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Daffodil International University

Faculty of Science & Information Technology
Department of Software Engineering
Midterm Examination, Fall 2025;
Course Code: SE 113; Course Title: Introduction to Software Engineering
Sections & Teachers: (A-D) RM, (E) TM, (F, G)MKS,(H-J) DSM, (K)SSI, (L,M)IAT, (N-P)NJN, (Q)DMA
Time: 1:30 Hrs **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.]

1.	a)	Differentiate between Traditional and Agile software development approaches. Which approach is more suitable for projects with stable vs changing requirements?	[Marks-4]	CLO-1 *Level-2*
	b)	Rafi, a programmer, works for a software firm that develops educational apps. One day, Rafi copies a paid version of a popular learning software from the internet and installs it on the company's computers without a license to "save costs." Later, he also uses his company's computer during office hours to hack into a competitor's server to check their product design. Do Rafi's activities violate any **professional responsibilities** of a software engineer? **Explain your answer with proper reasoning.**	[Marks-5]	
	c)	As a software engineer, our goal is to develop high-quality software. Explain the quality attributes that should be considered in the development process.	[Marks-5]	
	d)	For any software project, **elaborate** the advantages and disadvantages of using the waterfall model in software development.	[Marks-4]	
2.	a)	A software firm has been contracted to develop an AI-powered Disaster Response and Management System (DRMS) for a government agency. The system aims to collect real-time data from drones, IoT sensors, and social media to predict and manage natural disasters such as floods and cyclones. However, the project involves high technical and financial risks, as new technologies (like drone integration and AI-based forecasting) are still being tested. The requirements are not fully defined, and the client wants to see early prototypes before finalizing the system design. Frequent user feedback and risk analysis are expected throughout the development process to ensure that the system can adapt to real-world conditions. Based on this scenario, **determine** a suitable Software Development Life Cycle (SDLC) model that will be the best choice for this project with clear reasoning.	[Marks-4]	CLO-2 *Level-3*
	b)	According to the answer to Question 2a, **Demonstrate** each phase that specifically addresses the needs and challenges of the SDLC model.	[Marks-3]	