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Daffodil International University
Faculty of Science and Information Technology
Department of Computer Science and Engineering
Mid Semester Examination Spring-2024
Course Code: CSE321 Course Title: System Analysis and Design
Level: 3 Term: 1

Exam Duration: 1.5 Hours Marks: 25
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.]

	Scenario		
	The regional hospital, DIU Health Center, serves a diverse population and offers a wide range of medical services, from primary care to specialized treatments. However, the hospital is facing significant challenges in managing its patient registration, medical record keeping, and billing processes. Patient data often gets lost or duplicated, leading to delays in appointments and treatments. Moreover, outdated systems result in billing errors and inefficiencies in revenue collection. As a system analyst, you are tasked with addressing these issues and proposing solutions to improve the overall efficiency and effectiveness of DIU Health Center.		
1.	Identify data and information in the context of patient registration for the above system. Explain how different stages of system development life cycle can be applied to improve patient care processes at DIU Health Center.	[6]	CO1
2.	To understand the hospital's current systems and processes, you plan to gather information from various stakeholders. Choose the methods you would use to gather information from different stakeholders about patient registration, medical record management, and billing processes at DIU Health Center with proper explanation. Design a questionnaire to collect data for this system and for which stockholder will you use it. Explain it.	[6]	CO2
3.	Develop a level 0 and Level 1 Data Flow Diagram (DFD) to illustrate the flow of information within DIU Health Center's for patient health checkup system. Identify external entities, processes, data flows, and data stores for this system. **Assumption:** Patient will take appointment of a doctor to health checkup. Doctor may check patient history, provide prescription and some test to the patients. Patients need to pay bill for health check up and doctor fee. After that they will buy the prescribed medicine from the medical store of the system.	[6]	CO2
4.	Analyze the operational feasibility of introducing new technologies and workflows, and the economic feasibility of the proposed solution. Illustrate potential benefits, such as improved patient care and revenue management, as well as challenges, such as staff training and system maintenance costs, in your analysis.	[7]	CO3