**NAME**:

Rename the completed Word document to *yourlastname\_Q7.docx* before emailing it to [tlupfer@sandiego.edu](mailto:tlupfer@sandiego.edu). In other words, my quiz would be named *lupfer\_Q7.docx*.

This is a closed-book, off-grid (no Internet searches) quiz. You have 20 minutes to complete it.

**Reminder**: USD Honor Code: [www.sandiego.edu/conduct/documents/HonorCode.pdf](http://www.sandiego.edu/conduct/documents/HonorCode.pdf)

**All questions are worth 20 points (5 x 20 = 100 points total)**

What are the characteristics of MQTT that make it suitable for IoT devices?

1. **Answer**:

Describe the publish/subscribe model and explain the role of the broker in that model.

1. **Answer**:

How does MQTT differ from a message queue?

1. **Answer**:

Describe the Last Will and Testament (LWT) feature of MQTT? What purpose does it serve?

1. **Answer**:

Where are MQTT clients in an IoT implementation? Are they at the edge, are they in the cloud, can they be in both places? Give this some thought before answering and consider how we observed the messages being sent from our development board.

1. **Answer**:

Describe the role played by topics in MQTT. Does every subscriber receive every published message? If not, what determines what a subscriber receives? Is there a way a subscriber can receive a subset of messages?

1. **Answer**:

Do publishers and subscribers ever contact each other directly? What knowledge do they have of each other?

1. **Answer**:

Can a device both publish and subscribe to messages?

1. **Answer**:

Does MQTT strictly define the format of the message data? Is MQTT message data always ASCII text or can it be binary data?

1. **Answer**:

Once a client subscribes to a topic, is it destined to forever receive all messages to that topic? Explain your answer.

1. **Answer**: