1=>Trust in a decentralized blockchain is about :

1=>executing and confirming the transactions.

2=>securing the chain using specific protocols.

3=>validating the transactions and blocks for tamper proofing.

2=> Trust trail:

1=>valid transaction

2=>verify gas and resources

3=>select set of transactions to create a block

4=>execute transaction to get a new state

5=>form a new block

6=>work towards consensus

7=>new block added to chain and confirmed

3=>All miners execute the transaction for ether transfer as well as for execution of smart contracts.

4=>Proof of work is the consensus protocol used by Bitcoin blockchain and Ethereum Byzantium Metropolis blockchain.

5=>An approach for consensus protocol that is hotly debated among developers of blockchain is proof of stake.

6=> proof-of-work=>

1=>first compute the hash of block header elements that is a fixed value and a nounce that is a variable.

2=>if hash value is less than 2^128 bitcoins and less than the function of difficulty of ethereum. the puzzle has been solved and winner adds block to the blockchain and broadcasts blockand verified by the other blocks.

3=>but if it has not been solved repeat the process after changing the nounce value

7=> Robustness is the ability to satisfactfory manage exceptional situation.Trust in Robustness is

the ability to handle natural exceptional situations such as a chain split and double spending.

8=>what if If more than one miner solves the consensus puzzle very close in time to each other or what if more than transaction references as input the same digital assets.This situataion is called double spending.

9=> If more than one miner solves the consensus puzzle very close in time to each other in Ethereum, then small incentives are given to the runner up blocks and the new block is added to the main chain not to the runner-up chain.

10=>Double spending is reusing digital assets intentionally or inadvertently.

11=>In Ethereum, a combination of account number and global nonce(incremented after every transaction) is used to address issues regarding double spending.

12=>A policy for handling transaction in double spending bitcoin is to allow the first transaction that reference the digital assets and reject the rest of the transaction that reference the same digital assets.

13=>Forks are mechanisms that

1=>Manage issues

2=>Implement planned improvements

3=>Build credibility.

4=> add to the robustness of the blockchain framework.

14=>Bootstrapping the new software to the already running processes is known as soft forks.

15=>After a hard fork, the emerging two chains are incompatible.

16=>Bitcoin blockchain implemented a soft fork to realize a P2SH conditional payment script feature.

17=> ethereum core and ethereum classic split that was enacted to addresss a critical software issue in a decentralized autonomous appliction (DAO)that resulted in a 150 million dollar heist.

18=> Soft Fork and Hard Fork in the blockchain world are like the release of software patches and new versions of operating systems respectively.

19=>The recent change from ethereum Homestead to Metropolis-Byzantiumn version was a planned hard fork.