El-Mansoura University
Faculty of Engineering
1st Year Students,
Computers & Systems Engineering Dept.

Subject: Operating System1(CSE 3124)
Date: Tuesday ,12 June ,2012
Time Allowed: Three Hours

Attempt All Questions: **Maximum Marks : 100**

Question 1(25 Marks):

(a)- Define the following Terms:

i- Batch Operating System   iv- Data Reliability
ii- File Access Methods   v- Turnaround Time
iii- Disk Access Time   vi- Compact Disk
vii- Cylinder   vii- ALU

(16 Marks)

(b)- Draw the Diagram that Describe the computer system component?

(2 Marks)

(c): H.D has 9268 tracks on each surface . it has 12 plates . There are 516 sectors per track & each sector stores 256 bytes . Find :-
1- Disk size.
2- Sector address

(7 Marks)

Question 2(35 Marks):

(a): Make a comparative study between :

i- Seek Time & Relational Delay Time
ii- Non preemptive and preemptive algorithm
iii-Compiler and Interpreter
iv - Loader & Dispatcher
v- Input Queue & Ready Queue
vi- H.L.L & L.L.L
vii- scan & c-look methods

(21 Marks)

(b)- Explain Why :

i - Linked method of disk allocation methods is not reliable
ii- DRAM called Dynamic RAM
iii- Its important to include inter-track and inter-sector daps on the disk surface
iv- if the quantum time decreases , the execution of processes will be slow down

(8 Marks)

(c): Find the total head movement for the processes at the following tracks in the Queue :

Queue : 90 , 63 , 183 , 14 , 100 , 37, 65
Head is at : track 30

Using C-Scan & Look methods , then compare your results.
Note that: the end of the disk at track 199

(6 Marks)

Question 3 (40 Marks):

By Using FCFS , SRJF , preemptive priority & Round Robin with Q=3 , do the following :

1- Draw the Grant Chart
2- Calculate the Waiting Time & Turn Around Time & Response Time for each process
3- Compare the result of the four algorithms and determine the best one.

for the following set of processes with the following burst time

	Burst Time	Arrival time	Priority
P1	10	3	1
P2	5	5	3
P3	2	6	2
P4	3	7	5
P5	1	8	4

<u>**With My Best Wishes**</u>
Dr. Marwa F. Areed
<u>**12 / 6 / 2012**</u>