

UNIT - 3

Electronic Payment System

* SET (Secure Electronic Transaction) :-

Secure Electronic Transaction is an open standard for protecting the privacy and ensuring the authenticity of electronic transaction.

This is critical to the success of electronic commerce over the internet without privacy, consumer protection and without authentication. Secure Electronic Transactions are the protocol for encrypted credit / debit card payment transfer.

• Features of SET :-

1- Confidentiality of information - Card holder's account and payment information is secured as it travels across the network.

2- Integrity of data - Payment information sent from card holder to merchant includes order information, personal data and payment instruction. SET ensures that these message contents are not altered in transit.

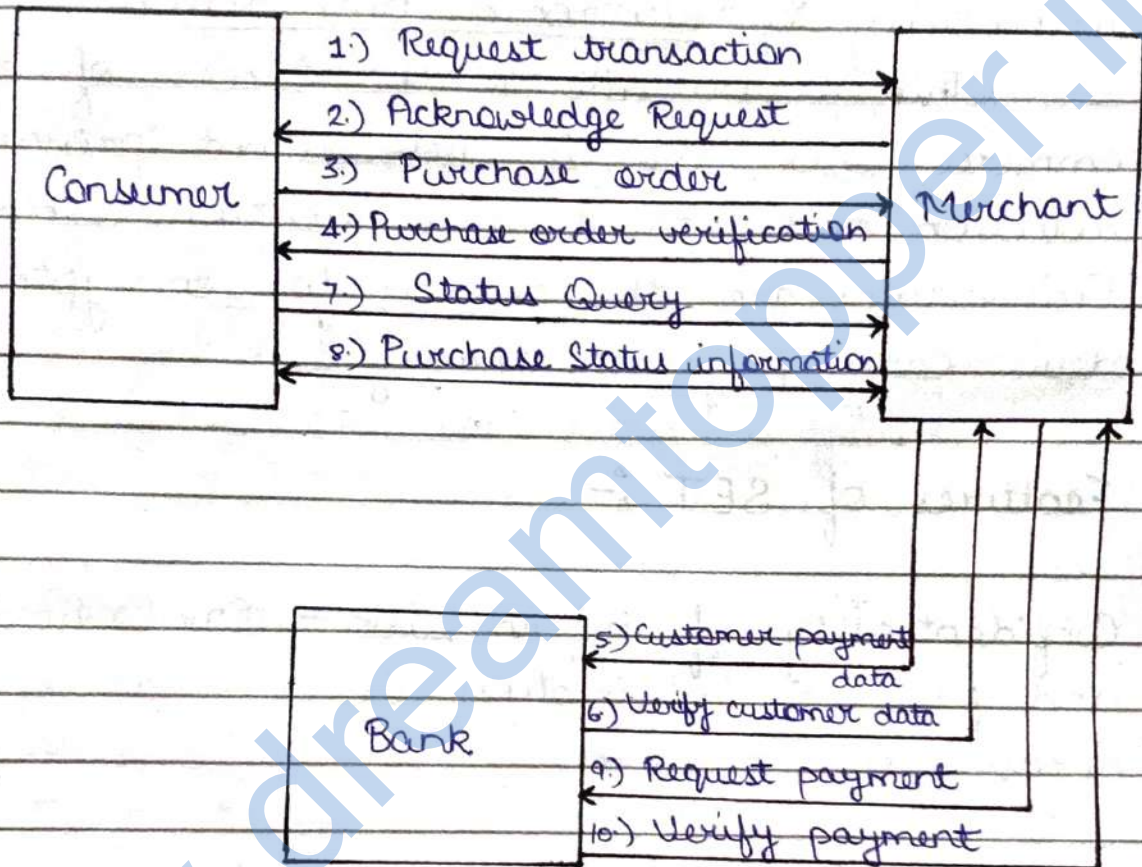
RSA, digital signature provide the message integrity.

3- Card holder account authentication - SET enables merchants to verify the card using valid card PIN number.

4- Merchant authentication - SET enables card holders to verify that a merchant has a relationship with

financial institution (bank) allowing it to accept payment using card.

• Working of a SET Protocol :-



Methods to secure e-payment system

* Security scheme in electronic payment system :-

- 1 Authentication
- 2 Public key cryptography
- 3 Digital signature
- 4 SSL (Secure Socket Layer)
- 5 SHTTP (Secure Hyper Text Transfer Protocol)

1 SSL (Secure Socket Layer) -

SHTTP - It supports the variety of security mechanism to Http client of a server. It provide security service option to the wide range of end user. One advantage of shttp is that it support end to end secure transaction. This means that multiple encryption/decryption is not ^{to} be done at every intermediate point.

★ Electronic Payments :-

There are different types of electronic payment -

1. Electronic Credit Card
2. Electronic Fund Transfer
3. Debit card
4. Stored Value card
5. E-Cash
6. Electronic cheque system

1. E-Credit Card :-

It is a plastic card bearing an account number assigned to a card holder assigned to

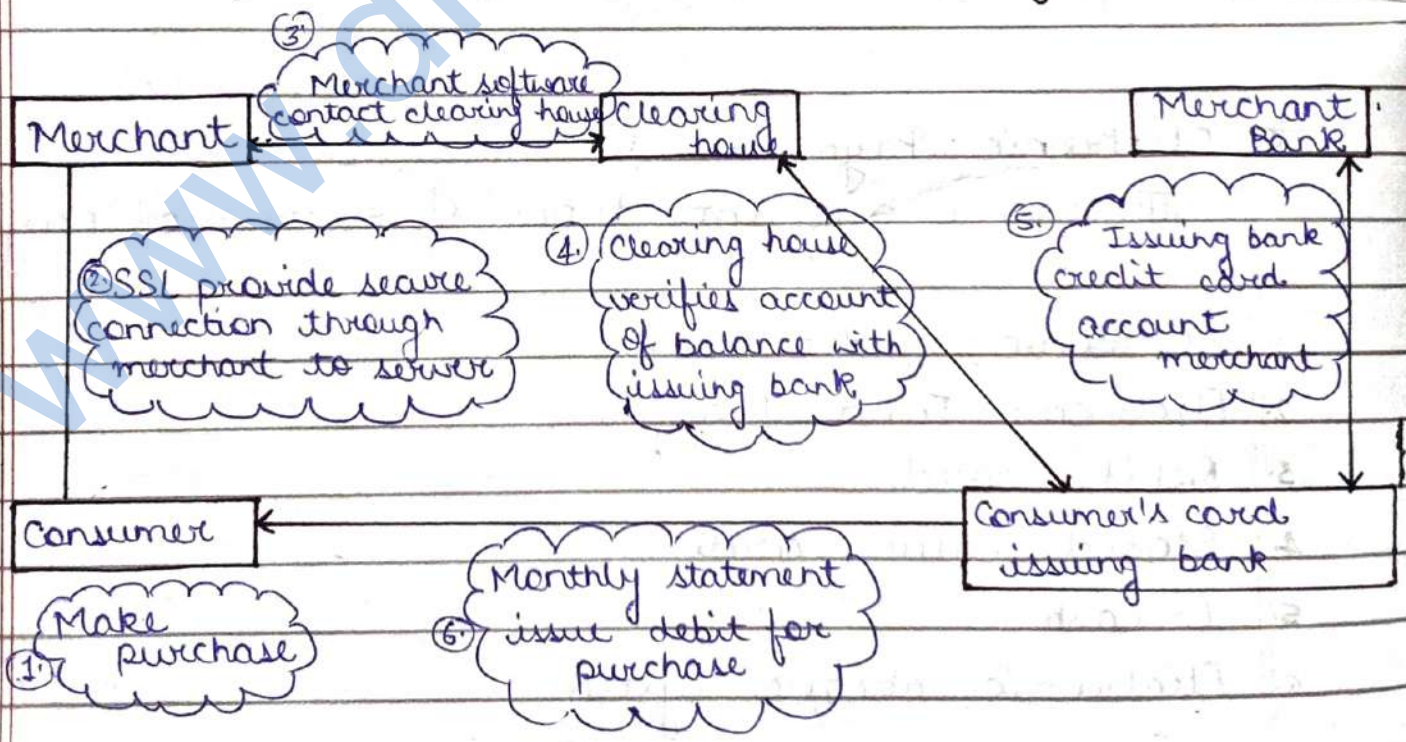
with a credit limit that can be used to purchase goods and services. After the certain period of time credit card bill is generated and will repay before due date.

(a) Parties involving in Credit card purchasing -

There are 5 parties involved in an online credit card purchase

- 1- Consumer
- 2- Merchant
- 3- Clearing house
- 4- Merchant's Bank
- 5- Consumer card bank

(b) Steps of online Credit Card Processing -



* Electronic Fund Transfer :- Electronic fund transfer is the electronic exchange or transfer of money from one account to another. Electronic fund transfer provide an alternative method of paying for goods and services and making a wide range of financial transaction.

Types of transaction in Electronic

1. Sale
2. Refund
3. Withdrawal
4. Deposit
5. Account transfer
6. Payment
7. Cashback

* is deducted from the customer's account) (Once the amount is transferred to other account, the customer is notified of the fund transfer by the bank.)

3- Debit Card :-

Debit card is a prepaid card with some stored value. A person has to open an account with the bank which gives debit card with a PIN. (Personal Identification Number).

When the person wants to make a purchase he enters his PIN on shop.

- Types of Debit Card - There are two different types of debit card-

1. Online debit card - Online debit card use the same technology as ATM bank machine uses for dispatch cash and the authentication may consist a numeric PIN which is known only to the card holder.

2. Offline debit - The use of debit card in this manner may have a daily limit ^{for withdraw} and the maximum limit for the money on deposit. A debit card used in this manner is similar to a secured credit card.

- Advantage of debit card -

- 1- No issue of creditability
- 2- No tracking of debts
- 3- Avoidance of ~~sig~~ writing cheques
- 4- Less identification
- 5- ATM transaction

• Disadvantage of debit card -

- 1- Possibilities of PIN lost.
- 2- Over limit fees
- 3- Interest by bank

4 Stored Value Card :-

Stored value card are one of the most dynamic and fastest growing product in the financial industry. Anyone who make purchase with a merchant for buying goods or services with a prepaid debit card is using a stored value card.

A stored value card can be an expand form of smart card with a microchip or with a magnetic strip that records the currency balance.

5 E-Cash / Digital Cash :-

The digital equivalent of cash is called E-cash. E-cash was one of the first form of payment system developed for e-commerce. The basic idea behind all digital cash system is payment over the internet while transmitting authenticated token which represent cash from customer to merchant.

6 Electronic cheque system :- Electronic cheque is another form of credit payment that customer use digital cheque to pay merchant directly.

Working of Electronic Cheque -

