



Daffodil International University

Faculty of Science & Information Technology
Department of Computing and Information System
Final Examination, Spring-2025

Course Code: CIS231, Course Title: Information System Analysis
Level: 2 Term: 3

Exam Duration: 2 Hours

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.	<p>"NB Super Shop" is growing rapidly, offering a wide range of grocery items. To manage its expanding operations efficiently, it is developing a new system to handle inventory, billing, sales, and customer data. This system aims to improve accuracy, streamline processes, and support future growth. Different task schedule and their dependency for the propose system is given bellow:</p> <table><thead><tr><th>Task</th><th>Dependency</th><th>Time(Weeks)</th></tr></thead><tbody><tr><td>A</td><td>None</td><td>6</td></tr><tr><td>B</td><td>None</td><td>4</td></tr><tr><td>C</td><td>A</td><td>7</td></tr><tr><td>D</td><td>A, B, C</td><td>4</td></tr><tr><td>E</td><td>A, B, C</td><td>9</td></tr><tr><td>F</td><td>D</td><td>7</td></tr><tr><td>G</td><td>D, E</td><td>4</td></tr><tr><td>H</td><td>D, E</td><td>5</td></tr><tr><td>I</td><td>F</td><td>3</td></tr><tr><td>J</td><td>G</td><td>9</td></tr></tbody></table> <p>Now answer the following questions-</p>	Task	Dependency	Time(Weeks)	A	None	6	B	None	4	C	A	7	D	A, B, C	4	E	A, B, C	9	F	D	7	G	D, E	4	H	D, E	5	I	F	3	J	G	9	[10]	CO3
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	a) Sketch a Gantt chart for the given task schedule and dependencies.	[4]																																		
	b) Draw a PERT diagram for the proposed system	[4]																																		
	c) Calculate the critical path with critical value.	[2]																																		
2.	<p>In rural areas of Bangladesh, a team in Dhaka has developed an online birth registration system to help union councils collect and store birth information digitally. The system takes inputs such as name, birthdate, parent names, NID number, and address, and generates a confirmation slip in PDF format. During testing, it was found that the system accepts empty fields, invalid NID numbers, and incorrect dates like future birthdates. Also, some confirmation slips show incorrect or incomplete information compared to what was entered.</p>		CO2																																	
	a) Identify two input errors from the above scenario and explain how to test them.	[5]																																		

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	b)	Explain a technique to verify that the confirmation slip shows accurate input data.	[5]	
3.	<p>"BD Fashion Ltd." is a fashion wares business company. They have 20 showrooms in Dhaka city and every showroom has several sales persons. They purchase finished dresses of men and women of all ages from different suppliers and sale those items to the registered or non- registered customers. All Purchases are controlled from the head office and distributes items to all showrooms based on their previous sales records. They have discount policy for the registered customers. They have three types of customer: <u>Platinum</u>, <u>Golden</u> and <u>General</u>. If a Platinum customer purchase items by less than 1000 taka then they will get 5 % discount and purchase items by more than or equal 1000 taka they will get 7 % discount. If a Golden customer purchase items by less than 1000 taka they will get 4% discount and purchase items by more than or equal 1000 taka they will get 6 % discount. General customers will always get 2 % discount whatever they purchase.</p> <p>Now answer the following questions</p>			CO4
	a)	Illustrate the decision tree for "BD Fashion Ltd." discount policy.	[4]	
	b)	Construct a DFD to represent the key steps in the purchase and sales operations.	[6]	
4.	<p>To promote Digital Bangladesh, the government is planning to launch a mobile-based fertilizer distribution system for farmers in rural regions. The system will allow registered farmers to apply for government-subsidized fertilizers via mobile apps or SMS. The development team must prepare a process specification for the steps involved—from farmer registration to delivery confirmation. Before starting the project, a feasibility study is conducted considering factors like network availability in rural areas, farmers' smartphone usage, development cost, and system training needs for local agro officers.</p>			CO4
	a)	Examine one technical and one operational challenge for the above system might face in rural areas.	[5]	
	b)	Suggest one step to improve the clarity of the process specification, and justify why it is important for successful implementation.	[5]	