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Daffodil International University

Faculty of Science & Information Technology
Department of Computer Science and Engineering
Midterm Examination, Summer-2026
Course Code: CSE442, Course Title: Software Quality Assurance
Level: 4 Term: 2 Batch: 64

Time: 1 Hour and 30 Minutes **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)	A software company is developing an online result publication system for a university. After release, students complain that some results are missing, some grades are calculated incorrectly, and the system becomes slow when many students log in together. The management claims that the software was delivered on time and within budget, but users are dissatisfied with its quality. From the given scenario, explain whether this system can be considered quality software or not. Justify your answer by mentioning at least three characteristics of quality software.	3	CO1
	b)	Differentiate between Software Quality Assurance (SQA) and Software Quality Control (SQC).	2	
2	a)	A developer tests a student registration system and finds that entering an invalid course code sometimes produces a wrong registration confirmation. However, in some test cases, the same fault does not produce any visible failure because the wrong internal state is not shown in the final output. Using the RIPR model, explain the conditions that must occur for the fault in the registration system to be observed as a failure.	3	CO1
	b)	Why is abstraction important in Model-Driven Test Design (MDTD)?	2	
3	a)	A mobile banking application is updated with a new "instant fund transfer" feature. Before full release, the testing team first checks whether the basic functions such as login, balance checking, and fund transfer are working properly. Later, they retest the old features to ensure that the new update has not broken any previously working functionality. However, after release, users report that the app becomes very slow during peak transaction hours.	3	CO2

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		From the given scenario, identify and explain the suitable types of testing that should be performed.		
	b)	Differentiate between testing and debugging.	2	
4	a)	A university admission system accepts an applicant's HSC GPA as input. The valid GPA range is from 0.00 to 5.00. The system should reject invalid values, accept eligible students with GPA 3.00 or above, and mark students with GPA below 3.00 as not eligible. A tester wants to apply input space partitioning instead of testing every possible GPA value. Identify suitable input partitions/blocks for the GPA input and explain why testing at least one value from each block is useful.	3	CO2
	b)	What two properties must a proper partition satisfy? Explain briefly.	2	
5	a)	A ride-sharing app calculates the final fare based on three inputs: distance, ride type, and promo code status. The possible input blocks are: ● Distance: short, medium, long ● Ride type: bike, car, premium ● Promo code status: valid, invalid, not used Testing all possible combinations may take more time, but the tester still wants to design effective test cases using input domain modeling. Using Input Space Partitioning, explain how the tester can model the input domain for this fare calculation feature. Also mention why testing all combinations may become costly.	3	CO2
	b)	Differentiate between interface-based approach and functionality-based approach in input domain modeling.	2	