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Daffodil International University

Department of Information Technology & Management
Faculty of Science & Information Technology
Final Examination, Summer 2026
Course Code: ITM 301; Course Title: Management Information System
Sections & Teachers: MRK (A)

Time: 2:00 Hrs **Marks: 40**

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 popular online shopping platform collects customers' names, phone numbers, addresses, browsing history, and purchase records. The company uses this information for personalized advertising and shares some customer information with third-party companies. However, customers are not clearly informed about these practices, are not given the opportunity to decide how their information will be used, and cannot easily review or correct the information stored about them.		CLO-3 Level-4
	a) Identify and justify two relevant Fair Information Practice (FIP) Principles that the company is failing to follow based on the scenario	**[3 Marks]**	
	b) Identify and explain two relevant moral dimensions of the Information Age reflected in this situation.	**[2 Marks]**	
2.	A Bangladeshi e-commerce company is migrating its platform to AWS. The company has two workloads: one requires high CPU performance, while the other will run continuously for three years with predictable usage. The company wants to select suitable EC2 options while maintaining security and controlling costs.		CLO-3 Level-4
	(a) Based on the AWS Shared Responsibility Model, **identify** the security responsibilities of AWS and the customer.	**[Marks-2]**	
	(b) **Select** the most appropriate EC2 instance type for the first application and the most appropriate EC2 pricing option for the second application and **justify** your choices.	**[Marks-3]**	

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3.	A Bangladeshi food-delivery company uses several AWS servers to handle heavy customer traffic. It wants requests to be sent to the server with the fastest response. The company also develops its customer, order, payment, and delivery functions as independent components. For some tasks, code should run only when a specific event occurs.		CLO-3 Level-4
	a. **a) Identify** the appropriate Elastic Load Balancing routing method explained in the scenario and **justify** your choice.	**[Marks-2]**	
	b. **b) Identify** whether the application follows a Monolithic or Microservices architecture and **justify** your answer	**[Marks-2]**	
	c. **Explain** the benefit of AWS Lightsail.	**[Marks-2]**	
	d. **Identify** the appropriate AWS service for running code only when an event occurs. Explain **how it works and why it is suitable** for the scenario and Give one real-life example of its use.	**[Marks-4]**	
4	A Bangladeshi university stores student information in separate files for personal details, courses, grades, and financial records. The same student information is repeated in several files, and different departments sometimes have different values for the same student. The university wants to improve data management and use the information for decision-making.		CLO-4 Level-4
	a) Analyze the **data hierarchy** used in the university's information system by explaining how fields, records, files, and databases are related, with a suitable **example**	**[Marks-3]**	
	b) Based on the scenario, **identify and explain** two problems of the traditional file processing system faced by the university with a suitable **example**.	**[Marks-3]**	
	c) Define NoSQL Databases? The university wants to **identify hidden patterns** in student performance and analyze positive and negative student feedback. Identify the appropriate **techniques** and **justify** your choices.	**[4 Marks]**	
5	A Bangladeshi company experiences two malware incidents. In the first, a malicious program spreads through the Internet by attacking random IP addresses. It causes infected computers to crash and repeatedly restart and then searches for more computers to infect. In the second, employees receive fake email attachments that infect computers and cause them to join a zombie network used for criminal activities.		CLO-4 Level-5
	a) Evaluate the security risks related to the communication line & in the Corporate servers and their possible Impact on the company.	**[5 Marks]**	
	b) Identify the name and type of each malicious code described in the scenario. Explain the characteristics of each type and its effect on the company's Information system.	**[5 Marks]**	