ourdiu.com | Shared by NAHIDUL ISLAM PRANTO

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.		

ourdiu.com | Shared by NAHIDUL ISLAM PRANTO

	b)	In the PHP script, **check** whether the entered word is a palindrome, **without** using any built-in reverse functions (like strrev()). • 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		