travel itineraries. This case study assignment will guide you through the process of designing and implementing a fully functional online travel planning website.

Requirements:

1. User Registration:

- A. Implement a user registration system that captures information, including name, email, address and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Implement a login system to authenticate registered users.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their activity.

3. Destination Management:

- A. Create a MySQL database to store destination information, including destination name, description, attractions, etc.
- B. Develop JSP pages to allow users to search for destinations, view destination details, travel packages, and add desired packages to their travel plans.
- C. Implement a search functionality to enable users to find destinations based on different criteria such as location, activities, etc.

4. Shopping Cart:

- A. Allow users to book their travel packages.
- B. Display the total price including lodging, boarding and any other details.
- C. Implement a form to track the users travel plans and bookings.
- D. Validate the input fields to ensure that the data is entered correctly.
- E. Store the order details in the database, including the booked travel deals and the total amount.

5. Reporting and Analytics:

- C. Generate reports and statistics on most travelled places, most selected travel packages, total revenue generated etc.
- D. Implement the necessary SQL queries to handle database operations, such as storing travel plans, managing user registrations and bookings.

Deliverables:

1. **Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.
2. **User Interface:**
 - Develop a user interface that provides an intuitive and efficient online fitness tracking experience for team members.
 - Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.
3. **JSP Code:**
 - Implement JSP code to handle user registration, login, fitness activity tracking, recommendations and User Account Management functionalities.
 - Connect to the MySQL database, execute queries, and handle errors appropriately.
 - Implement session management to authenticate users and track their activity.
4. **Documentation& PPT:**
 - Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
 - Document the functionality of each JSP script and explain the code logic.

Note: Depending on the complexity and time available for the assignment, you can enhance the case study by adding features such as tracking notifications, reminders, or integration with external services like calendar applications or online payments.

Remember to adapt and customize the assignment based on your specific requirements, and any additional features you want to include.

QUESTION-10

Title: Online Job Portal Development with JSP, MySQL, and Sessions

Introduction: You have been assigned the task of developing an online job portal using JSP, MySQL, and session management. The job portal will connect job seekers with job opportunities, allowing users to search for jobs, submit applications, and manage their job-related activities. This case study assignment will guide you through the process of designing and implementing a fully functional online job portal.

Objective: The objective of this case study is to demonstrate your understanding and application of JSP, MySQL, and session management concepts by developing a fully functional online job portal.

Requirements:

1. User Registration:

- A. Implement a user registration system that captures information, including name, email, qualification, address and other necessary related information.
- B. Validate the input fields to ensure that the data is entered correctly.
- C. Store the user information securely in the MySQL database.

2. User Login:

- A. Implement a login system to authenticate registered users.
- B. Validate the login credentials against the information stored in the database.
- C. Create a session for the logged-in user to track their activity.

3. Job Listings:

- A. Create a MySQL database to store job information, including job title, description, requirements, company details, and application deadline.
- B. Develop a JSP page to display the list of available job listings.
- C. Implement a search functionality to allow users to search for jobs by title, company, or location.

4. Job Application:

- A. Design a job application system that allows users to submit applications for desired jobs.
- B. Provide a form for users to enter their application details for applying to required job posting.

5. Account Management:

- A. Allow users to view and edit their account information, including personal details, contact information, and uploaded documents.
- B. Implement password reset functionality for forgotten passwords.

Deliverables:

1. **Database Schema& Functions:** Design a MySQL database schema to store user information and study all the related SQL Functions used in the process.
2. **User Interface:**
 - Develop a user interface that provides an intuitive and efficient online portal experience for team members.
 - Use HTML, CSS, and JavaScript (if necessary) to create an intuitive and responsive design.
3. **JSP Code:**
 - Implement JSP code to handle user registration, login, job listings, job application and Account Management functionalities.
 - Connect to the MySQL database, execute queries, and handle errors appropriately.
 - Implement session management to authenticate users and track their activity.
4. **Documentation& PPT:**
 - Provide clear instructions on how to set up the system, including the database configuration and table creation scripts.
 - Document the functionality of each JSP script and explain the code logic.

Note: Depending on the complexity and time available for the assignment, you can enhance the case study by adding features such as job notifications, reminders, or integration with external services like calendar applications or application tracking.

Remember to adapt and customize the assignment based on your specific requirements, and any additional features you want to include.