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Daffodil International University

Faculty of Science & Information Technology
Department of Computer Science & Engineering
Mid Examination, Fall 2024
Course Code: CSE227, Course Title: System Analysis and Design
Level: 2 Term: 2 Batch: 64

Time: 01:30 Hrs **Marks: 40**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.		**City General Hospital** is a large, urban healthcare facility that provides services ranging from emergency care to highly specialized surgeries. However, the hospital is struggling with inefficiencies in managing its appointment scheduling, patient information tracking, and pharmacy services. Currently, the hospital's appointment system is outdated, resulting in scheduling conflicts and long wait times for patients. Additionally, medical records are scattered across different departments, which causes delays in retrieving patient history during consultations. The pharmacy is also facing challenges in managing prescription data, often resulting in medication shortages or overstock. As a system analyst, you are tasked with analyzing these issues and proposing an integrated system to enhance the efficiency and accuracy of hospital operations.		
	a)	Identify data and information in the context of appointment scheduling for the above system. Explain how different stages of the system development life cycle (SDLC) can be applied to improve appointment scheduling, patient record management, and pharmacy services at City General Hospital.	[5]	CO1
	b)	To gain a better understanding of the hospital's current processes, you plan to gather information from various stakeholders. Describe the methods you would use to gather information about appointment scheduling, patient record tracking, and pharmacy services at City General Hospital. How would you ensure comprehensive data collection, considering the different roles and requirements of stakeholders, including patients, doctors, nurses, pharmacists, and administrative staff?	[4]	CO2
	c)	Assess the operational feasibility of introducing new technology to streamline appointment scheduling, patient record management, and pharmacy services. Analyze the technical feasibility of integrating various data sources and systems across departments. Also, assess the economic feasibility of the proposed solution, including potential cost savings. Discuss benefits, such as reduced wait times and improved medication management, as well as challenges, such as staff training and system integration costs.	[6]	CO3
2.		Rokomari.com, a leading online platform, has expanded its operations from selling books to also offering tech products, such as computers and accessories. The platform serves a wide range of customers, including individuals, resellers, and distributors. To streamline its business operations, Rokomari.com is developing an automated system to efficiently handle customer orders, inventory management, and invoicing. When a customer—		CO2

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		whether an individual, reseller, or distributor—places an order on the Rokomari.com website, the system checks if the requested items (books or tech products) are available in stock. If the items are available, the system sends a confirmation message to the customer and generates a shipping order for the warehouse. The warehouse processes the shipment, and once the order is shipped, the customer must complete the payment. The system also generates internal reports for sales and inventory management. Rokomari.com offers a discount policy based on customer type and order size, which the system automatically applies when generating invoices. Distributors receive a 25% discount on orders of 500 or more items (books or tech products); otherwise, they receive a 15% discount. Resellers receive: 5% discount on orders of 6–19 items, 10% discount on orders of 20–49 items, 15% discount on orders of 50–99 items, 20% discount on orders of 100 or more items. Individuals receive a 5% discount on orders of 3 or more items; otherwise, no discount is applied. Once the discount is calculated, the system determines the final invoice amount and sends the relevant information to the accounting department, which generates the invoice and processes accounts receivable. The customer receives an invoice and order confirmation, and after payment is processed, they receive a receipt.		
	a)	Construct a Context Level Diagram and Level 1 DFD from the scenario.	[5]	
	b)	Prepare the decision tree for the above and Convert the decision table from the Decision Tree.	[5]	

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