FEU Institute of Technology
COLLEGE OF ENGINEERING • COLLEGE OF COMPUTER STUDIES

Information Technology Education Department

NAME:	DATE:	SCORE:
PROFESSOR'S NAME:	SCHEDULE:	

Seatwork 1: PAGE REPLACEMENT TECHNIQUES (15pts)

1. Solve the given reference string below using 3 frames in the following page replacement algorithms:

9 5 7 9 1 1 0 4 1 0 2 8 2 0 0 7 8 1 4 1 2 1 0

A. FIFO (First-In, First-Out)
B. OPTIMAL
C. LRU (Least Recently Used)

A. FIFO = _____page faults

9	5	7	9	1	1	0	4	1	0	2	8	2	0	0	7	8	1	4	1	2	1	0

B. OPTIMAL = _____page faults

9	5	7	9	1	1	0	4	1	0	2	8	2	0	0	7	8	1	4	1	2	1	0

C. LRU = _____page faults

9	5	7	9	1	1	0	4	1	0	2	8	2	0	0	7	8	1	4	1	2	1	0

Seatwork 2: VIRTUAL MEMORY MAPPING (15pts)

Given:
Page or frame size = 2 bytes
No. of process page = 8 pages
No. of memory frames = 16 frames

Questions:

A. **What is the size of the Main Memory?** _____ (2pts)
B. **What is the size of the process?** _____(2pts)
C. **Draw your logical memory having the content of letters from A-P using 2 bytes per page.** (5pts)

D. **What is the physical address of the following letters using the given page table below:**
   a.) C _____(2pts)
   b.) H _____(2pts)
   c.) O _____(2pts)

Page Table	
000	**0111**
001	**0011**
010	**1001**
011	**0101**
100	**1111**
101	**1000**
110	**1101**
111	**1010**

Seatwork No. 3: MEMORY MANAGEMENT (40pts)

Directions: Given each memory allocation scheme, analyze the problem then answer the questions that follow.

A. VARIABLE PARTITIONING WITHOUT COMPACTION (20pts)

Directions: Complete the table using Variable Partitioning without Compaction.

Given: **OS size** **56 K**
Memory Size **200 K**

Job #	Job Size	Arrival Time	Run Time (min)	Time Started	Time Finished	Waiting Time (mins)	Memory Available when job was allocated
1	60	10:00	10				
2	100	10:05	15				
3	50	10:05	20				
4	70	10:10	8				
5	30	10:15	15				

B. RELOCATABLE DYNAMIC PARTITIONING/VARIABLE PARTITIONING WITH COMPACTION (20pts)

Directions: Complete the table using Variable Partitioning using Allocation after Compaction.

Given: **OS size** **56 K**
Memory Size **200 K**

Job #	Job Size	Arrival Time	Run Time (min)	Time Started	Time Finished	Waiting Time (mins)	Memory Available when job was allocated
1	60	10:00	10				
2	100	10:05	15				
3	50	10:05	20				
4	70	10:10	8				
5	30	10:15	15				