BIRZEIT UNIVERSITY

Electrical Engineering Department

ENCS339 Operating Systems

Second Semester, 2018-2019 Instructor: Dr. Adnan H. Yahya,

Quiz1 Wednesday, 26/2/2019 Time 10 minutes

Given the following Critical Section code for two processes:

```
PI  do {
      while (turn == J);
            critical section
      turn = J;
            remainder section
    } while (true);
```

```
PJ    do {
            while (turn == I);
                  critical section
            turn = I;
                  remainder section
      } while (true);
```

1. If we Initialize **turn to J** then allow both processes to work. How will the processes enter their critical sections: □ I then J,
   □ J then I, □ I but not J, □ J but not I □ none of the above.
2. If we Initialize **turn to I** then allow both processes to work. Mark all that apply: □ J Can progress if given CPU.
   □ **I Can progress if given CPU**. □ Both Can progress if given CPU.
   □ None Can progress if given CPU?
3. If we Initialize **turn to I** then allow both processes to work. Mark all that apply: □ I Can enter its Critical section twice.
   □ J Can enter its Critical section twice. □ **They have to work alternatively: one then the other**.
4. If we Initialize **turn to I** then allow both processes to work and J is not interested then I will wait indefinitely and cannot finish: □ True □ **False**
5. In Test-and-Set instruction: the old variable is copied, the variable new value is set to 1 **the action is based on the new value of the variable**. □ True □ **False**
6. If the cars on an intersection obey the rule: Right of way is given to the car on the right. **Deadlock** (nobody moves) is possible when the intersection has (all that apply) □ 2 cars □ 3 cars □ **4 cars**
7. Threads are preferable to processes because: (all that apply)
   □ **Context switching time is low for threads**
   □ **Process Creation time is low for threads**
   □ **Threads communicate faster than processes**
   □ Processes use more registers than threads