

Course Code: CSE227
Course Title: System Analysis and Design
Class Test: 1
Total Marks: 15 Time: 1hr

The **Online Book Ordering System** for **Books Haven** allows customers to easily browse through the available catalog, select books, and place orders. Customers can add books to their shopping cart, and the system will check the inventory to ensure availability before the order is finalized. Once the order is placed, customers proceed to make secure payments through an integrated payment gateway. Upon successful payment, an invoice is generated, and the customer is notified, while the books are processed for delivery.

For the bookstore manager, the system provides a seamless way to manage inventory. The manager can add new books, update details, and monitor stock levels. Once an order is placed and paid for, the system automatically updates the inventory, reducing the stock for the purchased books. The manager can also track customer orders and payments, ensuring that the operations run smoothly while keeping the records accurate.

1. Draw level 0 and level 1 DFD for the above high level requirements.



DUI International University

Section: 64-F

Course Code: CSE227
Course Title: System Analysis Design
Quiz Test-1

Time: 30 min

Total Marks: 15

1. A Security Information and Event Management (SIEM) System is a centralized platform used to collect, monitor, and analyze security-related data from various sources within an organization's IT infrastructure. It provides real-time threat detection, event correlation, and incident response by aggregating logs, alerts, and events from devices like firewalls, servers, and applications. [7.5]

Key features include:

Log Management: Collects and stores logs from multiple systems.

Event Correlation: Identifies patterns across systems to detect security threats.

Real-time Monitoring: Alerts security teams to potential threats in real time.

Incident Response: Automates responses to security incidents based on predefined rules.

Regulatory Compliance: Helps organizations meet compliance standards by maintaining logs and security audits.

SIEM systems enhance an organization's cybersecurity posture by improving threat visibility and response times. What would be the operational, strategic, tactical, and statutory information?

2. PetPal Veterinary Clinic is well-regarded for its comprehensive pet care services. To improve customer convenience and streamline operations, the clinic decides to create a mobile application for booking appointments, accessing pet health records, and receiving reminders for vaccinations and check-ups. Work with pet owners, veterinary staff, and clinic management to identify essential features like appointment scheduling and health record access. Design an easy-to-navigate interface for booking appointments, viewing pet health records, and setting reminders. Develop a project schedule, oversee the app development, and manage resources effectively. Perform thorough testing to ensure the app is functional, secure, and user-friendly for pet owners and clinic staff.

A systems analyst was assigned to perform a preliminary investigation. After submission of the preliminary report the system analyst was advised to conduct interviews with pet owners, veterinary staff, and clinic management.

How will the system analyst ensure that the mobile or web application's design and functionality align with the needs and expectations of pet owners, veterinary staff, and clinic management? [7.5]

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In the university course enrollment system, multiple processes ensure seamless interaction between students, administrators, and academic advisors. The **student course registration process** allows students to log in, view available courses, check prerequisites and seat availability, and enroll in or drop classes, with real-time updates to class capacities. The **course management process** enables administrators to add, update, and monitor course offerings, including setting enrollment limits and generating reports on course demand. **Academic advising** allows advisors to access student records, track academic progress, suggest courses, and assist with enrollment adjustments. The system also supports **reporting and analytics**, where administrators generate reports on enrollment trends and course demand to aid in academic planning. Additionally, the **student record management process** securely stores and updates student data, ensuring accurate record-keeping and access for students, advisors, and administrators. Together, these processes streamline course registration, improve academic planning, and enhance overall system efficiency.

1. Draw level 0 and level 1 DFD for the above high level requirements.

1. Imagine you have been appointed as a system analyst at DIU Medical Center, tasked with automating their operations to enhance services for DIU personnel. As part of this role, you need to gather information to understand the current workflows and requirements. Design a comprehensive survey questionnaire to collect the necessary data, and outline additional methods for collecting information from relevant stakeholders.
2. What would be the operational, tactical, statutory, and strategic information required for DIU Medical Center? 5.0
3. As a system analyst why do you need interregional skills and breadth of knowledge? Explain it. 4.0