To begin with Blockchain is an interesting topic and I have found it to be remarkable of what it can do. From what I understand from the material presented in the PLE content, Blockchain is a basically a database where anyone can particularly use for their own personal usage. Any individual can access the database and add any data that they may seem fit, but they are not allowed to change any data in the blockchain. Blockchain was created by Satoshi Nakamoto, which their identity has yet to known. Blockchain works by using specified blocks to hold data or records that are linked using a specific method of cryptography preferably Asymmetric cryptography. Blockchain eliminates the need to have a third-party or middleman to handle any transactions for you and allows you to directly interact with an individual or customer securely. In Blockchain, the first block of data is called the Genesis block. After that, each block will contain the hash of the previous block created in which this creates the chain of blocks, thus making it a more secure mechanism. You might be wondering what a hash is? A hash is essentially a footprint of data. Hashes are used to verify, retrieve, and verify the integrity of data. A hash is like your personal signature. When you sign documents, you usually sign your signature to make sure that the integrity of the document is valid. Well, a hash is similar in when creating a hash, you will have your own personal hash value assigned to you to identify the integrity of that piece of data. Just like your signature will not be identical to anyone else's, your hash

value will not be identical to anyone's as well. This is ensured through a mechanism called a salt. A salt adds a random piece of data to your hash to ensure that no set of hash data even if that data is the same will produce the same hash value. This ensures the security of your data. Blockchain can be used in thousands of cases, from payment industry, to healthcare, to automotive. The most apparent form of Blockchain is Cryptocurrencies. Cryptocurrencies rely on a decentralized control unlike a bank that is used to tell you the amount of money you have deposited into your bank account. Bitcoin is the most popular of the Cryptocurrencies. It helped with an abundant of anonymous transactions without the use of government control. One blockchain application that is used in conjunction with Blockchain technology is the use of a Smart Contract. A Smart contract is a computer program that is triggered by an action of a ledger and is stored inside of a block of the blockchain.

Multiple Choice Questions:

1. What is a hash used for ? (Blockchain Technology, 6.1.2. Hashing)

A. Retrieving Data

B. Verifying Data

C. Transporting Data

D. All of the above

2. What is a Smart Contract? (Blockchain Applications, 6.2.3 Smart Contracts)

A. Cryptocurrency stored inside a Blockchain

B. Computer Program stored inside a Blockchain

C. Financial Application

D. None of the above

3. What is the difference between PoS (Proof-of-Stake) and PoW (Proof-of-Work) (Blockchain Technology, 6.1.7. Consensus Mechanism)

A. PoS has Validators

B. Pow Uses less energy

C. PoS uses mining farms

D. PoW Doesn’t let everyone mine for new blocks

Answer Key (1.D, 2.B, 3.A)