

CS 232 Operating Systems – Fall 2023

Instructor: Dr. Muhammad Mobeen Movania

Quiz 5 - Solution

Name: _____

Date: 20 September 2023

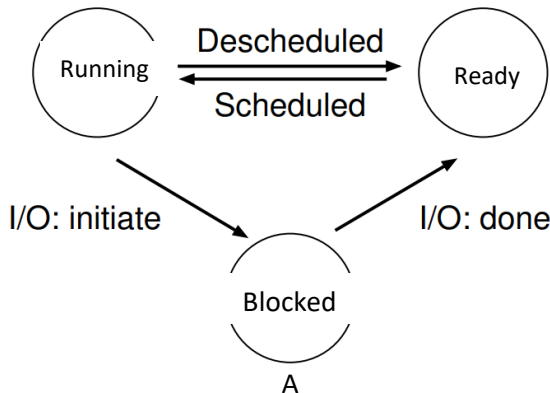
Regn. No. : _____

Circle the correct answer option.

Q1) Fill the missing circle using one of the following process states in Fig A?

2 marks

New, Ready, Running, Blocked, Terminated



Time	Process ₀	Process ₁	Notes
1	Running	Ready	
2	Running	Ready	
3	Running	Ready	Process ₀ initiates I/O
4	Blocked	Running	Process ₀ is blocked, so Process ₁ runs
5	Blocked	Running	
6	Blocked	Running	
7	Ready	Running	I/O done
8	Ready	Running	Process ₁ now done
9	Running	–	
10	Running	–	Process ₀ now done

Figure 4.4: Tracing Process State: CPU and I/O

Q2) The function local variables, parameters and return address are stored in _____? 2 marks

- (a) heap memory
- (b) static data memory
- (c) stack memory
- (d) code/text segment

Q3) In the Figure 4.4 from the book (given above), why doesn't the CPU scheduler schedule process p0 to continue at time 7 to resume after I/O is done instead of letting process p1 run? 2 marks

- (a) To improve resource utilization
- (b) To avoid maintaining process state
- (c) To allow process p1 to finish before p0
- (d) None of the options

Q4) The `wc` command returns three numbers which are ?

2 marks

- (a) No. of words, no. of lines, no. of bytes
- (b) No. of bytes, no. of lines, no. of words
- (c) No. of lines, no. of words, no. of bytes
- (d) No. of lines, no. of words, no. of bytes

Q5) Difference between fork and exec calls are?

2 marks

- (a) fork creates a copy of the current process while exec replaces the code and static data segment of the copy with the given programs code and data.
- (b) exec creates a copy of the current process while fork replaces the code and static data segment of the copy with the given programs code and data.
- (c) exec does not create a copy but instead launches a new thread using code of the given program to execute.
- (d) There is no difference