**Papers –7**

Title: Blockchain Technology: A Review of the Current Challenges of Cryptocurrency

**Summary**

1. The Bitcoin platform comprises a series of cryptographic protocols that totally transform the way in which transactions are made.
2. the nodes of the blockchain network provide users with confidence and security in carrying out transactions.
3. Their incorporation of BT is innovative because it allows non-trusted parties to reach agreements called smart contracts
4. The oracle is an intermediary between the data inside the blockchain and the data outside of it.
5. Despite it, the fact that the networks and protocols that underlies some cryptocurrencies are somehow safe and sound against those attacks, continue attracting new investors and capital to their market.
6. The authors of [13] claim that BT is capable of replacing intermediaries while ensuring the security of platforms. BT offer resistance to traditional cyberattacks, but as this technology gains widespread adoption, they are being developed new attacks specifically for hacking it.
7. In a Sybil attack, the victim is influenced by the voting power of the attacker nodes and the information they send to it, which makes the victim vulnerable to double spend attacks.
8. Proof-of-Stake (PoS) is a consensus algorithm, in which miners take turns at adding new blocks.
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10. Ripple (XRP). This cryptocurrency is housed in the Ripple blockchain. It is scalable, being able to handle up to 1500 transactions per second.

**Finding**

1. Currently, every consensus algorithm has its own risks and vulnerabilities.
2. It is possible to explain why ETH has more daily transactions than Bitcoin due to the use of dApps.
3. The rise of BT has contributed to the appearance of a great number of different cryptocurrencies.
4. The cryptocurrency capitalization market is growing because more investors are putting their money in it.
5. Although BT is a solution to improve security of the data in a traditional system, it is being targeted by new and specific types of cyberattacks.
6. Some of the cryptocurrencies are offering their users the possibility of developing and deploy Turing-complete implemented dApps within their economic ecosystem.

**Limitation**

Distributed Denial Of Services (DDOS) attacks are the most common. The eclipse and sybil attacks have similar bases. The more proven a BT-based platform is against the attacks previously mentioned, the more trust the users give in the cryptocurrency it underlies. PoW wastes a massive amount of energy to produce new blocks. The problem with Ethereum is that it uses the same kind of consensus algorithm as Bitcoin, making the dApps impossible to escalate in terms of number of users and mainstream adoption by the people. Also, its high fees are a big problem in the way to deploy a dApp capable of handle micro-payments.

**Papers –8**

Title: Blockchain Technology and It’s Applications in E-Governance Services.

**Summary**

1. l. In this technology, transactions are approved and validated with the consensus of majority. No third party is required for validating the transactions.
2. In proposed technology, peer members are capable to validate the ownership and expenditure of the Bitcoin digital currency and approval of controlling authority is not required to validate the Blockchain transactions.
3. Now other fields like medical treatment, IoT, e-Governance services, smart cities, taxation, supply chain, e-vehicle etc are ready to apprehend the tremendous growth by use of Blockchain Technology.
4. Merkle tree is a data structure which is used to identify the altered block of Blockchain in log2n time where n is the number of blocks in the Blockchain.
5. A consensus algorithm is a process to achieve the agreement on a majority data value among the members of the distributed network.
6. Without Merkle root it is not possible to prove that no transaction has been tempered.
7. After receiving new block each member of the Blockchain update the Merkle root of the blocks which were created by them.
8. Blockchain Technology has also various implementation challenges, limitations, security challenges, economical, regulatory and political challenges.
9. On implementation of Blockchain at a large scale, managing the forking issue of the Blockchain may be a major challenge.
10. Blockchain Technology has huge potential to transform the existing digital services in to new era where efficiency of services, customer satisfaction, trust, security, privacy, cost saving etc may be enhanced undoubtfully.
11. The forking issue is manageable if majority of nodes agree to update the Blockchain software.

**Limitation**

Approval of controlling authority is not required to validate the Blockchain transactions. It is not a self sustained model or technology and is not a replacement of the Public Key Infrastructure (PKI). If any single detail of any transaction is changed then Merkle root would be changed. Blockchain Technology is not such a technology which can be adopted without proper precaution.