COMPUTER SCIENCE DEPARTMENT AL aL-BAYT UNIVERSITY	مربعة بال باليروم	TIME ALLOWED: 120 MINUTES Maximum Marks: 50 Marks
FINAL EXAM, FALL EXAMINATION 2 (WRITE YOUR NAME AND YOUR ROLL NO. ON 7	2018 The top immediately on	OPERATING SYSTEM 901332 In the receipt of this question/answer paper.)
NAME	_	ID

Q1. Give short answer for the following (2 points each):

- 1. What is FIFO?
- 2. What is the "dispatcher"?
- 3. What is throughput?
- 4. What is FCFS?
- 5. What is SJF?
- 6. What is contained in the page table?
- 7. What is virtual memory?
- 8. What is demand paging?
- 9. What is a page fault?
- 10. What is the LRU algorithm?

Q 2 (10 points):

A. Here is a table of processes and their associated running times. All of the processes arrive in numerical order at time 0. Show the scheduling order for these processes under 2 policies: First Come First Serve, Round-Robin with time-slice quantum = 1.

Process ID	CPU Running					
	Time					
Process 1	2					
Process 2	6					
Process 3	1					
Process 4	4					
Process 5	3					

B. Calculate the average waiting time for each method in part A (First Come First Serve, Round-Robin with time-slice quantum = 1).

Q3. (5 points):

- A. Explain the difference between logical and physical addresses.
- B. List the common memory allocation methods.

Q4. (6 points):

A. List four conditions for deadlock

1.

- 2.
- 3.
- 4.

B. Briefly in at most three sentences each describe two approaches to avoiding deadlock.

C. Producer consumer problem can be solved using

- 1.
- 2.
- 3.

Q5. (10 points)

Suppose a program references pages in the following sequence: **ACBDBAEFBFAGEFA**

Suppose the computer on which this program is running has 4 pages of physical memory.

Show how LRU-based demand paging would fault pages into the four frames of physical memory.

Notes: use $\sqrt{}$ to represent a hit.

	A	C	В	D	В	A	E	F	В	F	A	G	E	F	А
1															
2															
3															
4															