



Daffodil International University
Faculty of Science & Information Technology
Department of Computer Science & Engineering
Final Examination, Summer 2025
Course Code: CSE415, Course Title: Web Engineering
Level: 4 Term: 2 Batch: 61

Time: 02:00 Hrs

Marks: 40

Answer ALL Questions [Optional]

[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)	Assume that you have a base HTML file with 30 embedded images, images & base files are small enough to fit in one TCP segment. RTT is 100 ms, Transmission time per object is 31 ms. How many RTTs are required to retrieve the base file & images under the following condition: i. Non-Persistent connection ii. Persistent connection without pipelining iii. Persistent connection with pipelining	[6]	CO1
	b)	Explain the difference between a session and a cookie in web development.	[4]	
2.		You are assigned to lead the development of an online event management system platform for a university, which will allow different departments to post events, manage participant registration, handle notifications, and generate reports. The system must be scalable, maintainable, and support parallel development by multiple teams.		CO2
	a)	Analyze how a microservices architecture could be applied to this system. Identify at least three key services you would separate and explain how breaking them into independent services benefits scalability and team collaboration.	[5]	
	b)	As the project manager, describe three key project management activities you would perform during the requirement analysis phase of this system. How would these activities help you ensure that the project meets user needs and technical constraints?	[5]	
3.		In this fictional version of the Squid Game, you're building the web-based system for Round 1, where participants must pass a programming task to survive. You're tasked with implementing the following using HTML, PHP, MySQL, and basic CSS	[20]	CO4
	a)	Design an HTML form to collect a participant's name and a word. Upon submission, this data will be sent to a PHP script.		

b)	In the PHP script, check whether the entered word is a palindrome, without using any built-in reverse functions (like <code>strrev()</code>). • If it is a palindrome, display: "Congratulations [Name]! You passed Round-1." • If not, display: "Sorry [Name]! You failed in Round 1."		
c)	Only if the participant passes, store their name, word, round_status (e.g., "Passed"), and violation_status (initially set to "Clean") into a MySQL table named survivors.		
d)	Create a survivors.php page that displays a table of all passed participants. For each participant, include: Name, Word, Round Status, Violation Status, and A "Delete" button to remove participants who violated the code of conduct. Only participants with violation_status = "Violated" should be allowed for deletion. Write the PHP logic for this deletion process, maintaining MVC architecture.		
e)	Apply basic CSS styling: • Center the form and table • Add borders and padding • Use colors or formatting to highlight passed vs. eliminated participants		