



Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Midterm Examination, Summer 2021 @ DIU Blended Learning Center

Course Code: CSE 323 Course Title: Operating Systems

Level: 3 Term: 2 Section: PC-A+PC-B

Instructor: MSZ Modality: Open Book Exam

Date: Tuesday 6 July, 2021 Time: 1:30-4:00pm

Two and half hours (2:30) to support online open/case study based assessment

Marks: 25

[Answer all of the questions]

1.	a.	Consider the following Code: <pre>#include<iostream> using namespace std; int main(){ return 0; }</pre> The code is inside a file named “ myprogram.cpp ”, you want to copy the contents of this file in another file named “ copiedprogram.cpp ”. What will be the steps to perform this operation? Explain in brief.	3.0
	b.	“Multitasking is the logical extension of multiprogramming“ Explain your answer.	2.0
2.	a.	Explain the role of PCB in short term scheduling?	2.0
	b.	How can a parent process and its child process communicate with each other? Show with required figures.	3.0
3.	a.	Draw the Gantt chart and find out the average waiting and response time for the following processes in round robin. If your ID is an odd number then time quantum is 2 otherwise, time quantum is 3.	6.0

		<table border="1"> <thead> <tr> <th>Processes</th> <th>Arrival Time</th> <th>Burst Time</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>2</td> <td>10</td> </tr> <tr> <td>P2</td> <td>4</td> <td>9</td> </tr> <tr> <td>P3</td> <td>2</td> <td>2</td> </tr> <tr> <td>P4</td> <td>8</td> <td>12</td> </tr> <tr> <td>P5</td> <td>5</td> <td>5</td> </tr> <tr> <td>P6</td> <td>15</td> <td>1</td> </tr> </tbody> </table>	Processes	Arrival Time	Burst Time	P1	2	10	P2	4	9	P3	2	2	P4	8	12	P5	5	5	P6	15	1	
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	b.	At a particular time the CPU is trying to execute 6 processes. Draw the Gantt chart and find out the average waiting time from the following scenario using FCFS algorithm .	4.0																					
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	c.	Do you find any problem here? If yes, What is this and how can you solve this problem? Explain it with necessary justification.	5.0																					

Good Luck!