

COMPUTER SCIENCE DEPARTMENT AL al-BAYT UNIVERSITY		TIME ALLOWED: 50 MINUTES MAXIMUM MARKS: 20 MARKS
FIRST EXAM, FALL EXAMINATION 2018 (WRITE YOUR NAME AND YOUR ROLL NO. ON THE TOP IMMEDIATELY ON THE RECEIPT OF THIS QUESTION/ANSWER PAPER.)		OPERATING SYSTEM 901332
NAME _____ ROLL NO. _____		

**Attempt the Following** (Answer all—All questions carry EQUAL points)

**Q1. Fill in the table below with the correct answer. Only answers in this table will be corrected. (10Mark)**

Question No.	1	2	3	4	5	6	7	8	9	10
Answer										

- The following are valid process states.
  - Next, Running, Halting
  - Terminating, Waiting, Threshing
  - Running, Terminating, Waiting
  - None of these responses is correct
- A CPU-bound process \_\_\_\_\_.
  - infrequently requests I/O operations and spends more of its time performing computational work
  - frequently requests I/O operations and spends more of its time performing computational work
  - infrequently requests I/O operations and spends less of its time performing computational work
  - frequently requests I/O operations and spends less of its time performing computational work
- The state transition from RUNNING to WAITING happens when a process \_\_\_\_\_.
  - is interrupted
  - performs an I/O or event handling
  - completes an I/O or event handling
  - is dispatched by the scheduler
- \_\_\_\_\_ is used in operating system to separate mechanism from policy
  - Single level implementation
  - Two level implementation
  - Multi level implementation
  - None

5. A process control block \_\_\_\_\_.
  - A. includes information on the process's state
  - B. stores the address of the next instruction to be processed by a different process
  - C. determines which process is to be executed next
  - D. is an example of a process queue
6. When a process is accessing its heap space, it exists in the \_\_\_\_\_.
  - A. Running state
  - B. Waiting state
  - C. Terminating state
  - D. Ready state
7. When a process performs I/O, its PCB is moved to the \_\_\_\_\_.
  - A. Ready queue
  - B. Wait queue
  - C. Terminate queue
  - D. Running queue
8. An I/O-bound process \_\_\_\_\_.
  - A. spends equal time seeking I/O operations and doing computational work
  - B. spends more of its time doing computational work than seeking I/O operations
  - C. spends more of its time seeking I/O operations than doing computational work
  - D. spends less of its time seeking I/O operations than doing computational work
9. The two modes of operation of an operating system are called \_\_\_\_\_.
  - A. process and kernel
  - B. ready and running
  - C. interrupt and system
  - D. kernel and user
10. Bootstrap programs must be provided using \_\_\_\_\_.
  - A. volatile memory
  - B. erasable-programmable memory
  - C. non-volatile ROM devices
  - D. special magnetic disk tracks

**Answer the following questions using short and clear sentences please. Short answered are expected.**

**Q2. What is an Operating System? Define in your own language. (2 Marks)**

**Q3. How do I/O-bound and CPU-bound processes differ? (2 Marks)**

**Q4. a. How is an interrupt executed? (2 Marks)**

**b. What is an interrupt vector?**

**Q5. List five services provided by an operating system with short explanation on each. (5 Marks)**

**Q6. What is the purpose of system calls? (1 Marks)**