CS 531 – Fall 2020
SECURITY IN CYBER-PHYSICAL SYSTEMS

Instructor: Abdullah Aydeger, Ph.D.

QUIZ #1

08/27/2020  Duration: 20 minutes
(5 points each unless otherwise noted)

If there is more than one answer, please select both. Hint: Some questions do have multiple answers.

Please read all questions carefully and pay attention if it says “NOT” in the question. Please write a justification for each answer for partial credits.

1) Which of the following is a component of a typical CPS? (10 points)
   a. Sensor
   b. Actuator
   c. Communication link
   d. Software developer

2) Why is there a such class “Security in CPS”? Please elaborate. (10 points)

3) Which is not a part of Transportation CPS? (10 points)
   a. Traffic light
   b. Police on the road
   c. Pedestrians
   d. Traffic cameras

4) Please fill the table: (30 points)

<table>
<thead>
<tr>
<th>Feature</th>
<th>CPS</th>
<th>IT Network</th>
</tr>
</thead>
</table>
| Objective             | o Availability  
                        | o Confidentiality | o Availability  
                        | o Confidentiality |
| Network topology      | o Static   
                        | o Dynamic    | o Static   
                        | o Dynamic    |
| Updates/Patching      | o Frequent | o Infrequent | o Frequent | o Infrequent |
5) TCP/IP is a
   a. protocol
   b. b. hardware
   c. c. software
   d. d. network protocol suite

6) Which is not an issue to be concerned with at the transport layer?
   a. in-sequence delivery
   b. reliability
   c. framing
   d. flow control

7) Protocols in the ____ layer accept data from the Network layer and manage end-to-end delivery of data.

8) The IP (Internet Protocol) operates in the Transport layer.
   a. True
   b. False

9) Which of the following is not a network component?
   a. switch
   b. wifi card
   c. router
   d. mouse

10) Which of the following is a layer 2 (network layer) device?
    a. switch
    b. hub
    c. router
    d. LAN

11) MAC addresses are used at which layer?
    a. application
    b. transport
    c. network
    d. link

12) Routing is done with
    a. MAC addresses
    b. IP addresses
    c. wireless addresses
    d. physical addresses