ENCS 691K – Fall 2014
Cloud Networking and Service Provisioning
(Quiz #1)

Note: Please answer each question to the best of your understanding. No additional information will be provided during the quiz.

Question #1
a. Cloud computing is a distinct paradigm because of the combination of 5 characteristics. Give 3 examples of these characteristics
b. What is a virtual private cloud? What is its main drawback?

Question #2
Let us assume a RESTful conference service that allows a conference manager to carry out the following actions:
- Create a conference
- Terminate a conference
- Create a floor
- Terminate a floor
- Add participants to a conference
- Remove participants from a conference
- Grant floor to participants
- Remove floor from participants

Note: A floor is a temporary permission to access / use a shared resource in a given conference. Voice and video are examples of floor.

c. Figure out the data set
d. Split the data set into resources
e. Name the resources with URIs

Question #3
a. What is the key reason for which some CPUs cannot be fully virtualized?
b. What are the two most commonly used techniques to virtualize CPUs that cannot be fully virtualized? Give an example of difference between the two techniques.
c. Give an example of difference between virtual private network and network virtualization
d. Give an example of difference between overlays and network virtualization

Question #4
a. What is the main difference between Google Apps Engine and Cloud Foundry when it comes to the IaaSs they use?
b. What is auto-scaling in a PaaS?

Question #5
a. How many conceptual layers does an IaaS have? Define each layer in one sentence.
b. Define IaaS scalability in 1 sentence
c. Define IaaS elasticity in 1 sentence
d. When are 2 IaaS interoperable? When do they enable portability?
e. What is the main difference between pre-copy live migration and post copy live migration?