**1.0** BITCOIN

**1.1**A Collection of **concepts** and **technologies**

By combining these concept and technology **blockchain** has made and **bitcoin** is the first application of **Blockchain**.

**1.2**. Bitcoin is the **virtual** **currency** not exist in reality It can be trade like normal **currency** and can be **exchange** like others.

**1.3**. **Fast**, Secure and **Borderless** (no difference in transferring the **bitcoin** either inside or outside the country the procedure will be same).

**1.4**. **Permission less**

2.0 How Bitcoin Works?

**2.1** Unlike **traditional currencies** Bitcoin is the **virtual currency**.

**2.2** It has the implied value its not just a number. In **Bitcoin** everything is transaction. Every Bitcoin came through the process of transaction. In the Bitcoin Network everything is verified through **transaction**. e.g. if I say I have a 2 Bitcoin then a transaction must happen and in the output of transaction there is an address and it is printed on that address that I have a 2 Bitcoin.so everything came in the process of transaction.

**2.3 User** sign transaction with keys to unlock the value and spend it by transferring it to the new owner

**2.4** Keys are stored in **digital Wallet**

There are only keys **(private and public**) in wallet not the **bitcoin** which the user use to sign the **transaction**. Who has the private key is the **owner** of bitcoin.

3.0 How Bitcoin is Generated?

**Bitcoin** is created through **mining process**. In every **10 minutes** **a block** is generated and it is sent to entire **network** and then all nodes verify it and store in their ledger. and the person who win it get **12.5 bitcoin** as an award and also the transaction fees.

**And every 4 years bitcoin reward reduce to half**.

**Till now 18 million bitcoins is generate and remaining 3millions will completed in 2140 (not sure its authentic)**

4.0 Combination of 4 keys Process/Innovation

**4** keys point which **manage** the flow of **bitcoin** and make it possible

**4.1** Peer-to-peer Network(**decentralized**)

Every **node** in the network generated the **block** and **communicate** with the incoming **transaction** which come forward to entire network. every node in a **network** flowed by itself and transaction forward to the network

**4.2** Public Ledger

In a **public ledger** there are the **transaction** that stored in it and it is noted on the ledger about the transaction or received the bitcoin from the other node and the **sender and receiver** detail also mentioned.

**4.3** There are the **consensus rule** to validate every transaction. The rules are cleared how to **verify and validate** the transaction.

**4.4** **Proof of Work** is an **algorithm** on its base it is decided that new block which is generated is the valid or not.