Banking

Standard XII

Study Material

Student Handbook

BSE Institute Ltd.

18th and 19th Floors, Phiroze Jeejeebhoy Towers, Dalal Street, Mumbai- 400001

Table of Contents

Preface

The BSE Institute Ltd. is the wholly owned subsidiary of BSE Limited. BSE Institute Ltd. inherits from BSE the knowledge and insights into the capital markets industry, garnered over the past 140 years.

BSE Institute Ltd. has the distinct advantage of being at the centre of action — the financial hub of India, one of the world's most rapid emerging markets. This has helped us provide insights into the unique functions of this world. Emerging markets such as the BRIC countries — Brazil, Russia, India, and China — can entice and intimidate. However, the first-hand experience of our faculty and subject matter experts in dealing with the realities of this market enables us to appreciate how organizations, entrepreneurs, and investors identify and respond to these new challenges and opportunities.

Hence, our programs are designed to help learners develop an actionable framework to delve into key aspects like:

- Identifying which market institutions are working, and which institutions are missing?
- Which parts of our business model can be adversely affected by these institutional voids?
- How can we build competitive advantage based on our ability to navigate institutional voids?
- How can we profit from the structural reality of emerging markets by identifying opportunities to fill voids, serving as market intermediaries?

Our commitment to being at the forefront of the current and evolving practice of business has led to programs that reflect the realities of the marketplace.

Case studies replicate actual business situations and are taught so that students must work together to make difficult decisions under typical management conditions, including a lack of complete information, complex trade off situations and time pressure.

The Board takes this opportunity to thankfully acknowledge the commendable work of BSE Institute Ltd in providing support to CBSE for successfully launching and implementing courses under NSQF.

Comments and suggestions are welcomed for further improvement of the book.

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ADVISORS

1. Dr. Y.S.K. Sashi Kumar, Chairperson, CBSE
2 Sh. K. K. Chaudhary, Cordinator Exam of Director (VC)
3. Mr. Ambarish Datta, MD, BSE Institute Ltd.
4. Mr. Vinod Nair, Head of Academics, BSE Institute Ltd.

REVIEW COMMITTEE EXPERTS

1. Prof. (Retd.) P.V. Varshney, Delhi University
2. Dr. Sunil Kumar Gupta, Associate Professor, Indira Gandhi National Open University
3. Dr. Geetika Johri, Associate Professor, Indira Gandhi National Open University
4. Ms. Archna Koul, Principal, DAV Centenary Public School

CONTENT DEVELOPED BY

BSE INSTITUTE LTD., MUMBAI

EDITING & COORDINATION

Dr. Biswajit Saha, Additional Director (VOC), CBSE
Ms. Anupama Khaitan, Content Team, BSE Institute Ltd.

Learning Objective – Unit 1

<table>
<tr><td>Location</td><td colspan="4">Duration-10 HOURS</td></tr>
<tr><td rowspan="5">Classroom or Banks</td><td colspan="4">SESSION -1 SAFE CUSTODY OF VALUABLES</td></tr>
<tr><td>Learning Outcome</td><td>Knowledge Evaluation</td><td>Performance Evaluation</td><td>Teaching and Training Method</td></tr>
<tr><td>After studying this topic the learners would be able to learn about the benefits associated with Safe custody of valuables</td><td>1. Requisites in a bank for Safe Custody Services
2. Understand the difference between Safe custody and Locker system
3. Understand Bailor – Bailee relationship</td><td>1. Describe the need of Safe custody of valuables
2. Explain the roles & responsibilities of the Bank as a Bailee</td><td>Classroom teaching</td></tr>
<tr><td colspan="4">SESSION -2 LOCKERS</td></tr>
<tr><td>After studying this topic the learners would be able to state the advantages associated with the locker</td><td>1. Necessity of Safe Deposit Lockers
2. Procedure followed to get this facility
3. Nomination facility process in case of lockers</td><td>1. Describe the need of Safe Deposit Locker
2. List the requirements for availing the locker facility
3. RBI guidance on lockers</td><td>Classroom teaching</td></tr>
<tr><td colspan="4">SESSION-3 REMITTANCES- RTGS/NEFT/DRAFTS</td></tr>
<tr><td>After studying this topic the learners would be able to identify the distinct features of RTGS / NEFT / Drafts</td><td>1. Concept of Payment instruments
2. Importance of faster payments
➢ RTGS
➢ NEFT
3. Advantages of RTGS / NEFT / Drafts</td><td>1. Discuss the need of faster payment system for retail / corporate world
2. Explain the operations of
➢ RTGS
➢ NEFT
➢ Drafts
3. Elucidate the risks involved in E-banking</td><td>Classroom teaching</td></tr>
</table>

Location	Duration-10 HOURS			
Classroom or Banks	**SESSION-4 FEE BASED SERVICES - ISSUING BANK GUARANTEES (BG) AND LETTERS OF CREDIT (LC)**			
	Learning Outcome	**Knowledge Evaluation**	**Performance Evaluation**	**Teaching and Training Method**
	After studying this topic the learners would be able to discuss about the conditions applicable for Fee based services	1. Necessity for Fee based services 2. Understanding of BG/LC 3. Operations of BG/ LC	1. Enumerate the need & advantages of LC in International trade 2. Describe the LC types and it uses 3. Explain the process of Bank Guarantee/ LC issuance.	Classroom teaching
	SESSION-5 SELLING THIRD PARTY PRODUCTS (TPP) - INSURANCE AND MUTUAL FUND UNITS			
	After studying this topic the learners would be able to describe issues pertaining to Selling Third Party Products	1. Meaning of TPP 2. Purpose of TPP 3. Process of TPP – Insurance / Mutual Funds	1. Explain the need of TPP 2. Describe how TPP helps Bank to be one stop shop for financial products 3. Identify the sources of income for selling Insurance / Mutual Funds	Classroom teaching
	SESSION-6 CREDIT CARDS, DEBIT CARDS			
	After studying this topic the learners would be able to know the concepts of Credit cards &Debit Cards and identify the difference between them.	1. Features of Credit and Debit Card 2. Difference between Debit and Credit Card 3. Operation of Debit / Credit cards	1. List out differences between Debit Card and Credit Card 2. Study of Card life cycle process with the intermediaries involved	Classroom teaching
	SESSION-7 BROKERAGE AND DEMAT SERVICES			
	After studying this topic the learners would be able to identify the issues related to Brokerage and Demat Services	1. Need & purpose of Brokerage / Demat services 2. Account opening process of Brokerage / Demat services	1. List out difference between broker / dealer 2. List the types of services provide by broker houses 3. Describe the benefits of Depository & its impact on the Capital market	Classroom teaching

UNIT 1

ANCILLARY SERVICES OF BANKS

OBJECTIVES

After reading this unit you will be able to:

- Describe the features of safe custody services & Bank roles & responsibilities
- List the rules of Safe Deposit locker and process of availing Bank locker facility
- Elucidate the importance of Electronic payments
- Summaries the advantages of RTGS / NEFT
- Understand fee based services – Bank Guarantee and Letter of credit
- Understand the benefits to the Banks in selling Third Party Products (TPP)
- List the salient features of Credit / Debit cards
- Understand the Brokerage / Demat account features and its advantages

STRUCTURE

1.1 Safe Custody of Valuables

Banks offer the facility of safe custody of valuables to the public. Though there is no obligation on them to accept the valuables for safe custody and it is not a primary function of bank, yes this facility is provided by banks to earn a fee based income.

Wrong delivery of the articles kept with banker for safe custody to an unauthorized person is conversion (putting goods for one's own use). Banks take charge of goods, articles, securities as Bailee not as trustee or agent.

Bailor – Bailee Relationship: Bailment is a contract for delivering goods by one party to another to be held in trust for a specific purpose and returned when the purpose is over. Bailor is the party that delivers the goods to another. Bailee is the party to whom the same is delivered. So, when a customer gives a sealed box to the bank for safe keeping, the customer became the bailor, and the bank becomes the bailee.

Bailment Definition: Section 148 of Indian Contract Act defines Bailment as:

The delivery of goods by one to another person for some purpose, upon a contract that they shall, when the purpose is accomplished, be returned or otherwise disposed of according to the directions of the person delivering them. The person delivering the goods is called the 'Bailor', and the person to whom goods are delivered is called the 'Bailee'.

Essentials of Bailment: Essentials of Bailment are

- **Goods:** Bailment can be effected only with respect to goods.
- **Delivery:** Delivery of goods by one person to another is essential.
- **'Delivery' includes:** Physical delivery, Constructive delivery or Symbolic delivery. Goods are to be returned to the bailor without demand unless agreed otherwise. The same goods along with any accretion, are to be returned e.g., bonus shares, calf born to a cow.

Duties of Bailor:

- **To disclose faults in goods:**
  - Only known faults where bailment is gratuitous.
  - All faults including not known but existing at the time of bailment in case of non-gratuitous bailment.
- **To bear expenses:**
  - Gratuitous Bailment: All expenses – ordinary or extra-ordinary.
  - Non-Gratuitous Bailment: Only extra-ordinary expenses.
  - To indemnify for loss caused to the bailee because of defective title.

Duties of Bailee:

Bailee's duty is not to mix bailor's goods with his own or other bailor's goods. If he does so, then, where goods can be separated, Bailee shall bear the cost of separation. Where goods cannot be separated, Bailor has to be compensated for loss to return the goods in specie

Bailee duties are to take as much care of the goods bailed as a man of ordinary prudence will take in respect of his own goods of the same nature and value. and, Not to make unauthorized use of the goods

Liabilities of Bailee: Liabilities of the Bailee are:

- As per Section 148 of Indian Contract Act, the Bank becomes custodian and as a Bailee is liable for any loss caused to the Bailor due to his negligence
- He should return any increase in goods to the true owner i.e. the bailor.
- Sec 164 – Indian Contract Act, the bailee has to take as much care of such goods as an ordinary prudent man will take.

1.2 Locker Operations:

Safe deposit vaults or bank lockers have long been considered the safest place to store valueable viz. jewellery, stock certificates, deeds and other valuables. While most banks offer such a facility, the locker size, annual rent, deposit required, time period and provision for refund differs from bank to bank.

A box, usually located inside a bank, is used to store valuables. A safe deposit box is rented by the bank and can be accessed with keys, pin number or some other security pass. Valuables such as documents and jewellery are placed inside the box and customers rely on the security of the building to protect those valuables.

Need of Bank Lockers:

Storing too much jewellery and valuables in the house at times becomes a security issue and an impediment in case of natural calamities. A bank locker offers a safe, trustworthy space to store valuables, jewellery, documents and other things dear to you.

Persons who can avail Bank locker facilities:

A bank locker can be leased to any adult, firm or association. Most banks insist on some kind of collateral. So, they give a locker only to their existing account holders, or to those who agree to open an account (savings or current) or make a fixed deposit that covers rentals for three years and charges for breaking open the locker in case of an eventuality.

Customer / Bank relationship:

The relationship between a p3erson hiring the locker and the bank is that of a lessor and a lessee. The banks do not know what is kept in the lockers, so they do not want to compensate if the contents of the locker go missing.

Bank Locker Charges

The rent of the locker may vary for different branches of the same bank depending on the branch location. The locker rent is higher if the branch is located in a prime commercial area of the city.

Moreover, private and foreign banks charge a much higher rent compared to public sector banks.

If you decide to close your locker in midyear, in most cases, you forego the annual rent which you paid at the beginning of the year. As regards the safety aspect, most banks claim that confidentiality of the locker's contents is maintained, unless the income tax authorities or the police require otherwise.

Process for hiring Bank Locker:

In order to rent a safe deposit vault, you must first have a savings account with the particular bank. Some banks may also ask you to deposit a fixed amount as cautionary deposit for a specific time period. You have to pay the locker rent in advance, either for one year or more, depending on the rules of the bank. Apart from the usual documents required for opening a bank account (identity and address proof), banks require signature to be verification process to be completed before renting out a locker.

All you need to do is fill out a simple locker application form and sign a locker agreement, agreeing to abide by the terms and conditions, and pay the deposit and the rent. You can operate the locker either singly or jointly, but only one key is allotted per customer, while the other key remains with the bank.

SAMPLE AGREEMENT FOR HIRING LOCKER

The Federal Bank Limited, having its registered office at Alwaye and one of its branches at ..... (hereinafter called 'the Bank') agrees to let on hire and .....

.....

.....

.....

..... (hereinafter called the Hirer(s) agree(s) to take on hire, subject to the terms and conditions endorsed herein below, the Bank's Locker No. .....

(Key No .....) Class ....for a period of ..... months from this day at a rental of Rs. ..... for the said period. Unless and until determined in accordance with the terms and conditions noted herein, the hiring will continue to like periods upon the terms and conditions given hereunder at periodical rentals which shall be payable in advance on the last day of the preceding period for the next ensuing period.

FOR THE FEDERAL BANK LIMITED

(MANAGER)

…… }

…… } Hirer(s)

…… }

TERMS AND CONDITIONS

1. The safe deposit vault will remain open on bank working days during ordinary banking hours.

2. The hirers shall have no right of property in the locker but only exclusive right of use thereof and access thereto during the period of the agreement and in accordance therewith. The hirer(s) shall neither assign or sub-let the locker or any part of it nor permit it to be used for any purpose other than for the deposit of documents, Jewellery or other valuables nor shall the hirer use the locker for the deposit of any property of an explosive nature or goods or any articles, the keeping of which is illegal.

3. The rent is payable strictly in advance for a minimum period of twelve months. If the rent due is not paid in due course, the bank reserves the right to refuse access to the locker.

4. In case of default of payment of rent, the Bank may after issuing a registered notice giving one month's time at the registered address of the hirer, break open the locker and make a list of the contents and may remove the contents to another safe and/or the bank is at liberty to auction all or any part of the goods and appropriate the proceeds towards the arrears of the rent and also towards the cost of breaking the safe and repairs thereto. The hirer will have no right to complain against the said procedure or to question the list of contents made by the Bank.

5. All repairs required to be done to the locker; lock or keys shall be done exclusively by workmen appointed by the bank.

6. In case of loss of keys, the Bank should be notified without delay. All charges for opening and replacing the locker or keys shall be payable by the hirer(s).

7. The Bank will not be responsible for any damage or loss to articles in safe custody as a result of any act of war or civil disorder. The Bank will exercise all such normal precautions as it may in its absolute discretion deem fit. It will not accept liability for any loss or damage whatever sustained to items deposited with it. Accordingly hirers are advised in their own interest to insure any item of value deposited in a safe deposit locker with the Bank.

8. Either party may terminate the agreement on giving the other party 7 days notice in writing prior to the date on which the agreed period of hiring terminates. The keys of the locker shall in such case delivered by the hirer to the Bank during working hours on the day of termination of the hiring.

9. If no such notice has been given, the hiring of the locker shall be considered renewed but this condition is without prejudice to rights of the bank accrued to the bank in the meantime.

10. Hirer(s) is / are requested to keep the keys of her / his / their lockers in a place of safety not to divulge number of their locker, pass words (if any given) and not to deliver their keys to any person other than their duly authorised agent.

11. For reasons of grave or urgent necessity the Bank reserves the right of closing the safe deposit department for such periods as it may consider necessary. The Bank also reserves the right of making changes in the opening and closing hours of the department without previous intimation.
12. Any change in the address of the hirer(s) should be intimated to the Bank immediately and any notice or communication sent by post to the address of the hirer(s) as given to the Bank shall be considered to have been duly served.
13. It is hereby agreed that the relation of Bank and the hirer in this connection is that of a Lessor and Lessee and not that of banker and a customer or a bailor and bailee.
14. The hirer(s) agree(s) to abide by such rules and regulations as the Bank may from time to time adopt.
15. In cases where the locker is rented to more than one person any one of them will have access to the locker unless instruction to the contrary is given in writing. Duly appointed agent(s) will have access to the locker, provided such authority is registered with the bank.
16. Access to the said locker shall during the joint lives of the Hirers or the survivors of them be had by the Hirers of the survivors of them jointly / any one or more of the Hirers. On the death of all the Hirers save one all of the rights the Hirers hereunder shall vest in such survivor and upon his / her death shall vest in his / her legal representative(s).
17. The Bank shall have a general lien on all property of the hirer(s) in the Safe Deposit for all moneys due from the hirer(s) with power to realise such property or party thereof in satisfaction of moneys due but not paid.
18. A deposit of Rs…… per locker is to be made at the time of lease. This amount will be refunded when the locker is surrendered and key thereof is returned to the Bank in good condition and provided the hirer(s) does / do not owe to the Bank any amount by way of arrears of rent or other charges.
19. The Bank will have the option to enhance the rent of the locker after giving notice to the hirer(s) and the hirer(s) will be bound to pay the enhanced rent as decided by the Bank.
20. The Hirer(s) agree(s) that the bank may at any time, at its discretion and without assigning any reason call upon them to withdraw the articles from the said locker failing which the Bank will be absolved from all the responsibilities in respect of the articles.
21. The Hirer(s) shall have no right to claim refund of the proportionate amount of rent for the unexpired portion of the agreed period of one year if the Hirer(s) terminates the agreement before the agreed period.
22. Notwithstanding the time specified herein before, the Hirer(s) agree(s) that this agreement shall be deemed to be in force, unless it is specifically terminated by either of the parties.
23. The Bank will have the right to appropriate the key deposit, if any occasion arises to break open the cubicle on account of non-payment of rent / loss of key.

Name and Address:

Signature of hirer(s)

F. RBI Guidelines on Lockers:

Allotment of Lockers:

- Linking the lockers facility with placement of fixed or any other deposit beyond what is specifically permitted is a restrictive practice and should be prohibited forthwith.
- Fixed Deposit as security for lockers: Banks may face situations where the locker-hirer neither operates the locker nor pays rent. To ensure prompt payment of locker rent, banks may at the time of allotment, obtain a Fixed Deposit which would cover 3 years rent and the charges for breaking open the locker in case of an eventuality. However, banks should not insist on such Fixed Deposit from the existing locker-hirers.
- Wait List of Lockers: Branches should maintain a wait list for the purpose of allotment of lockers and ensure transparency in allotment of lockers. All applications received for allotment of locker should be acknowledged and given a wait list number. Banks are also advised to give a copy of the agreement regarding operation of the locker to the locker-hirer at the time of allotment of the locker.

Due Diligence:

In a recent incident, explosives and weapons were found in a locker in a bank branch. This emphasises that banks should be aware of the risks involved in renting safe deposit lockers. In this connection, banks should take following measures:

- Banks should carry out customer due diligence for both new and existing customers at least to the levels prescribed for customers classified as medium risk. If the customer is classified in a higher risk category, customer due diligence as per KYC norms applicable to such higher risk category should be carried out.
- Where the lockers have remained un-operated for more than three years for medium risk category or one year for a higher risk category, banks should immediately contact the locker-hirer and advise him to either operate the locker or surrender it. This exercise should be carried out even if the locker hirer is paying the rent regularly. Further, banks should ask the locker hirer to give in writing, the reasons why he / she did not operate the locker.
- Banks should have clear procedure drawn up in consultation with their legal advisers for breakings open the lockers and taking stock of inventory.

Loss of Locker Contents:

The bank will, in no way, be responsible / liable for the contents kept in the locker by the hirer. In case of theft, burglary or similar unforeseen events, action will be initiated as per law." The RBI has also said that even if the banks do not know about the contents of the locker, they should take necessary steps to protect the contents in the locker. There have been a few cases in the past where customers have received compensation for loss or damage to locker contents.

Nomination Facility:

It is always beneficial to avail the benefits of nomination facility/ survivorship clause provided to locker-hirers. The major advantage of availing these facilities is that in the event of unfortunate death of one of the joint locker-hirer, the right of access to the contents of the locker does not automatically devolve on the surviving joint locker-hirer/ nominee (s), unless there is a survivorship clause/ nomination.

Operations of Bank Locker:

The locker has two keys for opening the locker. One key is with the lessee (customer) and one master key is with the bank. The lessee needs to visit the branch during the specified time mentioned for the locker operations.

- Lessee will sign the register filling in the locker number and signs.
- Responsible Bank officer will verify the signature with the Bank records.
- If the signature tallies, the officer will take the customer to the locker room.
- Bank officer will open the locker with his key and then lesser will open the locker with his key to open the locker.
- Once the locker is opened, the Bank officer will leave the locker room and the lesser will deposit / withdraw valuables he wants
- Once he completes his transaction, he closes the locker door and locks the locker with his key only. The locker operation may vary from the Bank to Bank based on the type of locker, standard procedure followed by the Bank

1.3 Remittances – RTGS/NEFT/Drafts

Ways to transfer money: To transfer funds (money) from one person to another person, the banks have various channels which are:

- Paper Based:
  - Cheques
  - Demand Draft
- Electronic Funds Transfer
  - NEFT
  - RTGS
- Cards
  - Credit Cards
  - Debit Cards

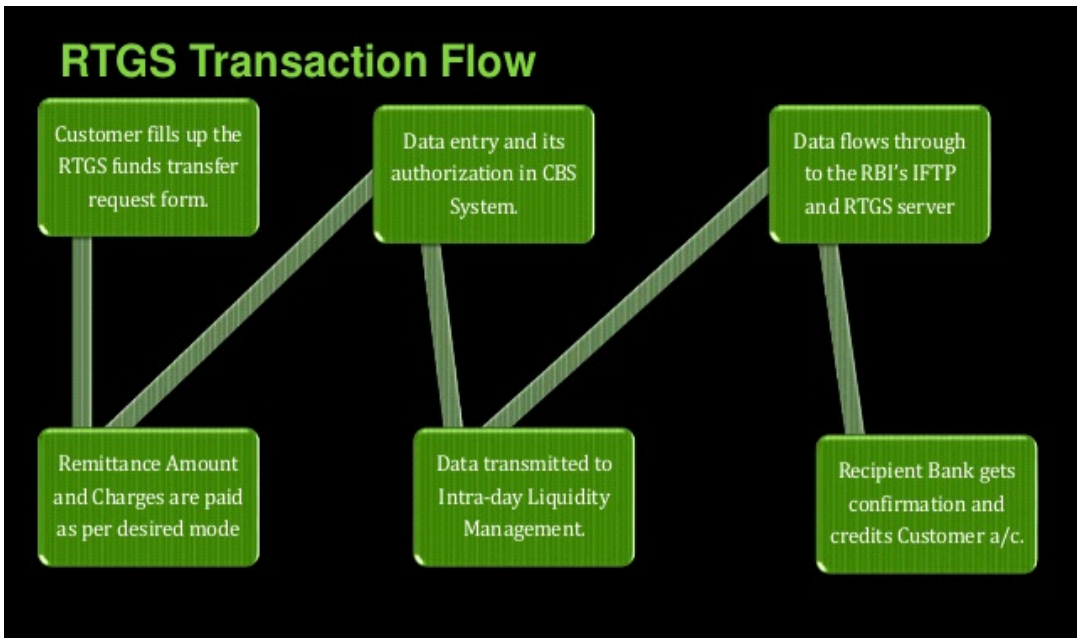
There are a few large value payment systems functioning in the country. These are:

- Inter-Bank Cheques Clearing Systems (the Inter-bank Clearing),
- High Value Cheques Clearing System (the High Value Clearing),
- Government Securities Clearing System (the G-Sec Clearing),
- Foreign Exchange Clearing System (the Forex Clearing) and
- Real Time Gross Settlement (RTGS) System.

All these systems (except the High Value Clearings) are electronic based systems. These mostly relate to interbank / inter-financial institutional transactions except the High Value Clearing where high value customer cheques are cleared.

The Inter-bank Clearing functions in 7 places and the High Value Clearing in 15 places – both are managed by the Reserve Bank of India. The G-Sec Clearing and the Forex Clearing are managed by the Clearing Corporation of India Limited (CCIL). The RTGS System is operated by the Reserve Bank of India. All these are deemed to be Systemically Important Payment Systems (SIPS) and therefore the Reserve Bank has, in line with the international best practices in this regard, moved them (except High Value Clearings) to either secure and guaranteed systems or the RTGS System.

A. Real Time Gross Settlements Payments System (RTGS) :



The acronym 'RTGS' stands for Real Time Gross Settlement, which can be defined as the continuous (real-time) settlement of funds transfers individually on an order by order basis (without netting). 'Real Time' means the processing of instructions at the time they are received rather than at some later time; 'Gross Settlement' means the settlement of funds transfer instructions occurs individually

(on an instruction by instruction basis). Considering that the funds settlement takes place in the books of the Reserve Bank of India, the payments are final and irrevocable.

Under normal circumstances the beneficiary branches are expected to receive the funds in real time as soon as funds are transferred by the remitting bank. The beneficiary bank has to credit the beneficiary's account within two hours of receiving the funds transfer message.

RTGS Operation:

i. Limit:

Type	Minimum	Maximum
RTGS	Rs. 2 Lakhs	No Limit

ii. Time of Operations: RTGS transactions will be sent to RBI based on the following schedule:

RBI settlement Timings for R-41 transactions (other than Inter Bank transactions)		
Day	Start Time	End Time
Monday to Friday	09:00 hrs	16:30 hrs
Saturday 09:00 hrs	13:30 hrs	

RTGS Tariff:

With a view to rationalize the service charges levied by banks for offering funds transfer through RTGS system, a broad framework has been mandated as under:

- Inward transactions – Free, no charge to be levied.
- Outward transactions:
  - Between Rs 2 lakhs to 5 lakhs - not exceeding Rs 30.00 per transaction;
  - Above Rs 5 lakhs – not exceeding Rs 55.00 per transaction.

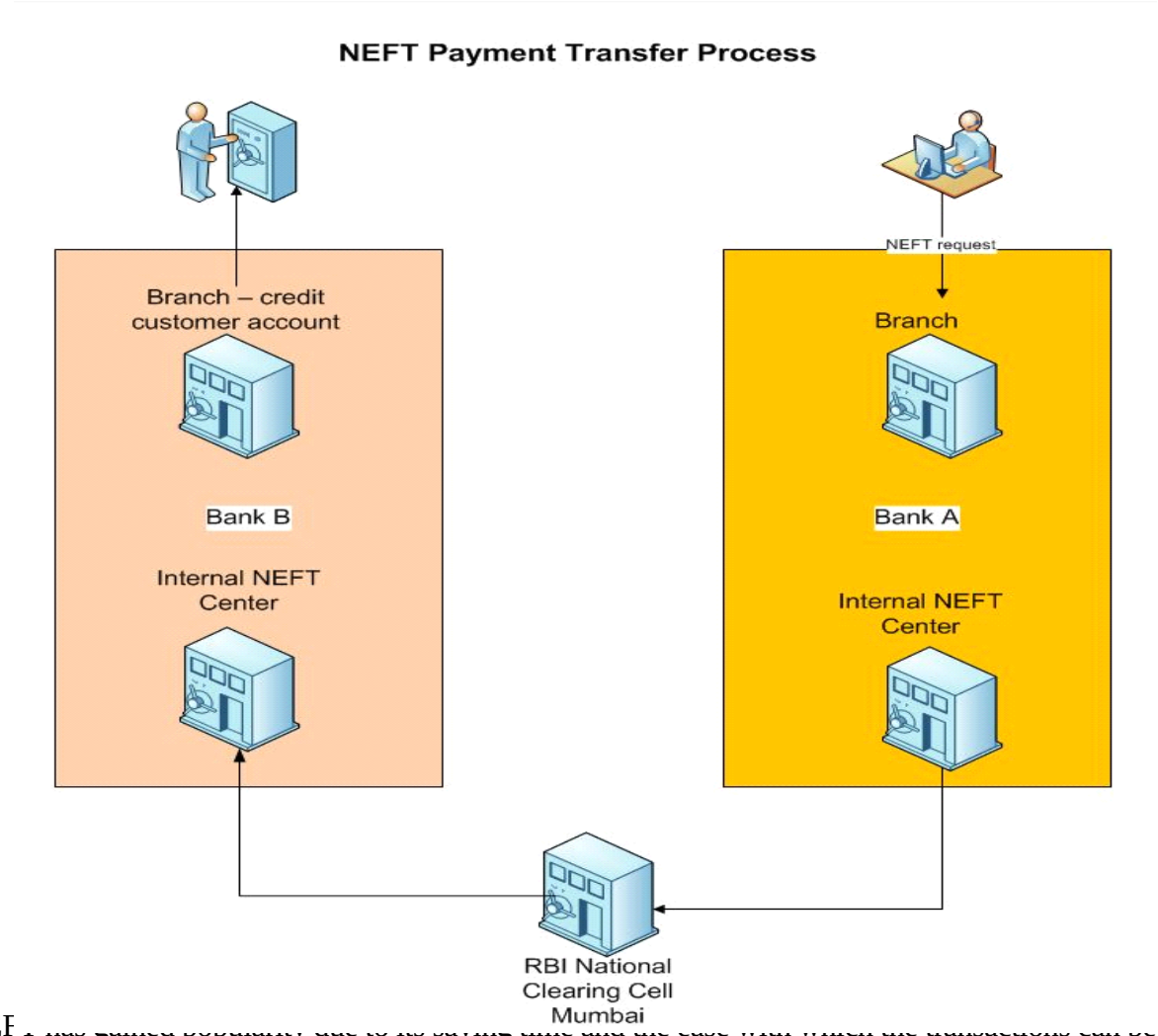
The remitting bank receives a message from the Reserve Bank that money has been credited to the receiving bank. Based on this the remitting bank can advise the remitting customer through SMS that money has been credited to the receiving bank.

The remitting customer has to furnish the following information to a bank for initiating a RTGS remittance:

- Amount to be remitted
- Remitting customer's account number which is to be debited

- Name of the beneficiary bank and branch
- The IFSC Number of the receiving branch
- Name of the beneficiary customer
- Account number of the beneficiary customer
- Sender to receiver information, if any

National Electronic Funds Transfer



NEFT has gained popularity due to its saving time and the ease with which the transactions can be concluded.

National Electronic Funds Transfer (NEFT) is a nation-wide payment system facilitating one-to-one funds transfer. Under this Scheme, individuals, firms and corporate can electronically transfer funds

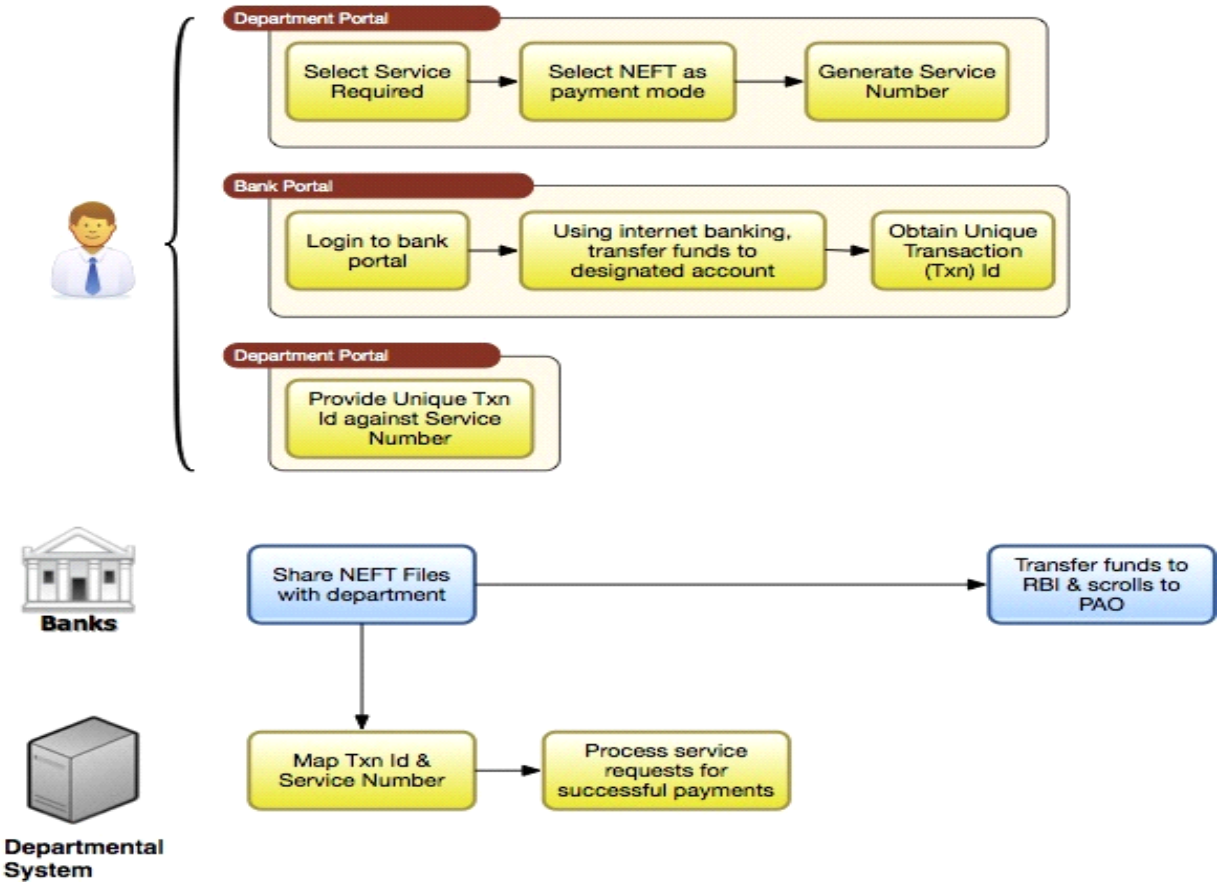
from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the Scheme.

For being part of the NEFT funds transfer network, a bank branch has to be NEFT- enabled. The list of bank-wise branches which are participating in NEFT is provided in the website of Reserve Bank of India at http://www.rbi.org.in/scripts/neft.aspx

Individuals, firms or corporate maintaining accounts with a bank branch can transfer funds using NEFT. Even such individuals who do not have a bank account (walk-in customers) can also deposit cash at the NEFT-enabled branches with instructions to transfer funds using NEFT. However, such cash remittances will be restricted to a maximum of Rs.50,000/- per transaction. Such customers have to furnish full details including complete address, telephone number, etc. NEFT, thus, facilitates originators or remitters to initiate funds transfer transactions even without having a bank account.

Individuals, firms or corporate maintaining accounts with a bank branch can receive funds through the NEFT system. It is, therefore, necessary for the beneficiary to have an account with the NEFT enabled destination bank branch in the country.

a. NEFT Operations:



NEFT is an electronic fund transfer system that operates on a Deferred Net Settlement (DNS) basis which settles transactions in batches. In DNS, the settlement takes place with all transactions received till the particular cut-off time. These transactions are netted (payable and receivables) in NEFT For example, currently, NEFT operates in hourly batches. [There are twelve settlements from 8 am to 7 pm on week days and six settlements from 8 am to 1 pm on Saturdays.] Any transaction initiated after a designated settlement time would have to wait till the next designated settlement time.

Step-1: An individual / firm / corporate intending to originate transfer of funds through NEFT has to fill an application form providing details of the beneficiary (like name of the beneficiary, name of the bank branch where the beneficiary has an account, IFSC of the beneficiary bank branch, account type and account number) and the amount to be remitted. The application form will be available at the originating bank branch. The remitter authorizes his/her bank branch to debit his account and remit the specified amount to the beneficiary. Customers enjoying net banking facility offered by their bankers can also initiate the funds transfer request online. Some banks offer the NEFT facility even through the ATMs. Walk-in customers will, however, have to give their contact details (complete address and telephone number, etc.) to the branch. This will help the branch to refund the money to the customer in case credit could not be afforded to the beneficiary's bank account or the transaction is rejected / returned for any reason.

Step-2: The originating bank branch prepares a message and sends the message to its pooling centre (also called the NEFT Service Centre).

Step-3: The pooling centre forwards the message to the NEFT Clearing Centre (operated by National Clearing Cell, Reserve Bank of India, Mumbai) to be included for the next available batch.

Step-4: The Clearing Centre sorts the funds transfer transactions destination bank-wise and prepares accounting entries to receive funds from the originating banks (debit) and give the funds to the destination banks (credit). Thereafter, bank-wise remittance messages are forwarded to the destination banks through their pooling centre (NEFT Service Centre).

Step-5: The destination banks receive the inward remittance messages from the Clearing Centre and pass on the credit to the beneficiary customers' accounts.

b. IFSC:

IFSC or Indian Financial System Code is an alpha-numeric code that uniquely identifies a bank-branch participating in the NEFT system. This is an 11 digit code with the first 4 alpha characters representing the bank, and the last 6 characters representing the branch. The 5th character is 0 (zero). IFSC is used by the NEFT / RTGS system to identify the originating / destination banks / branches and also to route the messages appropriately to the concerned banks / branches.

c. NEFT Charges:

The charges that can be levied on the customer for NEFT are given below:

- Inward transactions at destination bank branches (for credit to beneficiary accounts)
  - Free, no charges to be levied on beneficiaries
- Outward transactions at originating bank branches – charges applicable for the remitter
  - For transactions up to Rs 10,000 : not exceeding Rs 2.50 (+ Service Tax)
  - For transactions above Rs 10,000 up to Rs 1 lakhs not exceeding Rs 5 (+ Service Tax)
  - For transactions above Rs 1 lakhs and up to Rs 2 lakhs: not exceeding Rs 15 (+ Service Tax)
  - For transactions above Rs 2 lakhs: not exceeding Rs 25 (+ Service Tax)

With effect from 1st July 2011, originating banks are required to pay a nominal charge of 25 paisa each per transaction to the clearing house as well as destination bank as service charge. However, these charges cannot be passed on to the customers by the banks.

The beneficiary can expect to get credit for the NEFT transactions within two business hours (currently NEFT business hours is from morning 8 AM to evening 7 PM on all week days and from morning 8 AM to afternoon 1 PM on Saturdays) from the batch in which the transaction was settled.

In case of non-credit or delay in credit to the beneficiary account, the NEFT Customer Facilitation Centre (CFC) of the respective bank can be contacted (the remitter can contact his bank's CFC; the beneficiary may contact the CFC of his bank) and can be escalated to NEFT Help Desk (or Customer Facilitation Centre of Reserve Bank of India) at National Clearing Cell, Reserve Bank of India, Mumbai or the General Manager, Reserve Bank of India, National Clearing Centre, First Floor, Mumbai Regional Office, Fort Mumbai 400001. If it is not possible to afford credit to the account of the beneficiary for whatever reason, destination banks are required to return the transaction (to the originating branch) within two hours of completion of the batch in which the transaction was processed.

NEFT can be used to transfer funds from or to NRE and NRO accounts in the country. This, however, is subject to the adherence of the provisions of the Foreign Exchange Management Act, 2000 (FEMA) and Wire Transfer Guidelines.

Besides personal funds transfer, the NEFT system can also be used for a variety of transaction including payment of credit card dues to the card issuing banks, payment of loan EMI etc. It is necessary to quote the IFSC of the beneficiary card issuing bank to initiate the bill payment transactions using NEFT.

In case of successful credit to the beneficiary's account, the bank which had originated the transaction is expected to send a confirmation to the originating customer (through SMS or e-mail) advising of the credit as also mentioning the date and time of credit which remitter provided to the branch at the time of originating the transaction.

The remitter can track the NEFT transaction through the originating bank branch or its CFC using the unique transaction reference number provided at the time of initiating the funds transfer. It is

possible for the originating bank branch to keep track and be aware of the status of the NEFT transaction at all times.

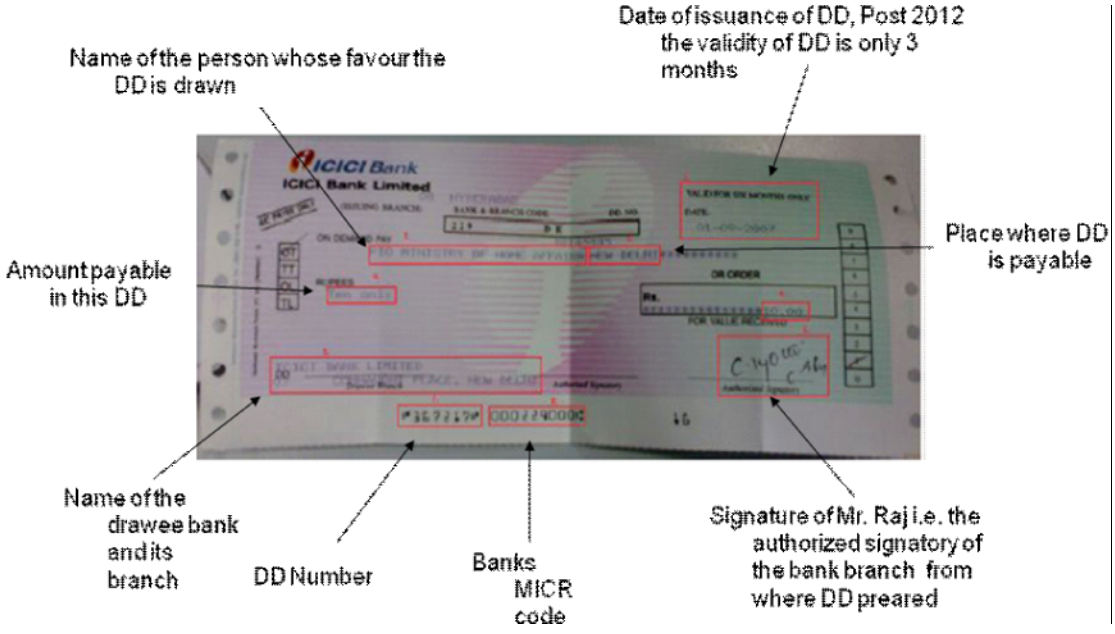
Following are the pre-requisites for putting through a funds transfer transaction using NEFT:

- Originating and destination bank branches should be part of the NEFT network
- Beneficiary details such as beneficiary name, account number and account type, name and IFSC of the beneficiary bank branch should be available with the remitter
- Customers should exercise due care in providing the account number of the beneficiary, as, in the course of processing NEFT transactions, the credit will be given to the customer's account solely based on account number provided in the NEFT remittance instruction / message.

d. Benefits of NEFT: NEFT offers many advantages over the other modes of funds transfer:

- The remitter need not send the physical cheque or Demand Draft to the beneficiary.
- The beneficiary need not visit his / her bank for depositing the paper instruments.
- The beneficiary need not be apprehensive of loss / theft of physical instruments or the likelihood of fraudulent encashment thereof.
- Credit confirmation of the remittances sent by SMS (Short Message Service) or email.
- Remitter can initiate the remittances from his home / place of work using the internet banking also.
- Near real time transfer of the funds to the beneficiary account in a secure manner.

Demand Draft:



Demand Draft is a cheque that contains an order by one branch of a bank (Drawer branch) directing another branch of the same bank (Drawee branch) to pay on demand a certain sum of money to a specified beneficiary (Payee).

a. Features of Demand Draft: Demand draft is discussed in section 85(A) of the NI Act. The features are:

- A Demand Draft is payable on demand
- A Demand Draft can NOT be paid to its bearer
- A DD is negotiable and its features are similar to that of a bill of exchange and not a Cheque.
- If a Bank fails to honour the Draft, the Bank is liable and not the person who got it issued.
- If there are wrong signatures on the Bank Draft, the Bank is liable.

b. Advantages of Demand drafts are:

- Demand draft may be crossed also. Hence it cannot be-encashed at the counter
- No counterparty risk as the risk shifts to the Bank
- No risk of its being dishonoured due to insufficiency of funds
- It is a secured instrument for the payee

c. Key Differences between Banker's Cheque and Demand Draft

Banker's Cheque is issued for transfer of money within the local limits of the drawer branch, whereas Demand Draft is issued for transferring money to a person residing at a different place.

The area of banker's cheque is limited while the area of demand draft is very vast.

The banker's cheque is pre-printed with the word "Not Negotiable" however, this is not so in the case of demand draft.

A demand draft of value Rs. 20,000 or more can be issued only with A/c payee crossing, however in case of banker's cheque there is no such condition.

Banker's cheque can only be cleared in the branch of bank from where it is issued, but Demand Draft can be cleared at any branch of the same bank.

1.4 Fee Based Services - Issuing Bank Guarantees (BG) and Letters of credit (LC):

In the face of declining net interest margin banks have entered into new product areas over the past two decades, moving from traditional lending to areas that generate non-interest revenues. The change is of importance for financial stability. The more unstable is a bank's earnings stream, the more risky the institution is. The conventional wisdom in the banking industry is that earnings from fee-based products are more stable than loans Fee-based activities reduce bank risk via diversification.

Types of Bank Income: There are two broad sources of a bank's income or revenues. One is Interest Income or Fund Based Income and second is, Non-Interest Income or Non-fund Based Income.

Non-Interest Income / Non-Fund Based Income

'Non funded' facilities are those where in immediate payment of money / funds is not involved but the bank gives a sort of support in the form of a guarantee or promise or undertaking (Letter of Credit) on behalf of the customer (Applicant) in favour of third parties (Beneficiaries).

If the customer fails to fulfill his agreed Financial obligations or Performance obligations, the Bank pays the beneficiaries, in terms of the guarantee / undertaking. At the time when the bank makes such payments, the 'Non-funded' credit facility becomes a 'funded' facility i.e. a loan to the customer.

Letters of Credit & Bank Guarantee comes under non fund, fee based activities.

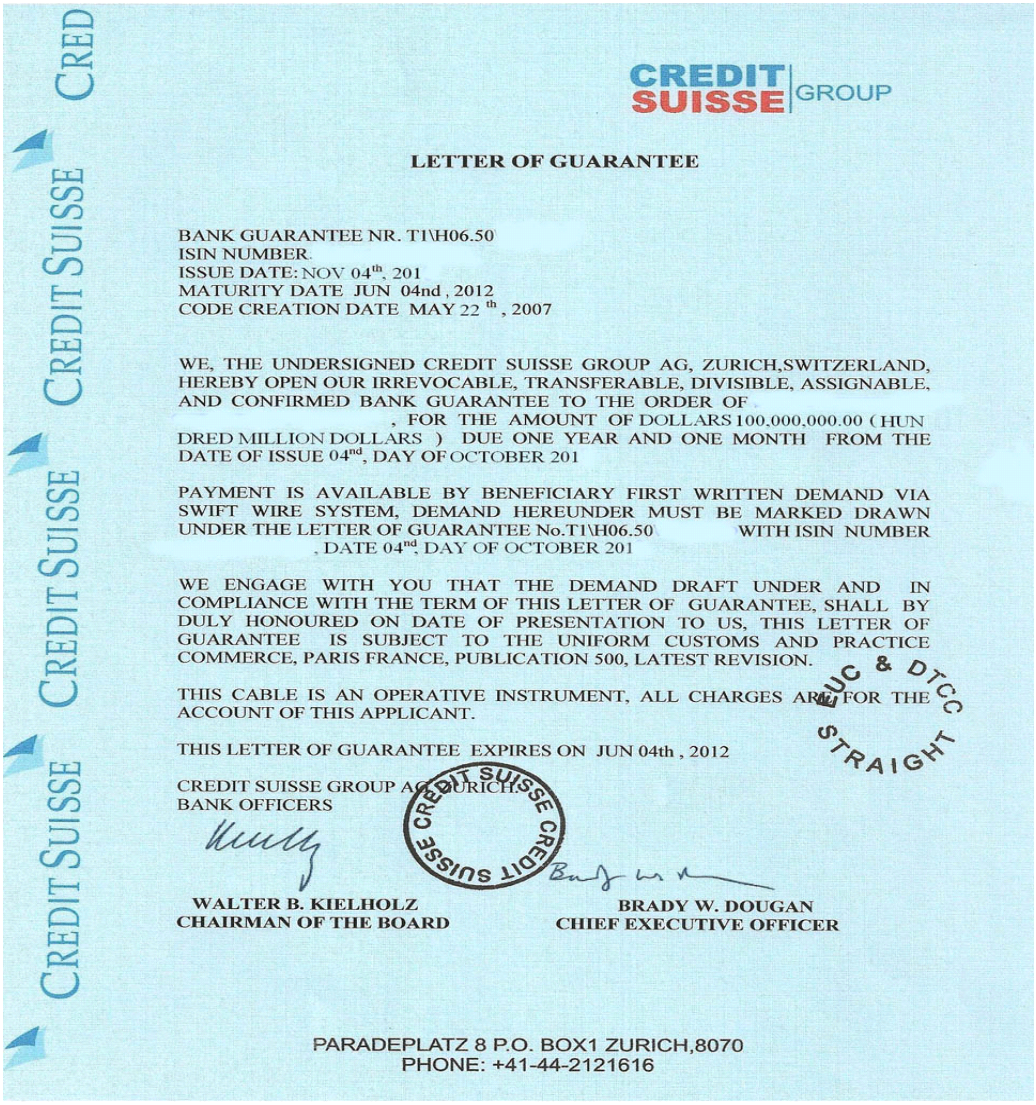
A. Bank Guarantee:

A Bank Guarantee is non-fund credit facility. This is an unconditional commitment on the part of the bank on behalf of its customer (applicant) to pay another person (the beneficiary) a certain sum of money **IF** the applicant fails to pay.

a. Definition of Guarantee:

Bank guarantee (BG) is an agreement between 3 parties viz. the bank, the beneficiary (party to whom the guarantee is given) and the applicant (party who seeks the bank guarantee from the bank). BGs are an important banking arrangement and play a vital role in promoting international and domestic trade. A contract of Guarantee is a "Contract to perform the promise or discharge the liability of a third person in case of his default". Bank guarantee is an additional tool to fulfil the obligations under the contract. The creditor who is not sure about the solvency of the borrower protects himself against default by the debtor to pay the debt. In this case, the borrower pays a fixed amount to the bank for giving guarantee. Guarantee fee is thus a non interest income to the bank.

Specimen of Guarantee Letter:



CREDIT SUISSE GROUP

LETTER OF GUARANTEE

BANK GUARANTEE NR. T1\H06.50
ISIN NUMBER.
ISSUE DATE: NOV 04th, 201
MATURITY DATE JUN 04nd , 2012
CODE CREATION DATE MAY 22 th , 2007

WE, THE UNDERSIGNED CREDIT SUISSE GROUP AG, ZURICH,SWITZERLAND, HEREBY OPEN OUR IRREVOCABLE, TRANSFERABLE, DIVISIBLE, ASSIGNABLE, AND CONFIRMED BANK GUARANTEE TO THE ORDER OF , FOR THE AMOUNT OF DOLLARS 100,000,000.00 (HUN DRED MILLION DOLLARS) DUE ONE YEAR AND ONE MONTH FROM THE DATE OF ISSUE 04nd, DAY OF OCTOBER 201

PAYMENT IS AVAILABLE BY BENEFICIARY FIRST WRITTEN DEMAND VIA SWIFT WIRE SYSTEM, DEMAND HEREUNDER MUST BE MARKED DRAWN UNDER THE LETTER OF GUARANTEE No.T1\H06.50 WITH ISIN NUMBER , DATE 04nd, DAY OF OCTOBER 201

WE ENGAGE WITH YOU THAT THE DEMAND DRAFT UNDER AND IN COMPLIANCE WITH THE TERM OF THIS LETTER OF GUARANTEE, SHALL BY DULY HONOURED ON DATE OF PRESENTATION TO US, THIS LETTER OF GUARANTEE IS SUBJECT TO THE UNIFORM CUSTOMS AND PRACTICE COMMERCE, PARIS FRANCE, PUBLICATION 500, LATEST REVISION.

THIS CABLE IS AN OPERATIVE INSTRUMENT, ALL CHARGES ARE FOR THE ACCOUNT OF THIS APPLICANT.

THIS LETTER OF GUARANTEE EXPIRES ON JUN 04th , 2012

CREDIT SUISSE GROUP AG ZURICH.
BANK OFFICERS

CREDIT SUISSE CREDIT SUISSE

WALTER B. KIELHOLZ
CHAIRMAN OF THE BOARD

BRADY W. DOUGAN
CHIEF EXECUTIVE OFFICER

PARADEPLATZ 8 P.O. BOX1 ZURICH,8070
PHONE: +41-44-2121616

Parties to the Guarantee:

Guarantor: A person or institutation who issues a letter of guarantee which contains his commitment to pay a sum of money, of the principal debtor defants.

Principal Debtor: is the debtor who has the obligation to pay the monthly.

Beneficiary: is the creditor of the principal debtor, in whose favour the guarantee is given.

a. BG Process:

BG is issued by a bank on the receipt of request from the "applicant". He promise to pay "guarantee amount" towards some purpose/underlying transaction to the "beneficiary". If the applicant defaults.

While granting the Guarantee facilities on behalf of a borrower, the bank would assess the financial position (credit worthiness) of the borrower as well as the technical ability, experience in the line, reputation etc. of the borrower to complete the contract satisfactorily. While issuing Guarantees the banks charges their non-refundable Guarantee fees from the borrower. This constitutes Bank's Non Interest based income

If the bank i.e. "the guarantor" receives the "claim" from the beneficiary, it results in "BG invocation". In case of foreign BG, apart from these 3 parties, there is also a "correspondent bank". If a bank does not have branch in some foreign country, it issues BG in that country through its "correspondent bank". The bank does all the required due diligence, financial and business analysis before issuing the guarantee.

For example: An exporter called "ABC LTD." in Dubai seeks a bank guarantee from an importer called "XYZ Pvt. Ltd" in India. In this case, "XYZ Pvt. Ltd" approaches Corporation Bank to give a bank guarantee on his behalf to the exporter. Now, if Corporation bank does not have a branch in Dubai, Corporation bank would issue the guarantee through State Bank of India (SBI). Here, "XYZ Pvt. Ltd" is the applicant; "ABC LTD" is the beneficiary; "Corporation Bank" is the issuing bank and "SBI" is the correspondent bank.

This BG agreement acts as an undertaking assuring the beneficiary that the bank would pay the specified amount, in case of its applicant's default in meeting his obligation as mentioned in the guarantee. In effect, the BG acts as a promise that in case the liability of the debtor/applicant is not met, the contractual liability will be met by the bank. BG contract is independent from the underlying transaction/contract that exist between the beneficiary and the applicant.

Features of a Valid Guarantee:

- Guarantee is always issued for a specific amount
- The purpose of the guarantee is clearly stated
- Guarantee is valid for a specific defined period
- The grace period allowed to enforce guarantee rights is also stated in the guarantee

It is important that guarantee can be enforced based on terms of the contract (i.e. guarantee agreement) existing between the bank and the beneficiary. Generally, beneficiaries do state a clause to be included for charging penal interest in case of delayed payment. Hence, it is essential for the bank to be cautious while finalizing the format and text of the contract (the guarantee agreement). While signing the same, the provision of penal interest and clauses attached to delays and default are to be carefully noted.

Types of Bank Guarantees

Financial Guarantee: The bank guarantees that the principal debtor will meet the financial obligation and in case he fails, the bank as a guarantor is bound to pay.

Performance Guarantee : Guarantee issued is for completing a particular task in the prescribed/ agreed upon manner as stated in the guarantee document.

Advance Payment Guarantee: This guarantee assures that the advance amount would be returned, in case the agreement for which the advance is given does not get fulfilled.

Payment Guarantee / Loan Guarantee: The guarantee is for assuring the payment / loan repayment. In case, the party fails to do so, guarantor is bound to pay on behalf of the defaulting borrower.

Bid Bond Guarantee: As a part of the bidding process, this guarantee assures that the bidder would undertake the contract he has bid for, on the terms the bidding is done.

Deferred Payment Guarantee: When the bank guarantees some deferred payment, the guarantee is termed as Deferred Payment Guarantee. For example: A company purchases a machine on credit basis with terms of payment being 6 equal instalments. In this case, since the payment is deferred to a later period, creditor seeks deferred payment guarantee with an assurance that the payment would reach him in the given time period.

Importance of Bank Guarantees: Importance of bank guarantee is as follows:

Adds to Creditworthiness: BGs reflect the confidence of the bank in the business of the applicants.

Assessment of Business: In case of foreign transactions or transactions with Government organisations, the foreign party or a Government Undertaking is constrained and cannot assess soundness of each and every applicant to a project. In such cases, BGs act as a trusted instrument to assess stability and creditworthiness of companies applying for projects.

Confidence of Performance: When new parties associate in business and are sceptic about performance of the company undertaking the project, performance guarantees help in reducing the risk of the beneficiary.

Risk Reduction: Advance payment guarantees act as a protection cover wherein the buyer can recover the advance amount paid to the seller, if seller fails to deliver the goods or services. This protects against any probable loss that a party can suffer from a new seller.

Difference between a Bank Guarantee and a Letter of Credit:

A letter of credit is an obligation taken upon is by a bank to make a payment once certain criteria are met. Once these terms are completed and confirmed, the bank will transfer the funds. This ensures the payment will be made as long as the services are performed. A bank guarantee, like a line of credit, guarantees a sum of money to a beneficiary. Unlike a line of credit, the sum is only paid if the opposing party does not fulfill the stipulated obligations under the contract.

For example a letter of credit could be used in the delivery of goods or the completion of a service. The seller may request that the buyer obtains a letter of credit before the transaction occurs. The buyer would get this letter of credit issued by a bank and forward it to the seller. This letter would substitute the bank's credit for that of its client, ensuring timely payment.

A bank guarantee might be used when a buyer obtains goods from a seller and then runs into cash flow difficulties and can't pay the seller. The bank would pay an agreed-upon sum to the seller.

These financial instruments are used in trade financing when suppliers, or vendors, are selling goods to overseas customers with whom they don't have established business relationships. The instruments are designed to reduce the risk of non-payment by the buyer.

B. Letter of Credit (LC):

An LC is a bank's (Issuing Bank-IB) written irrevocable commitment, made on behalf of its client (applicant of the LC-buyer of goods / services) to pay the beneficiary (seller of the goods/services), a specified amount of money on the due date provided the beneficiary submits 'complying' documents (i.e. submits the documents as stipulated in the LC) to the IB within the stipulated time at the stipulated place.

A Non-funded credit facility means that the bank does not release any funds to the borrower at the time of sanctioning the facility. It is a commitment to pay on behalf of the borrower contingent upon the beneficiary fulfilling the conditions and the borrower not paying the dues before the due date.

SAMPLE - IRREVOCABLE STANDBY LETTER OR CREDIT

(NOTE: FORM MY VARY, SUBSTANCE MAY NOT)

BANK LETTERHEAD

IRREVOCABLE STANDBY LETTER OF CREDIT

TO: ATTN: GROUND FUELS DIVISION II, DIRECT DELIVERY FUELS, CONTRACTING OFFICER
DEFENSE ENERGY SUPPORT CENTER (DESC)-PLC
8725 JOHN J. KINGMAN RD STE 4950
FORT BELVOIR VA 22060-6220

EFFECTIVE DATE: _____
AMOUNT OF LETTER OF CREDIT: $_____
CONTRACTOR: _____
CONTRACT NUMBER: SP0600-_____
LETTER OF CREDIT NUMBER: _____

To Whom It May Concern:

We hereby establish our "Irrevocable Standby Letter of Credit" in your favor, available by your draft/s at sight, drawn on (*Name of Bank issuing this Standby letter of Credit*) accompanied by a manually signed statement that the signer is "an authorized representative of the Defense Energy Support Center", and one or both of the following statements:

a. "I hereby certify that the United States Government has delivered product under the terms of Contract Number SP0600-_____ and that (*Contractor*) has not paid under the terms of that contract, and as a result owes the Government $_____."

b. "I hereby certify that (*Contractor*) has failed to take delivery of product under the terms of Contract Number SP0600-_____, and as a result owes the Government $_____."

Drafts must be presented for negotiations on or before the expiration date of this Letter of Credit, (*Expiration Date*), at our bank. The Government may make multiple drafts against this Letter of Credit.

This Letter of Credit is subject to the Uniform Customs and Practice of Documentary Credits (1993 Revision, International Chamber of Commerce Publication No. 500) and except as may be inconsistent therewith, to the Uniform Commercial Code in effect on the date of issuance of this Letter of Credit in the state in which the issuer's head office within the United States is located.

We hereby agree with the drawers, endorsers and bona fide holders that all drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored upon presentation and delivery of the above documents for negotiation at our bank on or before the expiration date.

Very truly yours,

_____
(Authorized Signature)

_____
(Typed Name and Title)

NOTE: FORM MAY VARY, SUBSTANCE MAY NOT
PROVIDE COPY OF EXHIBIT A- SOLICITATION/CONTRACT FOR SALE OF PRODUCT TO YOUR BANK

a. Letter of Credit Definition:

A document issued by a bank / financial institution on behalf of a buyer stating the amount of credit the buyer is availing, and that the institution will honor drafts up to that amount drawn by the seller on the buyer. It gives the buyer the prestige and financial backing of the issuing institution and satisfies the requirements of the seller in completing the transaction. A commitment, usually by a bank on behalf of a buyer, to pay the beneficiary a stated amount of money under specified conditions gives an assurance to the seller to recover his dues from the buyer on the due date.

b. Parties involved in LC transaction:

- The Applicant is the party that applies for the letter of credit to be issued (i.e. the buyer).
- The Beneficiary is the party named in the letter of credit in whose favour the letter of credit is issued (i.e. seller)
- The Issuing or Opening Bank is the applicant's bank that issues or opens the letter of credit in favour of the beneficiary and substitutes its creditworthiness for that of the applicant.

c. Beneficiary:

The beneficiary is normally the seller of goods who receives payment if he has complied with the terms and conditions mentioned in the LC.

A Letter of credit is issued in favor of the beneficiary to enable him or his agent to obtain payment once he performed his part of the contract and submitted stipulated documents showing compliance with the terms and conditions of the letter of credit.

In case of a transferable letter of credit, the credit is transferred to another party, the original beneficiary is known as first beneficiary the person to whom the credit is transferred is known as the second beneficiary.

The beneficiary decides the terms of payment when sales contracts are negotiated. He assesses the risk of nonpayment even when compliant documents are presented in the case of unconfirmed LCs. Scrutinizes LC on receipt from the advising bank to check whether it is in accordance with the sales contract and whether it is otherwise acceptable to him.

e. Advising Bank:

An Advising Bank may be named in the letter of credit to advise the beneficiary that the letter of credit has been issued. The role of the Advising Bank is limited to establish authenticity of the credit, which it advised to the beneficiary.

f. Paying Bank:

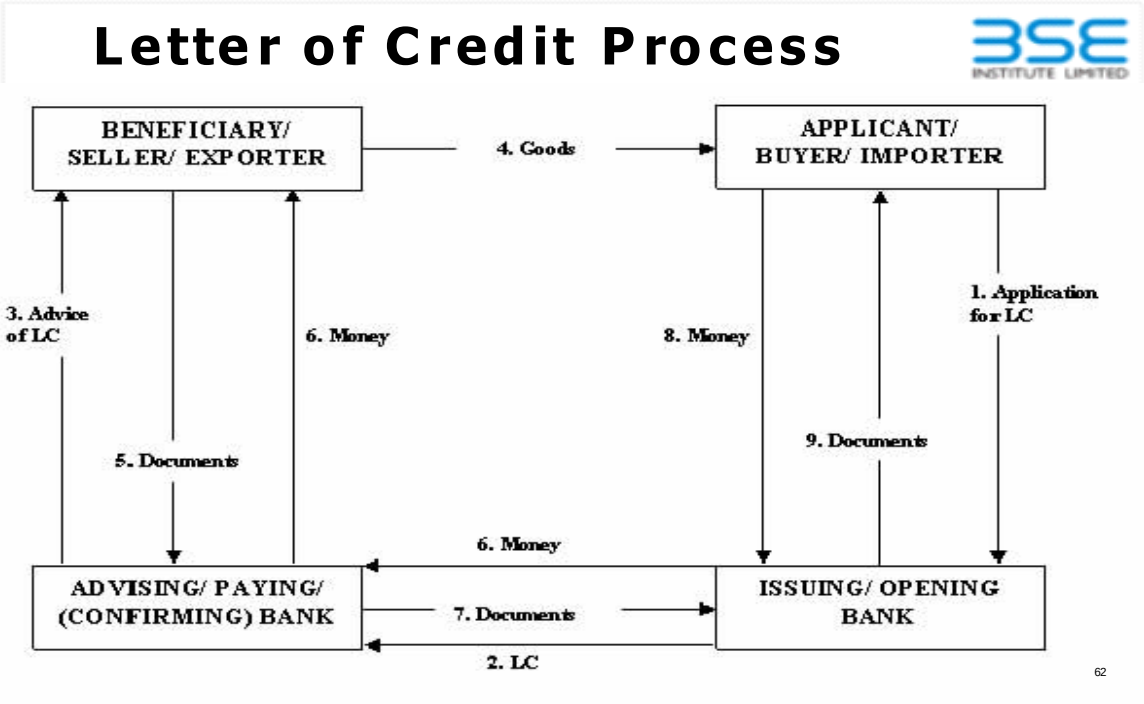
The Paying Bank is the bank nominated in the letter of credit that makes payment to the beneficiary, after determining that documents conform, and upon receipt of funds from the issuing bank or another intermediary bank nominated by the issuing bank.

g. Confirming Bank

The Confirming Bank is the bank, which, under instruction from the issuing bank, substitutes its creditworthiness for that of the issuing bank. It ultimately assumes the issuing bank's commitment to pay.

If the LC facility is in respect of import of goods from abroad, then the country's 'EXIM Policy' will have to be taken into account by the opening banker. It has to follow the rules of the government regarding the goods which can be imported. RBI's 'Exchange Control Policy' will also be considered by it to ascertain whether payment in a particular currency is permissible.

h. Letter of Credit Process flow:



- Applicant approaches Issuing/ Opening Bank with LC application form duly filled and requests Issuing Bank to issue a Letter of Credit in favour of Beneficiary.
- Issuing Bank issues a Letter of Credit as per the application submitted by an Applicant and send it to the Advising Bank, which is located in Beneficiary's country, to formally advise the LC to the beneficiary.
- Advising Bank advises the LC to the Beneficiary.
- Once Beneficiary receives the LC and if it suits his/ her requirements, he/ she prepares the goods and hands over them to the carrier to dispatch to the Applicant.
- He/ She then hands over the documents along with the Transport Document as per LC to the Negotiating Bank to be forwarded to the Issuing Bank.

- Issuing Bank reimburses the Negotiating Bank with the amount of the LC post Negotiating Bank's confirmation that they have negotiated the documents in strict conformity of the LC terms. Negotiating Bank makes the payment to the Beneficiary.
- Simultaneously, the Negotiating Bank forwards the documents to the Issuing Bank to be released to the Applicant to claim the goods from the carrier.
- Applicant reimburses the Issuing Bank for the amount, which it had paid to the Negotiating Bank.
- Issuing Bank releases all documents along with the titled Transport Documents to the Applicant.

i. Settlements of LC:

All commercial letters of credit must clearly indicate whether they are payable by sight payment, by deferred payment, by acceptance, or by negotiation. These are noted as formal demands under the terms of the commercial letter of credit.

- In a sight payment, the commercial letter of credit is payable when the beneficiary presents the complying documents and if the presentation takes place on or before the expiration of the period of commercial letter of credit.
- In a deferred payment, the commercial letter of credit is payable on a specified future date. The beneficiary may present the complying documents at an earlier date, but the commercial letter of credit is payable only on the specified future date.
- An acceptance is a time draft drawn on, and accepted by, a banking institution, which promises to honor the draft at a specified future date. The act of acceptance is without recourse as it is a commitment to pay the face amount of the accepted draft.
- Under negotiation, the negotiating bank, a third party negotiator, expedites payment to the beneficiary upon the beneficiary's presentation of the complying documents to the negotiating bank. The bank pays the beneficiary, normally at a discount of the face amount of the value of the documents, and then presents the complying documents, including a sight or time draft, to the issuing bank to receive full payment at sight or at a specified future date.

j. Advantages of using an LC are:

- The beneficiary (seller) is assured of payment as long as it complies with the terms and conditions of the letter of credit.
- The credit risk is transferred from the applicant (buyer) to the issuing bank.
- The beneficiary minimizes collection time as the letter of credit accelerates payment of the receivables.
- The beneficiary's foreign exchange risk is eliminated with a letter of credit issued in the currency of the beneficiary's country.

k. Risks involved in LC:

Since all the parties involved in Letter of Credit deal with the documents and not with the goods, the risk of Beneficiary not shipping goods as mentioned in the LC is still persists. The Letter of Credit as a payment method is costlier than other methods of payment such as Open Account or Collection. The Beneficiary's documents must comply with the terms and conditions of the Letter of Credit for Issuing Bank to make the payment. The Beneficiary is exposed to the Commercial risk on Issuing Bank, Political risk on the Issuing Bank's country and Foreign Exchange Risk in case of Usance Letter of Credits.

l. Different payment structures for LC:

- Sight Credit: In this the payment is release to Beneficiary on presentation of documents
- Acceptance Credit: In this beneficiary draws the bill of exchange on issuing bank and allows some time for acceptance
- Deferred Credit :Is same as Acceptance Credit except there is no bill of exchange
- Back to Back Credits: Exporter receives a credit from his buyer (Selling credit). He has to procure goods from other suppliers. He opens a credit for purchase of the goods (buying credit). Second credit is said to be back to back to the first one. Bill proceeds of the export LC (Selling LC) will be used to meet liabilities under the second (Buying LC). Amount of back to back credit will be lower. Usance period of the back to back credit should be equal to or more than that of the export credit. Bank still at risk if the customer fails to export. No concession in margin and security norms.
- Revolving Credits: Credit is opened to cover a series of regular transactions over a longer period. Beneficiary will submit a series of documents. Maximum value of each document will be fixed and is the revolving limit. LC amount is the maximum value of documents that can be handled under the credit. The credit may be reinstated automatically or after payment of earlier bill. It can be opened as cumulative or non cumulative.
- Standby Letters of Credit: Credit is issued for a particular amount and for a particular period. Trade takes place on running account basis. Beneficiary does not submit documents to bank.

m. Recourse in case of default:

If there is a default, he can claim funds from opening bank giving a certificate of default. No quibbling over discrepancies and documents. Opening bank will pay on demand. Works like a bank guarantee. UCPDC is applicable if so declared in the credit

n. General documents required to be submitted under documentary credits:

- Commercial Invoice
- Packing List
- Bill of lading and other transport documents

- Certificate of Origin
- Inspection Certificate
- Bill of Exchange
- Insurance Documents

o. Regulations applicable to LC are:

- Foreign Trade Policy requirements.
- FEMA requirements.
- Credit norms of Central Bank.
- UCPDC 600 Provisions.
- Bank's Internal Credit Policies/ procedures.
- Public notices issued by DGFT
- Uniform Rules for bank-to-bank reimbursements 525
- Incoterms 2010

p. Bank's Obligation & Responsibilities:

Issuing Bank (opening bank) (UCP Article 7)

Issuing Bank being the prime obligator needs to ensure credit-worthiness and trust-worthiness of the applicant. Once credit is opened, the bank is placing itself as a substitute for the buyer.

Advising Bank has the obligation to authenticate the credit once it is received and passing it promptly on to the beneficiary (Art.9).

Confirming Bank takes over the responsibilities of the issuing bank as far as the beneficiary is concerned though it has got recourse to the Issuing Bank (Art 8).

Negotiating Bank to examine documents within 5 banking days after receipt of the documents at their counters (Art 14b). To ensure compliance of credit terms on the basis of documents alone and consistency of documents with each other

1.5 Selling Third Party Products- Insurance and Mutual fund units

Commission earned on selling other companies' products (or third party's product distribution business) is emerging as a new source of revenue for many banks. Although the fee amounts are small, they make a valuable contribution to diversify revenue streams, increasing the mix of non-interest income in the overall profits.

A. Mutual Funds:

A Mutual Fund means an investment vehicle that pools the money of a large group of investors and invests in a variety of securities to achieve a specific investment objective. In other words Mutual Fund means a diversified portfolio of securities invested on behalf of a group of investors and professionally managed. Individual investors own a part of the fund represented by the number of units they purchased and thus share in any gains or losses of the fund.

Life Insurance Products:

Here bank earned revenue through the selling of life insurance policies on behalf of insurance company. The contract of insurance is between the insurer and the insured and not between the bank and the insured. Bank just earns commission by selling the insurance policies.

Non-Life Insurance Products:

Non-life insurance means general insurance. Which includes automobile and homeowners' policies, fire insurance, medical insurance etc. General insurance typically comprises any insurance that is not life insurance; it may safeguard any property from any casualty. The contract of insurance is between the insurer and the insured and not between the bank and the insured.

Advantages of Selling Third Party Products by the Banks:

Bank profitability is increased by diversification of source of income by selling third party products. Fee Based products are less risky, hence do not require additional capital

E. Disadvantages of Selling Third Party Products by the Banks:

- Banks offering wealth management services are exposed to reputational risks on account of miss-selling of products & conflict of interest.
- Lack of knowledge and clarity on products
- Frauds
- Front line staff at banks may be more interested in pushing insurance and para-banking products instead of promoting core banking products.
- Staffs may be untrained to the job and do not take responsibility of the outcome in any manner.

Bank Income in selling Mutual Funds:

Banks earns in the following way:

- **Upfront commission:** is the commission paid by AMC (Mutual Funds Company) to agent in the first year which varies from scheme to scheme (0.40 % to 1.00%)
- **Trail commission:** is the commission paid to agents by AMC in subsequent years which is percentage of total AUM (aspects under management) which varies from 0.05% to 0.40%

G. Bank Income for selling insurance products: As per Insurance Act, 1938, the life insurance companies are allowed to pay:

- A maximum commission of 40 per cent of the first year's premium
- 7.5 per cent of the second year's premium and
- 5 per cent thereafter.
- The commission paid is limited to 2 per cent in case of single premium policies.
- Pension plans: Commission is limited to 7.5 per cent of the first year's premium and 2 per cent thereafter.

1.6 Credit Cards & Debit Cards

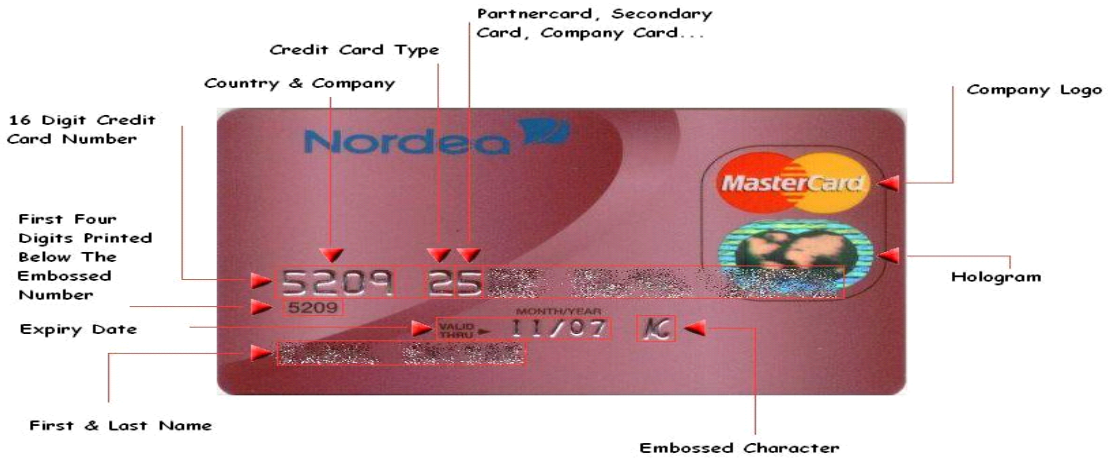
A card issued by a finance company giving the holder an option to purchase goods and services, usually at point of sale. Banks charge interest on the amount whom by the card holder Thus chards are primarily used for short-term financing. Interest usually begins one month after a purchase is made and borrowing limits are pre-set according to the individual's credit rating.

Credit cards have higher interest rates (around 34-36 % per year) than most consumer loans or lines of credit. Almost every store accepts payment for goods and services through credit cards. Because of their wide spread acceptance, credit cards are one of the most popular forms of payment for consumer goods and services.

A credit card is a payment card issued to users as a system of payment. It allows the cardholder to pay for goods and services based on the holder's promise to pay for them. The issuer of the card creates a revolving account and grants a line of credit to the consumer (or the user) from which the user can borrow money for payment to a merchant or as a cash advance to the user.

A. Credit card

a. Credit card numbering:



The numbers found on credit cards have a certain amount of internal structure, and share a common numbering scheme. The card number's prefix, called the Bank Identification Number, is the sequence of digits at the beginning of the number that determine the bank to which a credit card number belongs.

- First six digits for MasterCard and Visa cards
- Next nine digits are the individual account number, and
- Final digit is a validity check code.

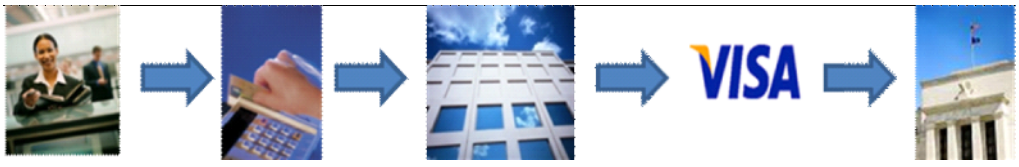
In addition to the main credit card number, credit cards also carry issue and expiration dates (given to the nearest month), as well as extra codes such as issue numbers and security codes. Not all credit cards have the same sets of extra codes nor do they use the same number of digits.

b. Parties to Credit card:

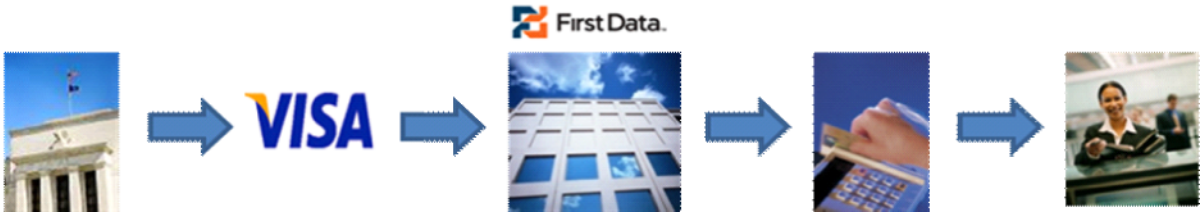
- **Cardholder:** The holder of the card used to make a purchase; the consumer.
- **Card-issuing bank:** The financial institution or other organization that issued the credit card to the cardholder. This bank bills the consumer for payment and bears the risk that the card is used fraudulently. American Express and Discover were previously the only card-issuing banks for their respective brands, but as of 2007, this is no longer the case. Cards issued by banks to cardholders in a different country are known as offshore credit cards.
- **Merchant:** The individual or business accepting credit card payments for products or services sold to the cardholder.
- **Acquiring bank:** The financial institution accepting payment for the products or services on behalf of the merchant.
- **Independent sales organization:** Resellers (to merchants) of the services of the acquiring bank.
- **Merchant account:** This could refer to the acquiring bank or the independent sales organization, but in general is the organization that the merchant deals with.
- **Credit Card association:** An association of card-issuing banks such as Discover, Visa, MasterCard, American express, etc. that set transaction terms for merchants, card-issuing banks, and acquiring banks.
- **Transaction network:** The system that implements the mechanics of the electronic transactions. May be operated by an independent company, and one company may operate multiple networks.
- **Insurance providers:** Insurers underwriting various insurance protections offered as credit card perks, for example, Car Rental Insurance, Purchase Security, Hotel Burglary Insurance, Travel Medical Protection etc.

The flow of information and money between these parties — always through the card associations — is known as the interchange, and it consists of a few steps.

c. Credit card Operations:



- The Cardholder makes a purchase using a credit card. The merchant must obtain authorization for the purchase from the bank who issued the card
- The merchant swipes the credit card through a POS unit
- The POS machine sends authorization request along with card data to Acquiring Processor, e.g. First Data
- The Acquiring Processor, First Data, routes the authorization request to Visa
- Visa then forwards the authorization request to the Issuing Bank



- The **Issuing Bank** verifies the authorization information then checks the account for available funds or credit and sends an approval or decline to Visa.
- **Visa** routes the approval / decline to the Acquiring Processor (F.D.).
- The **Acquiring Processor** (F.D.) sends the approval or decline to the merchant's terminal.
- The **merchant** completes the sale with the customer.
- If approved, the **customer** is billed for the transaction on his next monthly statement.

Batching: Authorized transactions are stored in "batches", which are sent to the acquirer. Batches are typically submitted once per day at the end of the business day. If a transaction is not submitted in the batch, the authorization will stay valid for a period determined by the issuer, after which the held amount will be returned to the cardholder's available credit (see authorization hold). Some transactions may be submitted in the batch without prior authorizations; these are either transactions falling under the merchant's floor limit or ones where the authorization was unsuccessful but the merchant still attempts to force the transaction through. (Such may be the case when the cardholder is not present but owes the merchant additional money, such as extending a hotel stay or car rental.)

Clearing and Settlement:

- **First Data** submits request to Visa.
- **Visa** in turn submits request to Issuing Bank.

- **Issuing Bank** funds Visa.
- Visa in turn funds **First Data.**
- First Data settles funds with Merchant.

The acquirer sends the batch transactions through the credit card association, which debits the issuers for payment and credits the acquirer. Essentially, the issuer pays the acquirer for the transaction.

Funding: Once the acquirer has been paid, the acquirer pays the merchant. The merchant receives the amount totalling the funds in the batch minus the "discount rate", "mid-qualified rate", or "non-qualified rate" which are tiers of fees the merchant pays the acquirer for processing the transactions.

Chargeback's: A chargeback is an event in which money in a merchant account is held due to a dispute relating to the transaction. Charge backs are typically initiated by the cardholder. In the event of a chargeback, the issuer returns the transaction to the acquirer for resolution. The acquirer then forwards the chargeback to the merchant, who must either accept the chargeback or contest it.

d. How is the Interest charges calculated by the credit card companies?

Credit card issuers usually waive interest charges if the balance is paid in full each month, but will charge full interest on the entire outstanding balance from the date of each purchase if the total balance is not paid.

For example, if a user had Rs 1,000 transaction and paid it in full within the grace period, there would be no interest charge. If, however, even Rs1.00 of the total amount remained unpaid, interest would be charged on the Rs 1,000 from the date of purchase until the payment is received. The precise manner in which interest is charged is usually detailed in a cardholder agreement which may be summarized on the back of the monthly statement. The general calculation formula which most financial institutions use to determine the amount of interest to be charged is

Interest: APR/100 x ADB/365 x number of days revolved.

Take the annual percentage rate (APR) and divide by 100 then multiply by the amount of the average daily balance (ADB) divided by 365 and then take this total and multiply by the total number of days the amount revolved before payment was made on the account. Financial institutions refer to interest charged back to the original time of the transaction and up to the time a payment was made, if not in full, as residual retail finance charge (RRFC). Thus after an amount has revolved and a payment has been made, the user of the card will still receive interest charges on their statement after paying the next statement in full (in fact the statement may only have a charge for interest that collected up until the date the full balance was paid, i.e. when the balance stopped revolving).

e. Benefits to the credit card holders:

The main benefit of credit card to the card holder is convenience. Compared to debit cards and cheques, a credit card allows small short-term loans to be quickly made to a customer who need not calculate the balance which remains before every transaction, provided the total amounts does do not exceed the maximum credit line for the card.

Many credit cards offer rewards and benefits packages, such as enhanced product warranties at no cost, free loss/damage coverage on new purchases, various insurance protections, for example, rental car insurance, common carrier accident protection, and travel medical insurance. Credit cards can also offer reward points which may be redeemed for cash, products, or airline tickets.

f. Benefits to Merchants for accepting credit cards:

For merchants, a credit card transaction is often more secure than other forms of payment, such as cheques, because the issuing bank commits to pay the merchant the moment the transaction is authorized, regardless of whether the consumer defaults on the credit card payment (except for legitimate disputes). In most cases, cards are even more secure than cash, because they discourage theft by the merchant's employees and reduce the amount of cash on the premises. Finally, credit cards reduce the back office expense of processing checks/cash and transporting them to the bank.

For each purchase, the bank charges the merchant a commission (discount fee) for this service and there may be a certain delay before the agreed payment is received by the merchant. The commission is often a percentage of the transaction amount, plus a fixed fee (interchange rate).

g. Costs to the merchants for accepting credit cards:

Merchants are charged several fees for accepting credit cards. The merchant is usually charged a commission of around 1 to 4 percent of the value of each transaction paid by credit card holder. The merchant may also pay a variable charge, called an interchange rate, for each transaction.

Merchants are also required to lease processing terminals, for some terminals, merchants may also need to subscribe to a separate telephone line.

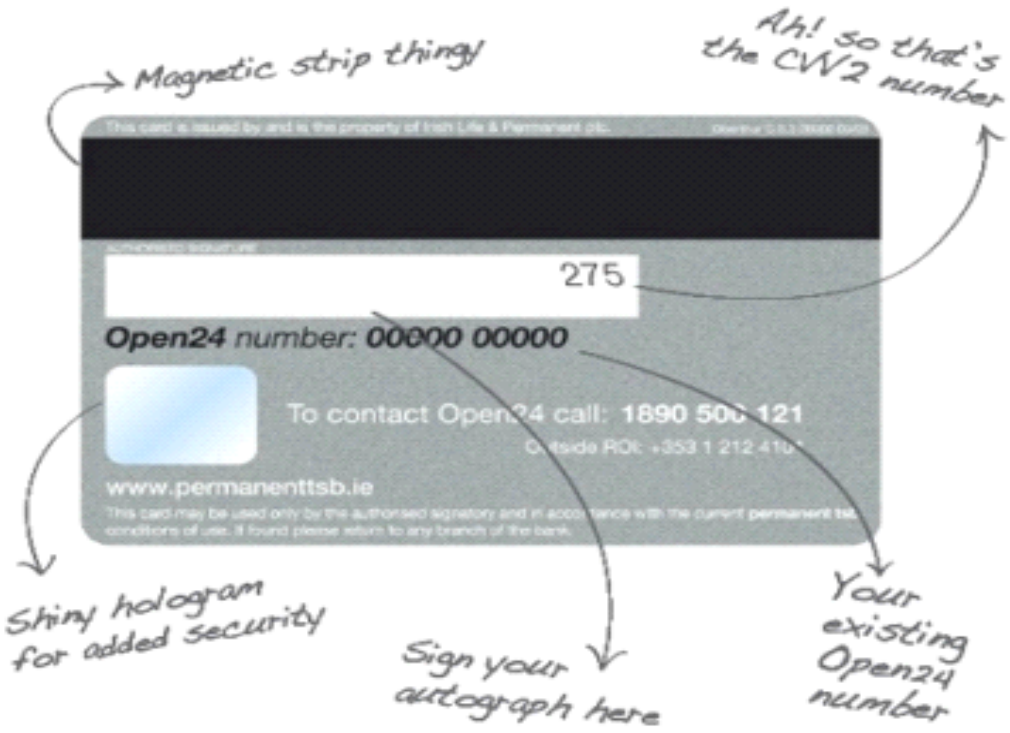
Merchants must also satisfy data security compliance standards which are highly technical and complicated. In many cases, there is a delay of several days before funds are deposited into a merchant's bank account. Because credit card fee structures are very complicated, smaller merchants are at a disadvantage to analyze and predict fees.

Finally, merchants assume the risk of chargeback's by consumers.

B. Debit Cards:

A debit card (also known as a bank card) is a plastic payment card that provides the cardholder electronic access to his or her bank account(s) at a financial institution. Some cards have a stored value with which a payment is made, while most relay a message to the cardholder's bank to withdraw funds from a payer's designated bank account. The card, where accepted, can be used instead of cash when making purchases.

Unlike credit cards, payments by using a debit card are immediately made from the cardholder's designated bank account. Debit cards usually also allow for instant withdrawal of cash, acting as the ATM card for withdrawing cash. Merchants may also offer cash back facilities to customers, where a customer can withdraw cash along with their purchase.



Details on the front of a typical debit card are:

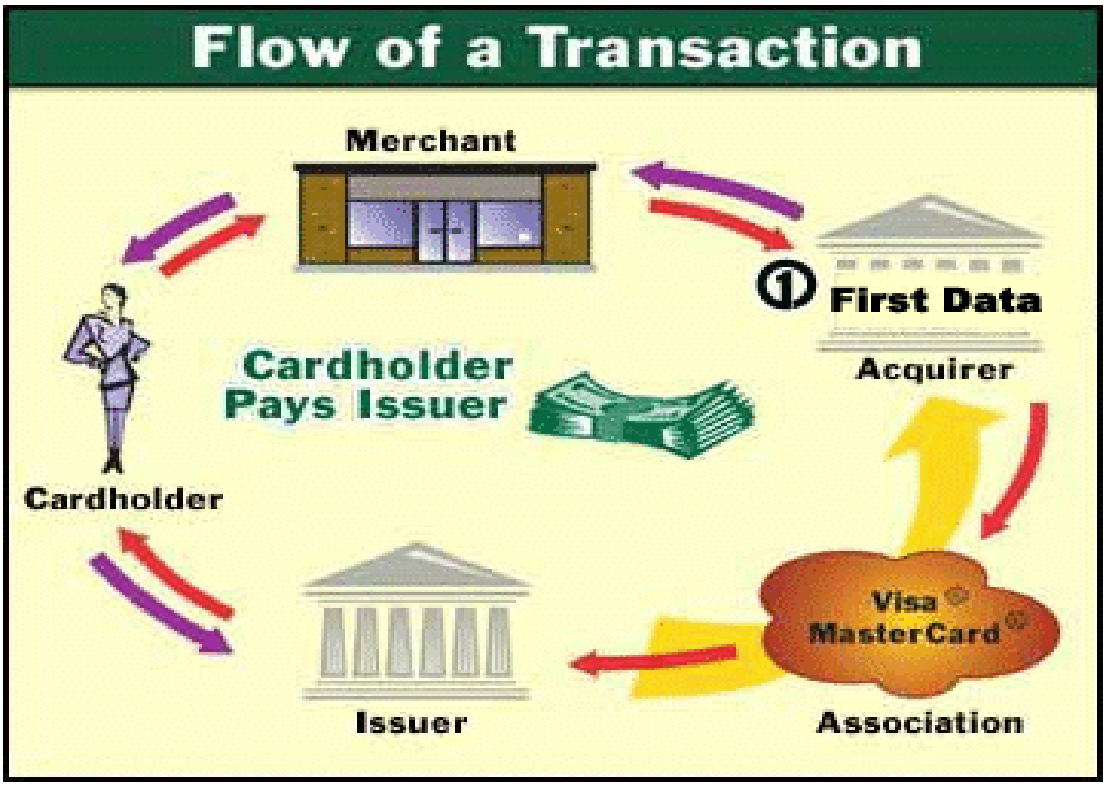
- Issuing bank logo
- EMV chip
- Hologram

- Card number
- Card brand logo
- Expiration date
- Cardholder's name

Details on the reverse side of a typical debit card:

- Magnetic stripe
- Signature strip
- Card Security Code

a. Debit Card system works:



Online debit cards require electronic authorization of every transaction and the debits are reflected in the user's account immediately. The transaction may be additionally secured with the personal identification number (PIN) authentication system; some online cards require such authentication for every transaction, essentially becoming enhanced automatic teller machine (ATM) cards.

One difficulty with using online debit cards is the necessity of an electronic authorization device at the point of sale (POS) and sometimes also a separate PIN pad to enter the PIN, although this is becoming commonplace for all card transactions in many countries.

Overall, the online debit card is generally viewed as superior to the offline debit card because of its more secure authentication system and live status, which alleviates problems with processing lag on transactions that may only issue online debit cards. Some on-line debit systems are using the normal authentication processes of Internet banking to provide real-time on-line debit transactions.

b. Advantages of a Debit Card

- **Easy to obtain:** Once you open an account most institutions will issue you a debit card upon request.
- **Convenience:** Purchases can be made by swiping the card rather than paying in cash.
- **Safety:** You don't have to carry cash or a cheque book.
- **Readily accepted:** When out of town, debit cards are usually widely accepted

c. Disadvantages of a Debit Card

- **No grace period:** Unlike a credit card, a debit card debits funds directly from your bank account. A credit card allows you credit, thus leaving disposable cash in your account.
- **Check book balancing:** Balancing your account may be difficult unless you record every debit card transaction.

d. Difference between Credit and Debit Card:

- **Credit Card**
  - Borrowing money from a bank or financial institution. (Spending "other's" money)
  - Need not be connected to any bank account
  - Pay additional interest drawn on the amount borrowed
  - Limit: Credit line
- **Debit Card**
  - Funds taken from the money that you have in your Bank account. (Spending your "own" money)
  - Needs Checking Account / Savings Account
  - No interest to be paid
  - Limit: Equals your account balance / limit

1.7 Brokerage & Demat Services:

A. Brokerage Services:

Investment Bank Dealers know their customers' needs and can help meet the two customers. Bank Dealers buy / sell financial products on behalf of their customers. This service of buying / selling financial products is known as Brokerage services.

Bank Dealers provide brokerage services in case of:

- Equity shares
- Debt Instruments
- Currencies
- Derivatives instruments

Bank earns brokerage income and profit from buying / selling of securities. Dealers do underwriting of shares and they have an inventory of shares with them. Dealers are market makers for securities.

Security Dealers: They maintain an inventory and buy and sell from that inventory. A dealer offers to buy at the bid price and offers to sell at the asked price. The size of the bid-asked spread depends upon two major factors.

- Volume of trading.
- Inherent price risk.

Security Brokers: Brokers are agents who carry out transactions for buyers or sellers. Brokers charge commissions for their services.

Different types of brokerage services available in the market: There are different types of brokers.

- Full-service brokers provided execution and advice and charge the highest fees.
- Discount brokers provided execution only.
- Securities Brokerage

Full Service Brokers: offer clients research and investment advice, but usually charge a higher commission on trades.

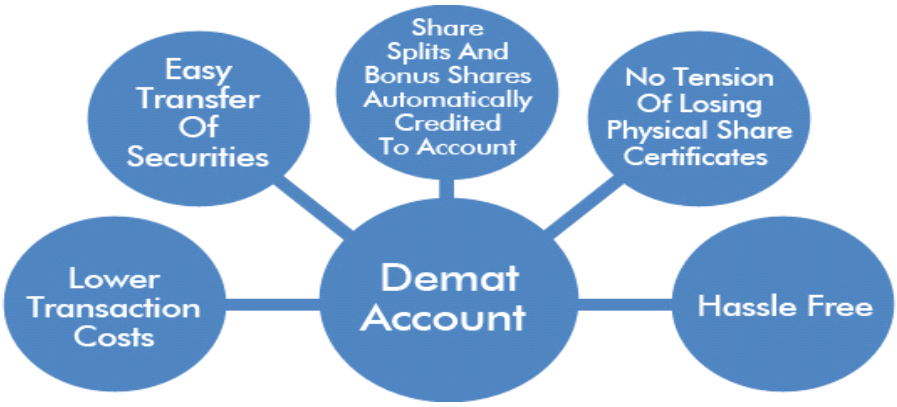
Discount Broker: provides facilities to buy/sell securities but offers no advice. Many on-line discount brokerage firms do have significant research available

Types of orders for buying / selling:

- **Securities Orders:** when you call a brokerage house to buy or sell a security, you essentially have three options:

- **Market Order:** buy or sell security at current price
- **Limit Order:** you specify the most you are willing to pay (buy) or the least you are willing to accept (sell) for a security
- **Short Sales:** sell a security you don't own with the intent of buying it back at a later date (hopefully at a lower price)

B. Demat Services:



An effective and fully developed depository system is essential for maintaining and enhancing the efficiency of a mature capital market

Depository: Depository is an organization where the securities are held in electronic form and which carries out the securities transaction by book entries.

A depository is an organization, which assists in the allotment and transfer of securities and securities lending. The shares here are held in the form of electronic accounts i.e. dematerialized form and the depository system revolves around the concept of paper-less or scrip-less trading. It holds the securities of the investors in the form of electronic book entries avoiding risks associated with paper securities. It is not mandatory and is left to the investor to decide. Depositories carry out its operations through various functionaries called Depository Participants.

Need of Depository: Before the introduction of Depository system, the problems faced by investors and corporate in handling large volume of securini were as follows:

- Bad deliveries
- Fake certificates
- Loss of certificates in transit
- Mutilation of certificates
- Delays in transfers
- Long settlement cycles

- Mismatch of signatures
- Delay in refund and remission of dividends etc

Depository mitigates the above risks by removing the paper certificates in the market

Depository System: In India, the depository system was introduced in 1996 with the enactment of Depositories Act 1996. Their operations are carried out in accordance with rules, bye-laws of Depositories Act and SEBI (Depositories and Participants) Regulations Act 1996. Presently there are two Depositories working in India:

i. National Securities Depository Limited (NSDL):

It was registered by the SEBI on June 7 1996 as India's first Depository to facilitate trading and settlement of securities in the Demat form. It was promoted by IDBI, UTI, and NSE

ii. Central Depository Services (India) Limited (CDSL):

It commenced its operations during Feb 1999 and was promoted by Bombay Stock Exchange in association with Bank of Baroda, Bank of India, SBI and HDFC Bank.

Constituents of a Depository System:

- Depository
- Depository Participants (DP)
- Securities Issuers and Registrars and Share Transfer Agents
- Stock Exchanges and Stock Brokers
- Clearing Corporations, Clearing House and Clearing Members
- Banking system
- Investors

i. Depository Participants (DP):

A DP is an agent of the depository and functions as the interacting medium between the depository and the investor. He is registered with the SEBI. DP must possess requisite qualifications prescribed by the concerned depository of which he is the participant. He is responsible for maintaining the investors' securities accounts with the depository and handles them as per the investors written instructions. He is linked to a broker who trades on behalf of investors.

To avail their services an account similar to a bank account has to be opened by investors with the DP. As per SEBI Regulations, financial institutions, banks, custodians, stock brokers etc can become DP's. Investors may choose DP's of their choice and also can deal with one or more DP's at a time.

ii. Securities, Issuers and Registrars and Share Transfer Agents:

An agreement is made between the depository, issuer of security and the designated registrar / share transfer agents for the underlying security in the cases of issues like transfer of securities by their beneficial owners

iii. Stock Exchanges and Stock Brokers

Stock Exchange (SE) is an organized market for dealings in securities commonly referred to as secondary market. One of its main functions is price discovery i.e. prices are determined to reflect currently available information about a security. Stock Brokers are members of Stock Exchange primarily engaged in two main activities i.e. Buying and selling securities for their clients charging a commission.

Dealers or Traders buy and sell on their own account for trading gains

iv. Clearing Corporation & Clearing Members:

A Clearing corporation is a central organization created to facilitate efficient, fast and economical settlement of transactions at a Stock Exchange. It is an independent entity of the Stock exchange. The members of Clearing Corporation are brokerage firms, banks or other financial institutions that are called as clearing member. It acts as a central mechanism for consolidating and settling transactions across all brokers. It is responsible for guaranteeing and settlement of all trades e.g. National Securities Clearing Corporation Limited (NSCCL) for NSE exchange.

v. Banking system

Banks maintains current a/c's for participants and executes fund transactions relating to securities transactions for participants.

Investors: may be individuals or corporate who have acquired shares either in primary market or in secondary market

Depository System Services: Services provided by the depository are:

- Opening of depository system
- Dematerialisation of Equity Shares, Debt Instruments, Government Securities & Mutual Fund units
- Re-dematerialisation
- Settlement of trades in dematerialised securities
- Account transfer
- Transfer, transmission and transposition
- Pledge and hypothecation
- Redemption or Repurchase
- Stock Lending and Borrowing
- Corporate action
- Account freezing
- Nomination facility

Opening of Demat Accounts:

SEBI has made trading of shares of all the companies listed at the stock exchanges in Demat form compulsorily w.e.f. 2nd Jan 2002.

Hence if the investor wants to trade in respect of the companies which have established connectivity with NSDL & CSDL, he will have to open a beneficiary account with any Depository Participant. For this purpose he has to fill Demat account opening form & sign an agreement with the DP and submit one or two recent passport size photographs and the KYC documents viz. Identity Proof & Address Proof Documents. The investor will be allotted an account number called as client identity. No minimum balance is required. The investor is provided with a transaction statement by his DP at regular intervals based on which the investor will know his security balances.

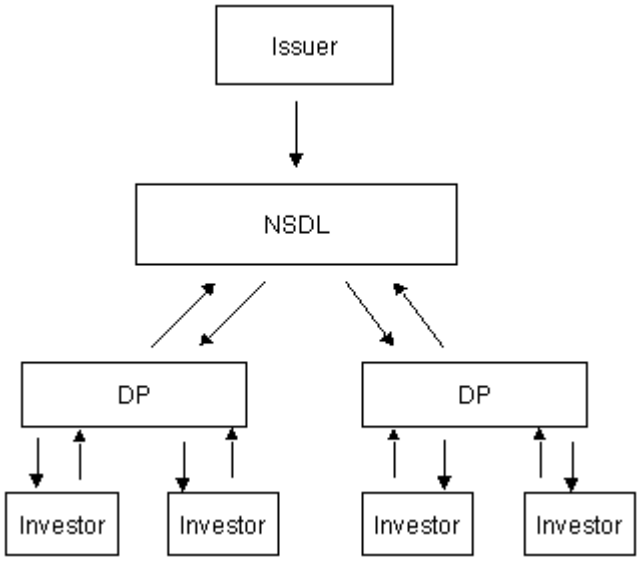
Dematerialization process:

It means conversion of the physical certificates into dematerialized holdings at the request of the investor. Only shares registered in the name of the account holder(s) are accepted for dematerialization at the depository. Once the company is admitted into depository system, an ISIN (international securities identification number) is allotted by the depository. It is a unique number for each security of the company that is admitted in the depository. The entire process takes about 15 – 30 days time.

Re-dematerialization process: It means conversion of Demat holdings back into physical certificates. An investor can convert part of his holdings into physical form. However, if he wants to sell, he needs to dematerialized his holding

For rematerialisation an investor must fill up a Rematerialisation Request form (RRF). The DP will forward the request to depository after verifying that the shareholder has the necessary balances of securities. Depository will in turn intimate the registrar. RTA (registrar & transfer agent) of the company who will print the certificates and dispatch the same to the investor

Purchase / Sales Transactions Process:



Purchase Transaction: Depository gives effect to all transfers of securities resulting from the settlement of trades and other transactions that take place between various beneficial owners. The procedure is as follows:

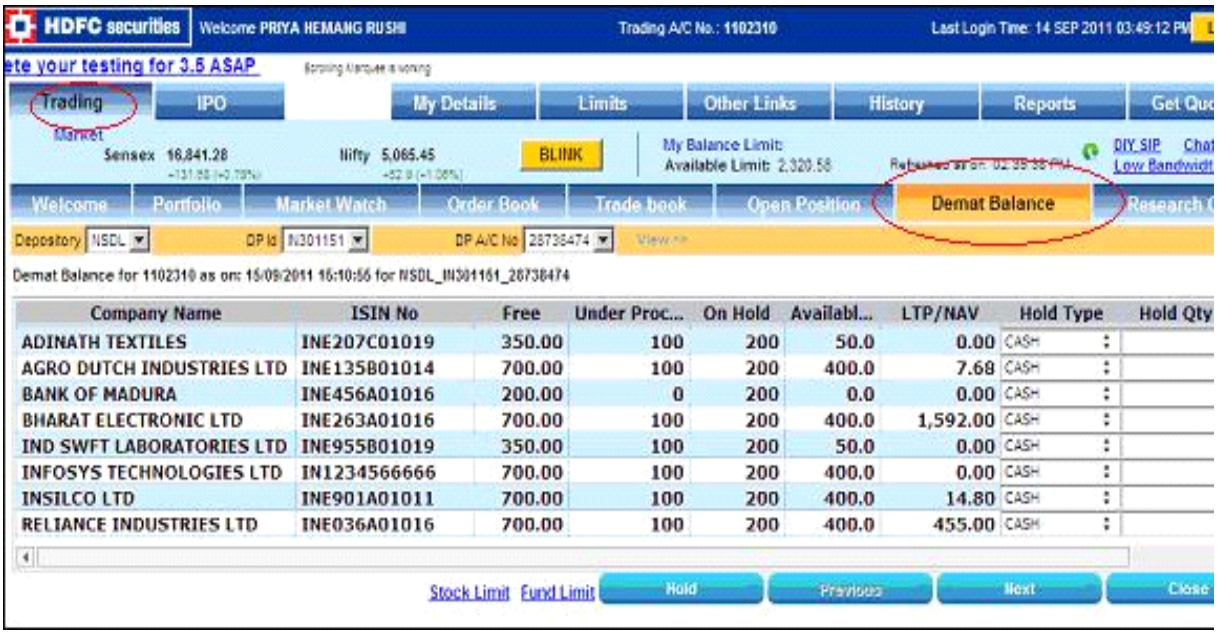
Investor purchases securities at any of the Stock Exchange connected to Depository through a broker. Investor pays money to the broker who in turn pays to the clearing corporation. On the pay – out day broker receives credit for securities in his clearing account. Broker gives instructions to his DP to debit clearing account and credit client account. Investor receives shares into his demat account

Sale Transaction:

Investor sells securities at any Stock exchange linked to depository through a broker. Investor gives instruction to his DP to debit his account and credit selling broker's clearing account. Before the pay-in day, investor's broker transfers the securities to clearing corporation. Broker receives payment from Stock exchange. Investor receives the payment from broker. Sale in Demat form is similar to sale under physical mode

Transmission: The transfer of ownership to the legal heir takes place when the holder of the security expires. The procedure for the same is as follows:

Claimant will have to fill a TRF i.e. a transmission request form supported by documents like death certificate, succession certificate, will etc. The DP after verifying that the application is genuine, will transfer securities to Demat a/c of claimant.



The above screen shows the specimen of HDFC Securities online account detail of an investor. It has various tabs for portfolio, market watch, Order book, Trade book, Open position and demat balance, research etc for various purpose.

It show the company name, security identification code, number of free shares (shares in the account), Under process shares, on hold shares (shares which are kept on hold for selling purpose) and the available shares with the latest traded price (LTP) or Net Asset Value (in case of mutual fund unit).

Nomination facility: Nomination on shares held in demat form can be made only by individuals holding beneficiary a/c. Minor can nominate only through guardian. It can be made Demat a/c wise and not security wise.

Benefits of Depository System:

- **Investing Public**
  - Reduction of risks associated with loss, mutilation, theft and forgery of physical scrip
  - Elimination of financial loss from loss of physical scrip
  - Greater liquidity resulting from speedier settlements
  - Reduction in delays in registration
  - Faster receipt of corporate benefits
  - Reduced transaction costs through greater efficiency
- **Issuers of Securities:**
  - Up-to-date knowledge of shareholders' names and addresses
  - Reduction in printing and distribution costs of new issues
  - Easy transfer of corporate benefits
  - Improved ability to attract international investors without having to incur expenditure of issuance in overseas markets

1.8 Summary:

- Safe custody facility offered by the bank comes under Bailer & Bailee services. Banks take charge of goods, articles, securities as bailee not as trustee or agent. Bank will be responsible for the taking care of the goods, should not make unauthorized use of it, should not mix with his own goods and return the goods in good order.
- When the customer uses the safe deposit boxes to store valuable possessions that need protection from theft, fire, flood, tampering, or other perils, the relationship between the Banker and the Customer is Lessor Lessee. Agreement needs to be signed and KYC documents needs to be submitted for availing of the locker services. Nomination facility is available even for the locker. Locker operation needs both the customer key and the master key (with the bank). Signature verification is carried out by the Bank before allowing accessing the holder of the locker.
- NETF / RTGS are the electronic mode of payments managed by the RBI. NEFT is deferred net settlement (DNS) payment system which helps transfer of money in a batch of one hour basis from 8 am to 7 pm for small amounts whereas RTGS is Real Time Gross Settlement is the system which helps transfer of funds on real time basis (0900 to 1630 hrs) but has limit of minimum amount of Rs 2 lakhs.
- Drafts are paper based instruments which are used for carrying out the payments. They are safer as the customer account is already debited for the amount before the issuance of Demand draft. It follows the cheque clearing process facilitated by the RBI clearing house.

- Banks provides two types of credit facility – Funded and Non Funded. In case of funded facility the money moves out of the Bank when approved and in case of non-funded credit facility the funds moves on happening of certain events.
- Bank Guarantee (BG) is non funded credit facility which is a commitment to pay on behalf of the borrower contingent upon the beneficiary fulfilling the conditions and the borrower not paying the dues before the due date.
- As Letter of Credit (LC) is irrevocable commitment provided by the Bank, it safe guards the interest of the both the importer / exporter, Letter of Credit is extensively used in international trade. Various types of LCs are available to meet the various requirements of the importer / exporter.
- As Bank is in the business of providing financial services, Banks sells third party products (Mutual Fund, Insurance, Gold etc) to become one stop shop for the financial needs of the customers. Bank earns fee income, which does not require risk capital to be kept aside. Hence it is profitable for the Bank and help in increasing the profit of the Bank.
- Credit card is short term revolving type of loan provided by the Bank whereas Debit card acts as replacement for hard currency. Limit of Debit holders is the balance in the Bank account linked whereas credit card holder limit is assigned by the Bank based on his credit rating. Merchants prefer Credit / Debit card as it attracts more customers and less hassle of managing the cash received.
- Broker acts as intermediary between the two parities while buying / selling financial products in the market. Broker provides Full service / Discount broker service based on the requirement of the client.
- Demat account is an account with Depository Participant (DP) in which securities are held in dematerialised form. Advantages are:
- Reduction of risks associated with loss, mutilation, theft and forgery of physical scrip
- Elimination of financial loss from loss of physical scrip
- Greater liquidity from speedier settlements
- Reduction in delays in registration
- Faster receipt of corporate benefits
- Reduced transaction costs through greater efficiency
- Currently, National Security Depository Ltd (NSDL) and Central Depository Security Ltd (CDSL) is two depository which provides Demat services through their DP

Key words:

DD – Demand Draft

ECS – Electronic Clearing System

NEFT – National Electronic Funds Transfer

RTGS - Real Time Gross Settlement

IFSC - Indian Financial System Code

OTP - One Time password

DNS – Deferred Net Settlement

CTS – Cheque Truncation System

BG – Bank Guarantee

LC – Letter of Credit

NSDL - National Securities Depository Limited

CDSL - Central Depository Services (India) Limited

DP – Depository Participant

SEBI – Securities & Exchange Board of India

NSCCL - National Securities Clearing Corporation Limited

ISIN - International Securities Identification Number

RTA - Registrar & Transfer agent

RRF - Remat Request form

DRF - Demat Request form

1.9 Self Test Questions

I. Choose the correct option:

1. RTGS as well as NEFT uses
   a) UTR Number
   b) MICR
   c) IFSC
   d) DNS
2. What is maximum limit for an NEFT transfer per transaction?
   a) No Limit
   b) 1 lakh
   c) 2 lakhs
   d) 3 lakhs
3. Why are pay-in-slips used in Banks?
   a) To deposit cash or cheques into the Bank account of the account holder

b) To withdraw cash or cheques into the Bank account of the account holder

c) Both of the above

d) None of the above

4. Which is the safest cheque from the receiver point of view?

a) Account Payee cheque

b) Bearer Cheque

c) Crossed Cheque

d) Demand Draft

5. How many NEFT batches are run by RBI on Saturday?

a) 3

b) 6

c) 9

d) 12

6. NEFTS uses _____ for payments

a) Gross settlement

b) Deferred Net settlement

7. What is the minimum amount limit for RTGS?

a) None

b) Rs 50,000

c) Rs 2 lakhs

d) Rs 10 lakhs

8. Which is the fastest mode of payment?

a) Credit card

b) RTGS

c) NEFT

d) Cheque

9. On week days, RTGS is available between _____

a) 0830 to 1600 hrs

b) 0900 to 1630 hrs

c) 0930 to 1700 hrs

d) 1000 to 1730 hrs

10. On week days, NEFT operates hourly batches from ____

    a) 0700 to 1800 hrs

    b) 0730 to 1830 hrs

    c) 0800 to 1900 hrs

    d) 0830 to 1930 hrs

Answers: 1 – c, 2 - a, 3 – a, 4 – d, 5 – b, 6 - b, 7 -c, 8 - b, 9 - b, 10 – c.

II. Fill in the blanks:

1. Brokerage Fees is classified as _____ Interest Income
2. ____ can be returned for insufficient funds in the account
3. IFSC code has _____ characters
4. Full of SMS is ____
5. MICR stands for _____

Answers: 1- Non, 2 – Cheque, 3 - 11, 4 – Short Message Service, 5 - Magnetic Ink Character Recognition.

III. Match the following:

1. Safe Deposit Locker renting Electronic Funds Transfer
2. NEFTPaper based payment
3. Demand Draft Lessor – lessee relationship
4. IFSC code Letter of Credit
5. Irrecoverable commitment Alphanumeric code for bank branch identification

Answers: 1- 3, 2 – 1, 3 - 2, 4 – 5, 5 – 4.

IV. True or False:

1. Safe custody of valuables is primary function of the Bank.
2. Bank is responsible for any loss of content in the locker
3. Normally Bank lockers have two keys for its operations
4. RTGS system operations on Deferred Net settlement basis
5. NEFT can be used to transfer funds from or to NRE and NRO accounts in the country
6. Demand draft above Rs 20,000 can be issued only with account paying crossing

7. When Guarantee is issued, there is unlimited liability
8. In sight LC, the payment is release to the beneficiary on presentation of documents

Answers: 1- False, 2 – False, 3 - True, 4 – False, 5 – True, 6 – True, 7 – False, 8 - True

V. Answer the following briefly:

1. What is IFSC code?
2. What is usance LC?
3. What is back to back LC?
4. What is performance guarantee?
5. What are the advantages of Bank Guarantee?
6. What is Non fund based income?

VI. Answer in detail:

1. What are the duties of Bailee?
2. What are the liabilities of Bailee?
3. Explain the operations of Safe Deposit box?
4. What are the advantages / disadvantages of electronic payment system?
5. Distinguish between NEFT and RTGS?
6. What does the Bank assess while issuing Guarantee on behalf of its customers?
7. Explain the need of Letter of credit?
8. What are the advantages to the Bank of selling third parties products?
9. What are the different sources of revenue to the Bank for selling Mutual Funds?
10. What are advantages and disadvantages of credit cards?
11. What are advantages and disadvantages of debit cards?
12. What are the advantages of keeping shares in demat account?

VII. Activities:

1. Do a visit to a nearby branch to see the Bank vault with locker facility and see the security arrangement made
2. Do a project on differentiating the product features of different credit / debit cards
3. Obtain a demat form from a bank and request students to fill the same
4. Carry out a demand draft form filling exercise.

Learning Objective – Unit 2

Location	Duration-10 HOURS			
Classroom or Banks	**SESSION -1 SAFE CUSTODY OF VALUABLES**			
	Learning Outcome	**Knowledge Evaluation**	**Performance Evaluation**	**Teaching and Training Method**
	After studying this topic the learners would be able to explain the benefits associated with the Bank Computerization	1. Understanding of Computers 2. Benefits of Technology in accounting	1. List the benefits of Bank Computerization 2. List the steps involved accounting in electronic environment	Classroom teaching PPT's
	SESSION -2 CORE BANKING (CB)			
	After studying this topic the learners would be able to learn about the concept & distinct features of Core Banking	1. Understand what is CB Solution 2. Key features of Core Banking 3. Appreciation of Key Controls in CBS	1. Enlist the features of core Banking 2. Evaluate the controls in place to make CBS safe 3. Comment on how the CBS operations have provided major thrust to banking operation	Classroom teaching PPT's
	SESSION-3 ONLINE BANKING			
	After studying this topic the learners would be able to learn about the concept & distinct features of Online Banking	1. Need of online banking 2. Procedure of using on online banking 3. Risks in Online banking	1. Enlist the advantages of online banking 2. Comment on the measures available to counter threats against online banking	Classroom teaching PPT's

Location	Duration-10 HOURS			
Classroom or Banks	**SESSION-4 MOBILE BANKING**			
	Learning Outcome	**Knowledge Evaluation**	**Performance Evaluation**	**Teaching and Training Method**
	After studying this topic the learners would be able to learn about the concept & distinct features of Mobile Banking	1. Need of mobile banking 2. Mobile banking facilities 3. Mobile Banking risks	1. List the advantages of mobile banking 2. Elucidate the Mobile risks and their management	Classroom teaching PPT's
	SESSION-5 INTERNET BANKING			
	After studying this topic the learners would be able to learn about the concept & distinct features of Internet Banking	1. Need of Internet banking 2. Procedure of using on Internet banking 3. Risks in Internet banking	1. Enlist the advantages of Internet banking 2. Comment on the measures available to counter threats against Internet banking	Classroom teaching PPT's
	SESSION-6 ATMs			
	After studying this topic the learners would be able to learn about the concept & distinct features of ATMs	1. Meaning of ATM 2. Purpose of ATM 3. Features of ATM 4. Evolution of ATM	1. Explain the need of ATM 2. Describe the core concept of ATM 3. Identify the key features of ATM	Classroom teaching PPT's

INNOVATIONS IN BANKING TECHNOLOGY

OBJECTIVES

After reading this unit you will be able to:

Describe the benefits of use of technology in Banking

List the key features & controls of Core Banking

Summarize the features of Online Banking & the counter measures available for mitigating the online banking risks

Summarize the advantages of Mobile Banking

List the features of Internet Banking

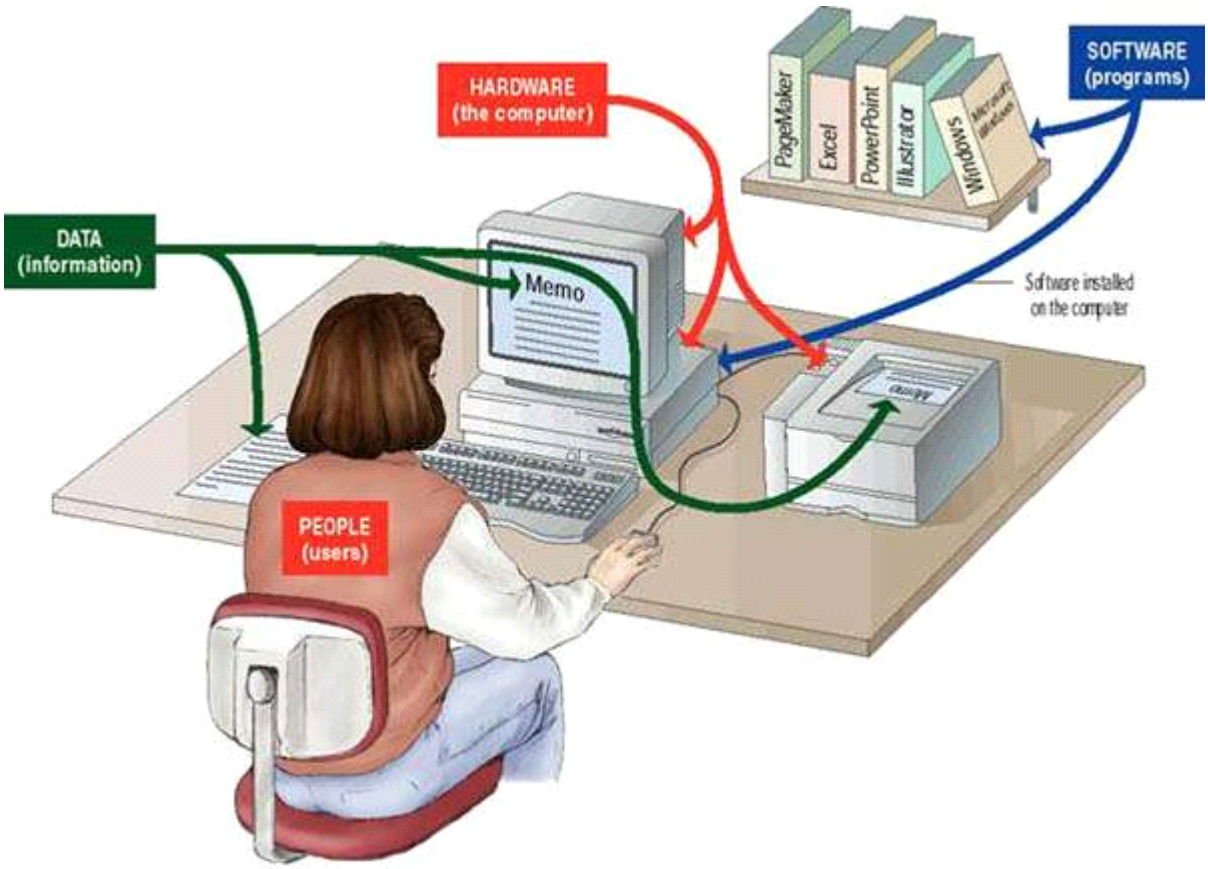
Explain the purpose of ATMs and it advantages to the Bank / Customers

STRUCTURE

2.1 Bank Computerization

Understand the Accounting in Electronic Environment, Methods and Procedures

Computer is a device that accepts data, stores data, processes data as desired, retrieves the stored data as and when required and prints the result in desired format.



Characteristics of computer:

A Computer is better than human being. It possesses some characteristics, which are as follows:

Speed: It can access and process data millions times faster than humans can. It can store data and information in its memory, process them and produce the desired results. It is used essentially as a data processor. All the computer operations are caused by electrical pulses and travels at the speed of light. Most of the modern computers are capable of performing 100 million calculations per second.

Storage: Computers have the capability of storing vast amount of data or information. Computers have huge capacity to store data in a very small physical space. Today's computers are also capable of storing pictures and sound in digital form.

Accuracy: The accuracy of computer is very high and every calculation is performed with the same accuracy. Errors occur because of human beings rather than technological weakness; main sources of errors are wrong program by the user or inaccurate data.

Diligence: A computer is free from tiredness and lack of concentration. Even if it has to do 10 million calculations, it will do even the last one with the same accuracy and speed as the first.

Versatility: Computer can perform wide range of jobs with speed, accuracy, and diligence. In any organisation, often it is the same computer that is used for diverse purposes such as accounting, playing games, preparing electric bills, sending e-mail and so on.

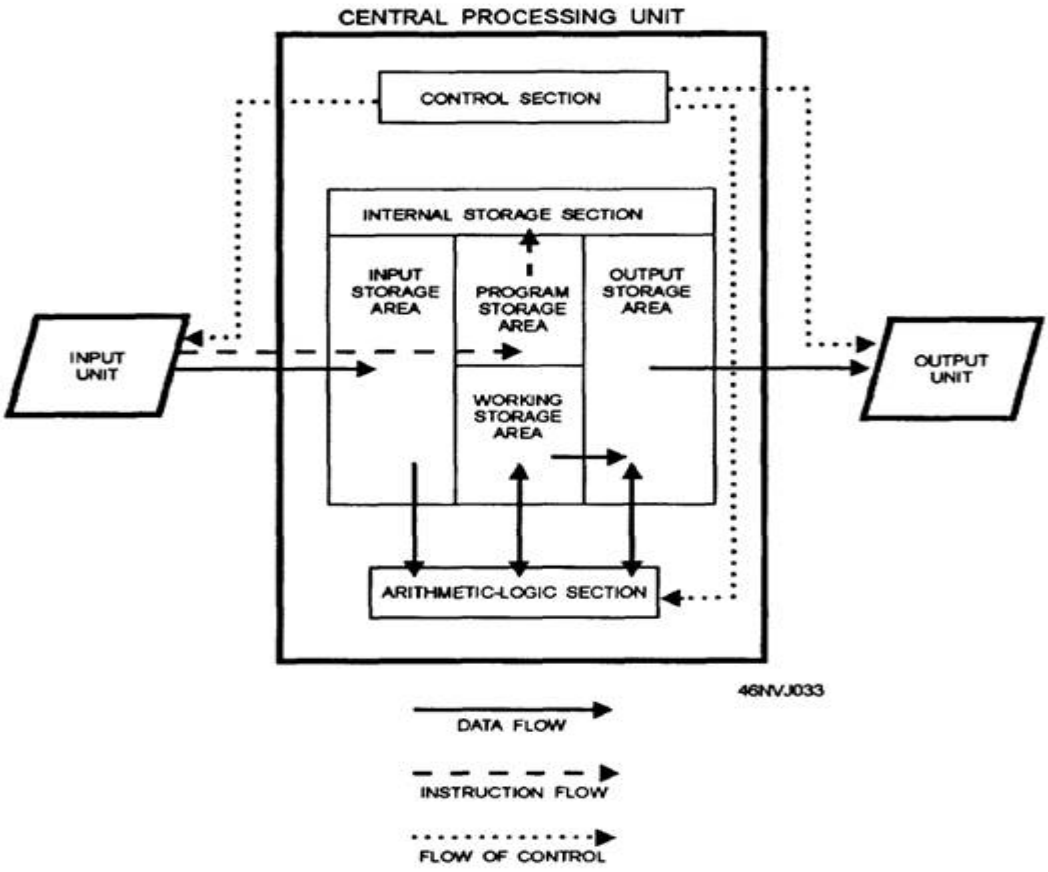
Communication: Computers are being used as powerful communication tools. All the computers within an office are connected by cable and it is possible to communicate with others in the office through the network of computer.

Processing Power: Computer has come a long way today. They began as mere prototypes at research laboratories and went on to help the business organisations, and today, their reach is so extensive that they are used almost everywhere. In the course of this evolution, they have become faster, smaller, cheaper, more reliable and user friendly.

Components of Computer: A computer consists of the following major components:

- Input Unit
- Central Processing Unit and
- Output Unit.

Diagrammatically, these components maybe presented as follows:



Input Unit: Input unit is controlling the various input devices which are used for entering data into the computer. The mostly used input devices are keyboard, mouse, and scanner. Other devices are magnetic tape, magnetic disk, light pen, bar code reader, smart card reader, etc. Besides, there are other devices which respond to voice and physical touch. Physical touch system is installed at airport for obtaining the online information about departure and arrival of flight. The input unit is responsible for taking input and converting it into binary system.

Central Processing Unit (CPU): The CPU is the control centre for a computer. It guides, directs and governs its performance. It is the brain of the computer. The main unit inside the computer is the Central Processing Unit. Central Processing Unit is to computer as the brain is to human body. This is used to store program, photos, graphics, and data and obey the instructions in program. It is divided into the following three subunits:

i. Control Unit

Control unit controls and co-ordinates the activities of all the components of the computer. This unit accepts input data and converts it into computer binary system.

ii. Memory Unit

This unit stores data before being actually processed. The data so stored is accessed and processed according to instructions which are also stored in the memory section of computer well before such data is transmitted to the memory from input devices.

iii. Arithmetic and Logic Unit

It is responsible for performing all the arithmetical calculations and computations such as addition, subtraction, division, and multiplication. It also performs logical functions involving comparisons among variable and data items.

Output unit

After processing the data, it ensures the convertibility of output into human readable form that is understandable by the user. The commonly used output devices include like monitor also called Visual Display Unit, printer etc.

Books of accounts maintained:

The most popular system of recording of accounting transactions is manual which requires maintaining books of accounts such as Journal, Cash Book, Special purpose books and Ledger and so on.

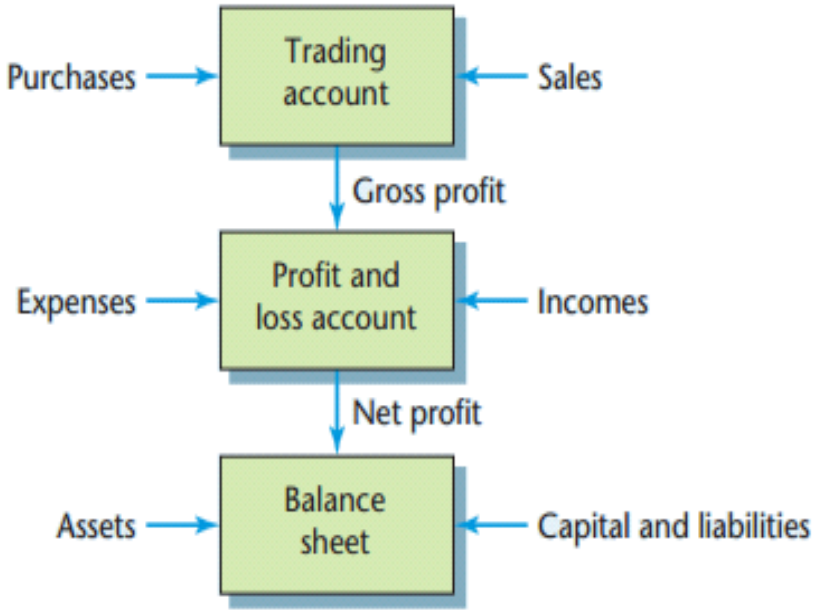
The accountant is required to prepare summary of transactions and financial statements manually. The advanced technology involves various machines capable of performing different accounting functions, for example, a billing machine. This machine is capable of computing discount, adding net total and posting the requisite data to the relevant accounts.

With substantial increase in the number of transactions, a machine was developed which could store and process accounting data in no time. Such advancement leads to number of growing successful organisations. A newer version of machine is evolved with increased speed, storage, and processing capacity. A computer to which they were connected operated these machines. As a result, the maintenance of accounting data on a real-time basis became almost essential. Now maintaining accounting records become more convenient with the computerised accounting.

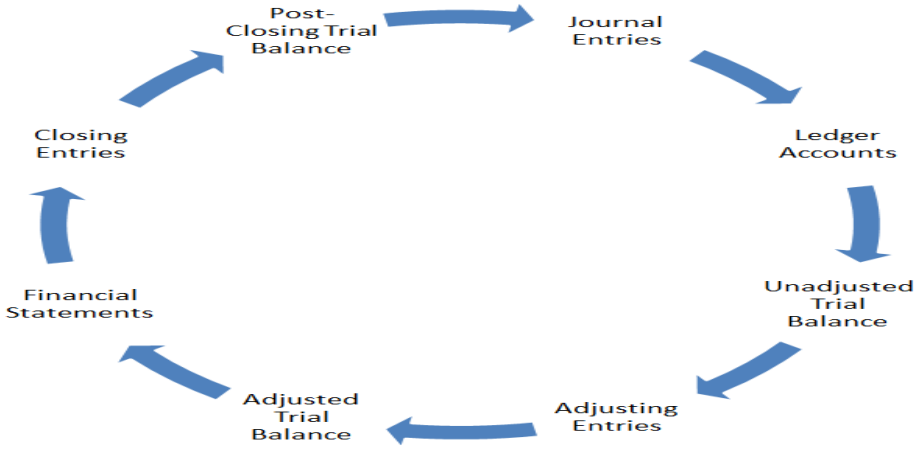
The computerised accounting uses the concept of databases. For this purpose an accounting software is used to implement a computerised accounting system. It does away the necessity to create and maintain journals, ledgers, etc., which are essential part of manual accounting. Some of the commonly used accounting software's are Tally, Cash Manager, Best Books, etc.

Accounting software is used to implement a computerised accounting. The computerised accounting is based on the concept of database. It is basic software which allows access to the data contained in the data base. It is a system to manage collection of data insuring at the same time that it remains reliable and confidential.

Flow of Accounting Entries:



Components of Computerised accounting software:



Following are the components of Computerised accounting software:

1. **Preparation of accounting documents**

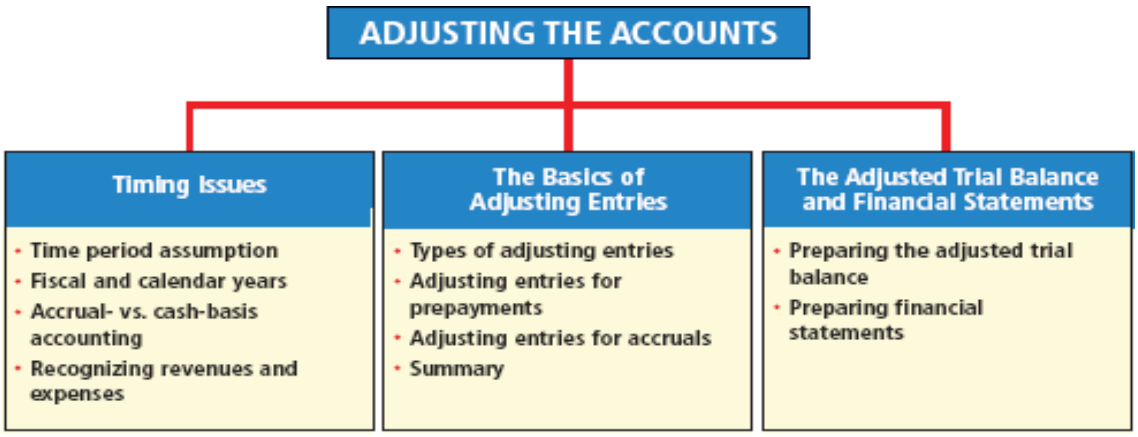
   Computer helps in preparing accounting documents like Cash Memo, Bills and invoices etc., and preparing accounting vouchers.

2. **Recording of transactions**

   Every day business transactions are recorded with the help of computer software. Logical scheme is implied for codification of account and transaction. Every account and transaction is assigned a unique code. The grouping of accounts is done from the first stage. This process simplifies the work of recording the transactions.

3. **Preparation of Trial Balance and Financial Statements**

   After recording of transaction, the data is transferred into Ledger account automatically by the computer. Trial Balance is prepared by the computer to check accuracy of the records. With the help of trial balance the computer can be programmed to prepare Trading, Profit and Loss account and Balance Sheet. These components can be shown as:



Transaction processing system (TPS) is the first stage of computerised accounting system. The purpose of any TPS is to record, process, validate and store transactions that occur in various functional areas of a business for subsequent retrieval and usage.

TPS involves following steps in processing a transaction:

- Data Entry
- Data Validation
- Processing and Revalidation
- Storage
- Information and Reporting.

It is one of the transaction processing systems which are concerned with financial transactions only. When a system contains only human resources it is called manual system; when it uses only computer resources, it is called computerised system and when it uses both human and computer resources, it is called computer-based system.

1. Data Entry:

Processing presumes data entry. A bank customer operates an ATM facility to make a withdrawal. The actions taken by the customer constitute data which is processed after validation by the computerised personal banking system.

2. Data Validation:

It ensures the accuracy and reliability of input data by comparing the same with some predefined standards or known data.

This validation is made by the "Error Detection" and "Error Correction" procedures. The control mechanism, wherein actual input data is compared with predetermined norm is meant to detect errors while error correction procedures make suggestions for entering correct data input.

3. Processing and Revalidation:

The processing of data occurs almost instantaneously in case of Online Transaction Processing (OLTP) provided a valid data has been fed to the system. This is called check input validity. Revalidation occurs to ensure that the transaction in terms of delivery of money by ATM has been duly completed. This is called check output validity.

4. Storage:

Processed actions, as described above, result into financial transaction data i.e. withdrawal of money by a particular customer, are stored in transaction database of computerized personal banking system. This makes it absolutely clear that only valid transactions are stored in the database.

5. Information:

The stored data is processed making use of the Query facility to produce desired information.

6. Reporting:

Reports can be prepared on the basis of the required information content according to the decision usefulness of the report.

Advantages of computerised Accounting: The need for computerised accounting arises from advantages of speed, accuracy and lower cost of handling the business transactions.

Numerous Transactions: The computerised accounting system is capable of handling large number of transactions with speed and accuracy.

Instant Reporting: The computerised accounting system is capable of offering quick and quality reporting because of its speed and accuracy.

Reduction in paper work: A manual accounting system requires large physical storage space to keep accounting records/books and vouchers/ documents. The requirement of stationery and books of accounts along with vouchers and documents is directly dependent on the volume of transactions beyond a certain point. There is a dire need to reduce the paper work and dispense with large volumes of books of accounts. This can be achieved by introducing computerised accounting system.

Flexible reporting: The reporting is flexible in computerised accounting system as compared to manual accounting system. The reports of a manual accounting system reveal balances of accounts on periodic basis while computerised accounting system is capable of generating reports of any balance as when required and for any duration which is within the accounting period.

Accounting Queries: There are accounting queries which are based on some external parameters. For example, a query to identify customers who have not made the payments within the permissible credit period can be easily answered by using the structured query language (SQL) support of database technology in the computerised accounting system. But such an exercise in a manual accounting system is quite difficult and expensive in terms of manpower used. It will still be worse in case the credit period is changed.

On-line facility: Computerised accounting system offers online facility to store and process transaction data so as to retrieve information to generate and view financial reports.

Scalability: Computerised accounting systems are fully equipped with handling the growing transactions of a fast growing business enterprise. The requirement of additional manpower in Accounts department is restricted to only the data operators for storing additional vouchers. There is absolutely no additional cost of processing additional transaction data.

Accuracy: The information content of reports generated by the computerised accounting system is accurate and therefore quite reliable for decision making. In a manual accounting system the reports and information are likely to be distorted, inaccurate and therefore cannot be relied upon. It is so because it is being processed by many people, especially when the number of transactions to be processed to produce such information and report is quite large.

Security: Under manual accounting system it is very difficult to secure such information because it is open to inspection by any eyes dealing with the books of accounts. However, in computerised accounting

system only the authorised users are permitted to have access to accounting data. Security provided by the computerised accounting system is far superior compared to any security offered by the manual accounting system.

Basic requirements of the computerised accounting system: The basic requirements of any computerised accounting system are the followings:

- **Accounting framework:**

  It is the application environment of the computerised accounting system. A healthy accounting framework in terms of accounting principles, coding and grouping structure is a pre-condition for any computerised accounting system.

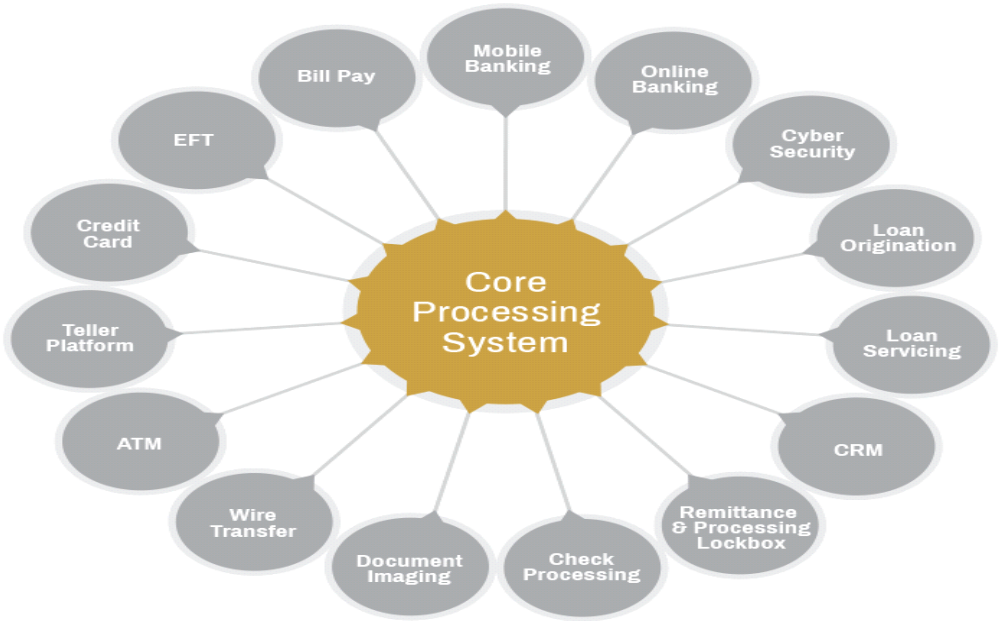
- **Operating procedure:**

  A well-conceived and designed operating procedure blended with suitable operating environment of the enterprise is necessary to work with the computerised accounting system.

The computerised accounting is one of the database-oriented applications wherein the transaction data is stored in well- organized database. The user operates on such database using the required interface and also takes the required reports by suitable transformations of stored data into information.

Therefore, the fundamentals of computerised accounting include all the basic requirements of any database-oriented application in computers. On the basis of the discussions, these are the following differences between manual accounting and computerised accounting.

2.2 Core Banking Solution (CBS)



Computerization in Indian banking sector and the use of modern innovation has increased many folds after the economic liberalization as the country's banking sector has been exposed to the worlds market. In 1984 a committee was formed by RBI on mechanization in the banking industry whose chairman was Dr. C Rangarajan, Deputy Governor of RBI.

CORE stands for "Centralised On-line Real Time Environment". In a nutshell it means all the Bank's Branches, service outlets (automated or manual), back office accesses applications from centralised data centres. CBS is set of basic software a component that manages the services provided by the Bank to its customers through its branches. The customers can make transactions from any branches, ATMs, service outlets, Phone, internet etc.

The CBS is based on Service Oriented Architecture (SOA). It helps the Bank to reduce risks that results from manual data entry and out of date information. It also helps Banks to improve Service Delivery quality and time to its customers. The software is installed at various branches of bank and interconnected by communications lines such as telephones, satellite and internet.

This basically means that a bank's all the branches access applications from centralized data centres. This means that the deposits made are reflected immediately on the bank's servers and the customer can withdraw the deposited money from any of the bank's branches throughout the world. These applications now also have the capability to address the needs of corporate customers, providing a comprehensive banking solution.

Normal CORE banking functions will include deposit accounts, loans, mortgages and payments. Banks make these services available across multiple channels like ATMs, Internet banking, and branches.

CBS is networking of branches, which enables customers to operate their accounts, and avail banking services from any branch on CBS network, regardless of where they maintain their account. The customer is no more the customer of a particular branch. Thus, CBS is a step towards enhancing customer convenience through "Anywhere and anytime banking."

Need of Core Banking Solution:

Improve operational efficiency - reduce cost of operations:

Core Banking will provide various alternative delivery service channels, which reduce cost and time taken for the transactions. The centralised process of core banking will also improve efficiency by avoiding duplication of work in posting entries from Branch Office (BO) to Head office and vice versa.

Improve customer service:

Core Banking will improve customer services by providing services through alternate channels on 24 x 7 basis – ATM, Internet, Phone, SMS and Mobile Banking.

Customers would be able to operate their accounts, and avail banking services from any branch on CBS network, regardless of where they maintain their account.

Comply with Anti Money Laundering (AML) / Know Your Customer (KYC) requirements:

It is easy to comply with anti–money laundering norms through core banking. The AML norms require the Banks to detect when a customer has opened multiple accounts.

Integrate with electronic payment systems:

Integration with electronic payment systems will allow Banks to participate in an inter-operable electronic payment network run by the National Payments Corporation of India.

This will help in quick and safe transfer of funds through National Electronic Fund Transfer (NEFT) and Real Time Gross Settlement (RTGS).

Thus CBS helps in supporting Multi Channel (internet, phone) support, Multi Currency Support, Multi Lingual Support, High Scalability.

Key CBS System controls:

Internal Control are embedded in CBS at Data entry level (through validations) and at processing level also. Apart from this the Bank prescribes certain manual controls to be adhered to by Bank officials. Hence, it is combination of manual and automated controls which makes a safe system. Auditor duty is to identify the areas, controls which are not consistent with the Legal Framework / Bank's Policy.

Various types of controls are embedded at various levels in CBS are:

- Application Controls
- IT Administrative Controls & Security
- System Development Controls

In CBS, Application level controls available are:

- Authorisation of a transaction as per Delegation authority
- Data Input (Validation) Controls
- Accessibility in Software areas as per Employee position and area of operations
- Product Level Controls:

- ❖ Prefixed Financial Parameters (Interest, Penal Rate of interest)
- ❖ Fixed Tenure (viz. Fixed Deposits)
- ❖ Controlled error handling through Warnings, Exception and Error

IT Admin Control and Security available in CBS are:

- Controls are associated with processing activity
- It allows users to use the Software as per Access Rights table
- Confirmation / Pre Authorisation for any outside software installations
- To ensure Encryption of data

- To ensure no changes are effected in IT Hardware
- Security policies for all IT Assets

Logical Access Controls available are:

- Access to System / Menu as per the category and type of Branch
- Single Sign on for all applications
- Maker & Checker control
- Security policies for all IT Assets
- CBS Controls - System Development Controls
- Testing and Programs Acceptance Controls
- Amendments to Controls and maintenance of Standard Operating Procedure (SOP) for Source code
- Generation of Audit Trail
- Maintaining Editing history
- Transaction Tracking system

System Development Controls available are:

- Testing and Programs Acceptance Controls
- Amendments to Controls and maintenance of SOPs for Source code
- Generation of Audit Trail
- Maintaining Editing history
- Transaction Tracking system

Benefits of CBS project: CBS will provide the following benefits:

- Anytime and Anywhere banking (online mediums / SMS)
- Standardised, simple and automated processes
- Increase in quality of the service provided to the customers
- Timely and accurate information for management decision making
- Strong audit and internal controls
- Bring down the cost of transaction and thereby improving operational efficiency
- Paving way for new value added services thereby generating additional revenue for the Bank

2.3 Online Banking

Online banking has become a 'norm' in today's fast-paced times. Many people not only within India but across the world are relying on the internet to conduct a number of banking transactions. Not only is this method of banking quicker, easier and faster but is also a lot more convenient than physically visiting the bank branch.

Online Banking services: A bank customer can perform non-transactional tasks through online banking, including:

- Viewing account balances
- Viewing recent transactions
- Downloading bank statements, e.g. in PDF format
- Viewing images of paid cheques
- Ordering cheque books
- Download periodic account statements
- Downloading applications for M-banking, E-banking etc.

Bank customers can transact banking tasks through online banking, including:

- Funds transfers between the customer's linked accounts
- Paying third parties, including bill payments (see, e.g., BPAY) and telegraphic/wire transfers
- Investment purchase or sale
- Loan applications and transactions, such as repayments of enrolments
- Register utility billers and make bill payments

Why use Online Banking:

- It's so easy to apply. And, it's FREE!
- You have instant access to up-to-date information on your accounts.
- It's safe & easy. Use Online Banking ID and Online Banking Password
- It's fast. It takes only a few minutes to get updated account information and complete a banking transaction - giving you more time to do other things.
- It's convenient. You can perform on-line banking right from the comfort of your home or office.
- Its 24 hours. With this service, customers can access your accounts 24 hours of the day, 365 days of the year.
- It's worldwide access. As long as you can access the Internet, you can access your accounts, anywhere in the world.

- No special software required. You don't need to purchase any special software. As long as you have a personal computer (PC) with the minimum configuration.
- Wide range of services available

Online Access process: To access a Bank's online banking facility, a customer with Internet access would need to register with the institution for the service, and set up some password (under various names) for customer verification. The password for online banking is normally not the same as for telephone banking. Banks routinely allocate customers numbers (also under various names), whether or not customers have indicated an intention to access their online banking facility.

To access online banking, a customer would go to the financial institution's secured website, and enter the online banking facility using the customer number and password previously setup. Some financial institutions have set up additional security steps for access to online banking, but there is no consistency to the approach adopted.

Benefits of Online Banking: The customers who adopt this mode of banking can benefit from it. Some of the key benefits of internet banking include:

- Convenience
- Better Interest Rates
- Services
- Mobility

Environment Friendly: Last but not the least; internet banking has helped to cut down the usage of paper, thereby being good for the environment where it helps to reduce pollution as people do not have to visit the bank.

Online Banking Risks:

- Attacks on online banking used today are based on deceiving the user to steal login data and valid TANs. viz. phishing and pharming
- Cross-site scripting and key logger / Trojan horses can also be used to steal login information.
- Man in the Browser attack, where a Trojan horse permits a remote attacker to modify the destination account number and also the amount.

Fraudsters adopt a number of methods which are as follows:

Phishing: Phishing is the centre stage of Internet Scams. Phishing is the way of sending emails at arbitrary, indicating to come from a candid company which is operating on the internet. When the customers make an attempt, its request disclosing information at a bogus website will be operated by them. Information entered on the bogus website is captured by the criminals and they use it for their own purpose.

Skimming: Fraudsters use skimmers to make fake ATM cards, a swipe-card device which reads consumer's ATM card's information. Scammers swipe information from credulous customers by inserting

onto an ATM. They take a blank card and by inserting the card they are able to encode all the information when they swipe from an ATM. skimmer catches the PIN.

Spoofing: The invader creates a misleading context which false you in making an unsuitable security-appropriate decision. For example false ATM machines have been set up. If they will be having PIN number they will be having enough information to steal from the account.

Online Banking Security features: Security features available in the online banking are:

- Security token device for online banking
- Use of a secure website has become almost universally adopted
- Single password authentication
- PIN/ TAN (Transaction authentication number)
- system where the PIN represents a password, used for the login
- OTP (One time password) to user's (GSM) mobile phone via SMS.
- Signature based online banking where all transactions are signed and encrypted digitally

Online Banking Security countermeasures: Security countermeasures implemented by almost all the Banks include the following:

- Digital certificates are used against phishing and pharming
- Use of class-3 card readers is a measure to avoid manipulation of transactions by the software in signature based online banking variants
- Users should use virus scanners and be careful with downloaded software or e-mail attachments to protect Trojan attacks

2.4 Mobile Banking

Mobile Banking: Mobile banking is a system that allows customers of a financial institution to conduct a number of financial transactions through a mobile device such as a mobile phone or personal digital assistant.

Mobile banking differs from mobile payments, which involve the use of a mobile device to pay for goods or services either at the point of sale or remotely, analogously to the use of a debit or credit card to effect an EFTPOS payment.

The earliest mobile banking services were offered over SMS, a service known as SMS banking. With the introduction of smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers.

Mobile banking has until recently (2010) most often been performed via SMS or the mobile web. Apple's initial success with iPhone and the rapid growth of phones based on Google's Android (operating system) have led to increasing use of special client programs, called apps, downloaded to the mobile device. With that said advancements in web technologies such as HTML5, CSS3 and JavaScript have seen more banks launching mobile web based services to complement native applications.

Importance of Mobile banking for the Banks: Mobile Banking is an important facility provided to its customers because of the following reasons:

- Proactive and simple alerting services reduces branch/ call centre costs
- M-commerce is expected to account for an increasingly high proportion of transactions.
- Mobile device can be an ideal POS device allowing transactions to be authorized in many more places than ever before
- Mobile services are expected to generate access to new business opportunities &new alliances across business sectors
- High market penetration (up to 80% in some countries) and still growing

Advantages of Mobile Banking:

- **Customers:** Many of the benefits of doing your banking online are obvious:

  You don't have to wait in line.

  You don't have to plan your day around the bank's hours.

  You can look at your balance whenever you want, not just when you get a statement.

- **Banks:**

  Control costs, removal of cost duplication

  Cater to increasing online channel customers

  Personalize customer interactions

  Unparalleled convenience and proactive customer service

  Cross selling

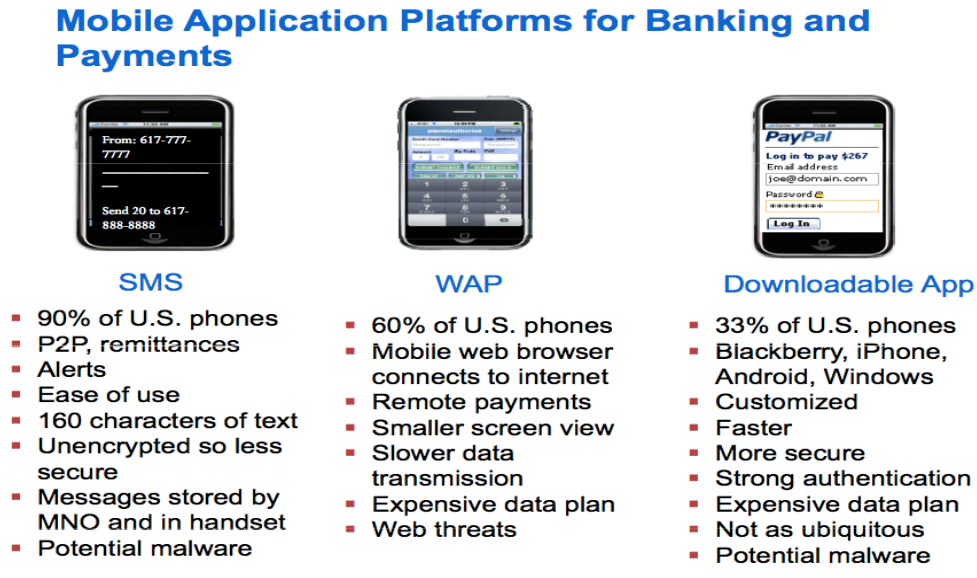
Mobile Banking services:

- Fast data services (GPRS)
- Low data transfer costs (e.g. flat rates)
- More functionality possible (new devices with better displays and browser functionality)
- Higher Security mechanisms
- Applications capitalize on the mobile aspects and diversify from existing web-based solutions

Mobile Banking security issues:

- Devices are easy to lose/ steal and get misused
- Mobile communication being sent as clear text can be read or interrupted
- Location-aware applications are considered to be invasion of privacy
- Lack of standardizations in payment solutions

Mobile banking Applications:



SMS Payments:

SMS payments are a means of paying for goods, services or products via a text message sent from a mobile phone. They work like standard SMS or Short Messaging Service. With the SMS payment system purchasers send a text message to pay for an item or service. This text message is sent to mobile payment providers. The provider clears the transaction between the purchaser and the vendor. The cost of the purchase is added to the monthly phone bill or deducted from a pre-paid balance by the mobile phone operator. By using SMS payments, mobile phone users can securely, quickly and safely pay merchants, buy goods or services, real or virtual, as well as make deposits or send remittances.

Many businesses are looking at harnessing the power of SMS payments to make life easier for their customers.

Advantages of SMS Payment Systems

For the Customer

It is quick and easy to use.

The purchaser doesn't have to enter in their credit card or bank details, or even have a bank account.

They don't need to remember any passwords or user names as with payment sites like PayPal.

It is more secure as no personal details or account details are released.

For the Business, Charity or Service Provider

They have instant access to billions of mobile phones equipped with SMS facilities worldwide.

They have access to millions of customers who don't have a bank account or credit card and thus were prevented from buying their goods or services before. They now have access to a whole new set of customers.

They can build upon customer loyalty via SMS marketing message, discounts and coupons.

They don't need to verify customers' identities or worry about chasing payments or cards being denied.

All the billing is handled by the mobile phone operator.

It is easy and quite often costs nothing to set up.

The main advantages of the SMS payment system for both customer and business users are that it is quick, easy and safe and SMS payments or text payments are, for those reasons, becoming one of the fastest growing payment methods in the world.

WAP Payments:

WAP Payments simply means using the Wireless Application Protocol (WAP) facility on your Smart phone to connect to the internet and then using an online payment method such as PayPal, Google Wallet or Yahoo Wallet or simply entering your credit card details into the payment box on a company's website.

Some mobile network operators allow users to pay for WAP Payments directly from their mobile phone bill as with standard SMS payments. Companies wishing to accept WAP payments need to talk to a SMS payment solutions company to ensure they get a WAP payment gateway installed on their site.

Downable Apps:

Apps are basically little, self-contained programs, used to enhance existing functionality, hopefully in a simple, more user-friendly way. Modern smart phones come with powerful web browsers, meaning

you can do pretty much anything you can do on a desktop computer in a phone's browser. Online sites and services now go down the standalone app route, giving them better control of the user experience and, hopefully, making everything simpler and quicker to open and use.

In case of online banking, you need to sign in to your bank's web site using the phone's browser, but it'll be a painful doing text entry, resizing the display so you can see the little box for the PIN, having to sign in every time and more minor modern frustrations.

A banking app simplifies the process, remembering your login information for next time and presenting the critical data about how much money you haven't got in big, chunky fonts, designed to make everything vastly more readable on a smaller phone display and that's the essence behind most apps. They aim to make life easier and tasks better suited to mobile use.

Mobile Banking facilities: Services available through Mobile Banking are:

- Account information
- Mini-statements and checking of account history
- Alerts on account activity or passing of set thresholds
- Monitoring of term deposits
- Access to loan statements
- Access to card statements
- Mutual funds / equity statements
- Insurance policy management

Investments

- Portfolio management services
- Real-time stock quotes
- Personalized alerts and notifications on security prices

Support

- Status of requests for credit, including mortgage approval, and insurance coverage
- Check (cheque) book and card requests
- Exchange of data messages and email, including complaint submission and tracking
- ATM Location

Content services

- General information such as weather updates, news

- Loyalty-related offers
- Location-based services

Security measures implemented for Mobile Banking:

- SMS channels can be used with encryption by mobile payment applications to protect data integrity and security.
- Use of crypto-Java SIM cards & PKI (Public Key Infrastructure) for establishing hierarchy of trust; non-repudiation.
- Debit/Credit cards linked to a specific phone number of consumer for added transaction security
- Implementation of secure PIN / One time password for transactions
- For a financial application, gateways should reside behind your firewall instead of the carrier premises.

2.5 Internet Banking

Internet Banking allows you to conduct bank transactions online. In a broad sense, it is the use of electronic means to transfer funds directly from one account to another, rather than by cheque or cash. Systems of banking in which customers can view their account details, pay bills, and transfer money by means of the internet. The remote delivery of new and traditional banking products and services through electronic delivery channels.

Uses of Internet Banking: Customers use a password for conducting a number of transactions like NEFT funds transfers, pay taxes, etc. On line purchases of railway / bus / hotel bookings, are all permitted in this channel. They can even fill up loan applications online. Uses of Internet Banking include the following also:

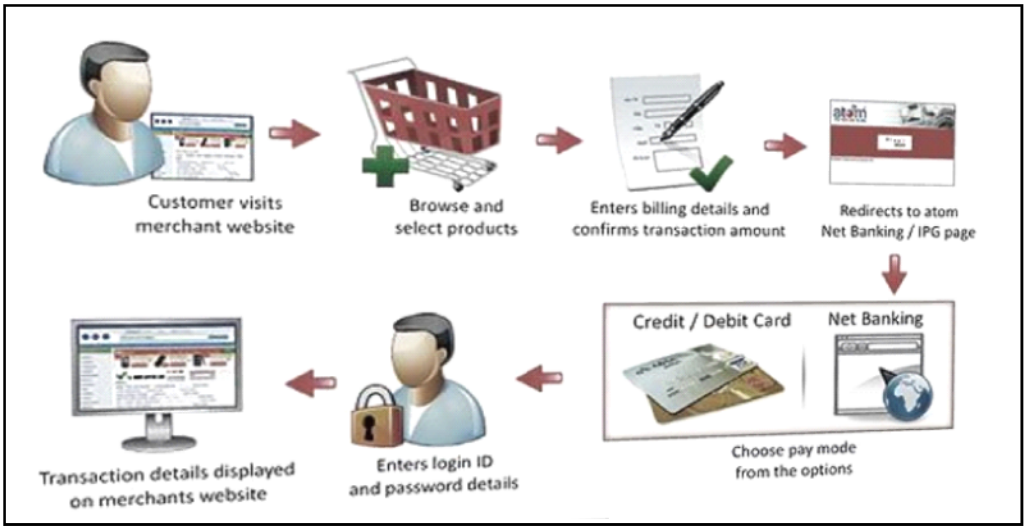
- Bill Payment
- Credit Card
- Insurance
- Customer services
- Recharging your prepaid phone
- Shopping

How to use Internet Banking?

Step 1: Access Internet Banking - Obtain your User ID and Passwords.

Step 2: Create your Own Unique User ID.

Step 3: Link the Account Number to your User ID



What are the advantages of Internet Banking?

Advantages of Internet Banking are:

- Less Cost
- Transaction speed
- Efficiency
- Speed banking
- Vast coverage
- Available 24 X 7

Security risks in Internet Banking:

Security Risks faced are similar to one faced in the online banking:

- Increasing number of fraudulent websites
- Fake emails purporting to be sent from banks
- Use of Trojan Horse programs to capture user ids and password

Precautions to be taken while doing Internet Banking:

Use of technology in banking business has tremendously increased in India as in the west. Electronic delivery channels - increased choices to customers to transact with ease and convenience. Wholesale and retail payment and settlement systems have enabled faster movement of money to settle funds among banks / customers. Precautions to be taken are:

- Ensuring security while banking online is to keep your password and pin number a secret.
- The security of your personal computer is very important for safe internet banking. Therefore, always install antivirus software and software to remove spyware.

- Checking your bank statements regularly will help you detect any transaction that has taken place without your knowledge
- While banking through the internet, make sure that the banking session is secure.
- In addition, always remember to completely log off, after completing the banking session.
- Bank have implemented One Time password (OTP) for online payments for purchases

Phishing: "Phishing" is one of the most commonly used forms of cyber attack. Phishing is the criminal attempt to acquire personal information such as usernames, passwords, and credit card details by masquerading as a trustworthy individual or entity in all sorts of electronic communication such as e-mail, websites and call to action notices."

Different types of phishing: spear phishing, clone phishing, whaling phishing

One of the frequently used phishing method is as follows:

- Customers' computers are infected by malware which the criminals control by faking questions that are normally asked by the banks
- Unaware customers answer the questions, and the criminals use the information to transfer money from the customers' accounts
- The victims come to know only when they get an SMS message of the transfer or see the balance in their accounts.

Banks try to prevent cyber attacks for its customers: A Big challenge banks facing is to educate their customers. Banks use the communication channels: websites, e-mail, SMS or social media to get the message out. Banks also warn customers to protect their computers with good quality effective Anti-virus software.

But fixing a security problem and restoring trust can be a costly and time-consuming venture. Many banks have their security systems audited and upgraded and can assure customers that they are future proof. Criminals generally keep away from the banks which are proactive in customer education and protect their systems with appropriate antivirus software.

Difference between Online Banking and Internet banking (iBanking) service: They are one & the same. "Online Banking" is the new name given to our Internet Banking or iBanking service through which customers can access their account or credit card details via internet and much more!

2.6 ATMs

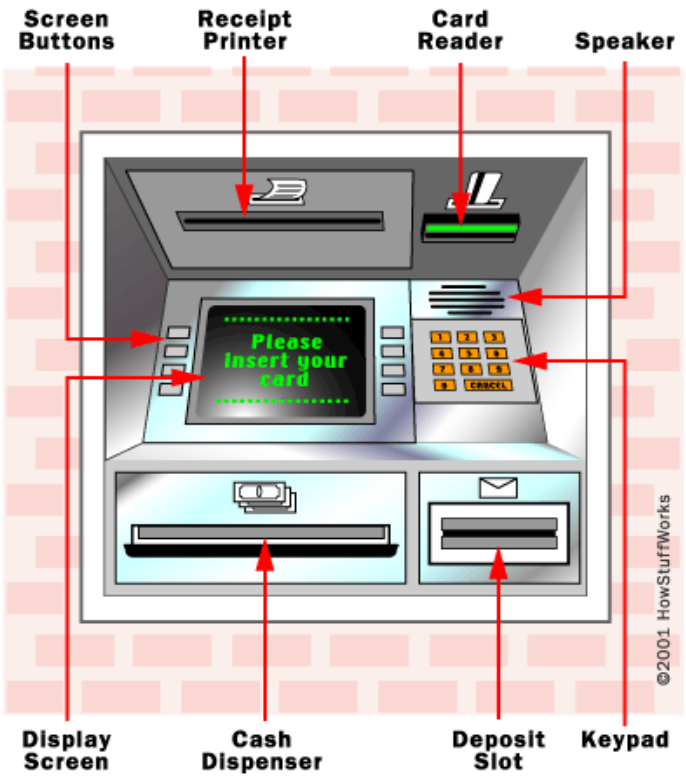
ATMs are primarily machines to securely store and dispense bank notes. ATM is a preferred self-service channel available to cardholders. The services available include payment of utility bills, topping up of mobile phones, reloading prepaid cards, etc. Other services such as payment of government benefits, entitlements, or micro loans require the disbursement of cash. ATMs are open 24/7 – customers do not have to visit their branch for withdrawing cash; ATM are Convenient to banks – since they reduce their cost of branch-operation.

Purpose of ATM: ATM is a computerized machine that provides the customers of banks the facility of accessing their account for dispensing cash and to carry out other financial & non-financial transactions without the need to actually visit their bank branch.

Uses of ATMs:

- 24-hour access to cash
- View Account Balances & Mini-statements
- Order a Cheque Book / Account Statement
- Transfer Funds between accounts
- Refill your Prepaid card
- Pay your utility bills like Electricity bills, post-paid mobile bills
- Deposit cash or cheques
- Change your PIN
- Learn about other products

Structure of ATMs:



The cards issued by banks in India may be used at any bank ATM within India. However the savings bank account holders can transact a maximum of five transactions free at other banks ATMs in a month - financial and non-financial, beyond which the customer will be charged by his/her bank.

How to use ATMs for cash withdrawal:

Customer is given an ATM (Automated Teller Machine) card with a PIN (Personal Identification Number) by the Bank where the customer has an account. Customer needs to change the password before using the card.

Customer inserts the card in the slot of the ATM machine. Select the language in which the customer wants the instruction to be given. Customer inputs the PIN using the key board.

Once the PIN is verified by the ATM, customer selects the service from the various options available. Customer selects the cash withdrawal option. Customer inputs the amount he wants to withdraw. Confirm the amount is correct. ATM will dispense the cash which the customer takes. Customer presses the exit option and the card is dispensed by the ATM which the client keeps with him. A customer has option to request for a paper transaction slip to be provided by the ATM.

If the customer has registered for SMS Alert, He will give a SMS alert on his mobile about the transaction carried out.

If card is lost / stolen, the customer has to contact the card issuing bank immediately on noticing the loss so as to enable the bank to block the card. Cash withdrawals have minimum and maximum limits per day, set by the card issuing banks. In case a transaction fails at an ATM and the account is also debited, the customer should lodge a complaint with the card issuing bank at the earliest.

There is a time limit for the card issuing banks for re-crediting the customer's account for a failed ATM transaction. As per the RBI instructions banks have been mandated to resolve customer complaints by re-crediting the customer's account within 7 working days from the date of complaint. Effective from July 1, 2011, banks have to pay customers Rs. 100/- per day for delays beyond 7 working days. If the complaint is not lodged within 30 days of transaction, the customer is not entitled for any compensation for delay in resolving his / her complaint. If the bank does not redress the complaint within the stipulated time, the customer can make a complaint to the local Banking Ombudsman.

Replenishment of cash in ATMs:

Some banks have their own arrangements to replenish the cash in the ATMs. Cash in the ATMs will be accounted for in the Branches which are managing them.

Some banks have a system in which all their ATMs are taken care of by the third party service agencies. The risks of maintenance of the ATMs and the insurance cost will be met by the Service agencies.

2.7 Summary:

- A Computer is useful as it accept, stores and retrieves data speedily. It consists of input, CPU and Output unit. CPU consists of 3 units' viz. Control unit, Memory Unit and Arithmetic Logic Unit (ALU).

- Computerized accounting arises from advantages of speed, accuracy and lower cost of handling the business transactions. Using the concept of databases and software it creates and maintains journals, ledgers, etc.
- Transaction processing system involves following steps viz. Data Entry, Data Validation, Processing and Revalidation, Storage & Information and Reporting.
- Accounting in Electronic environment consists of preparation of accounting document, recording of transactions, Preparation of P&L and Balance sheet.
- Core banking solution has a change in the ways the Banks functions; it allows 24 X 7, Anytime Anywhere Banking access from any part of the country using different channels viz., ATM, Online Banking, Mobile Banking.
- CBS system has Application level controls, IT Administrative Controls & Security, System Development Controls to ensure integrity and confidentiality of the customer data
- Online Banking means customer access his account details with the Bank using computer and internet connection. It takes away the need to go to the Branches and allows all types of transactions to be carried out.
- Mobile Banking is another facility provided where you can access your account using your mobile and the Bank applications (apps). It allows majority of services required by the customer in a secured manner.
- Internet Banking is like online banking where you can access your computer from the ease of your home.
- Each of the electronic mode of banking facing security threats like phishing, skimming and spoofing. These threats are managed by Customer Education, strong system and one time password facility.
- ATM is most useful as it replaces the Branch for the customer who does not have to electronic access. It provides 24 X 7 access to cash, View Account Balances & Mini-statements, Order a Cheque Book / Account Statement, Transfer Funds between accounts, Refill your prepaid card, Pay your utility bills, Deposit cash or cheques & change you're PIN.

Key words:

CPU – Central Processing Unit

ALU – Arithmetic Logical Unit

TPS – Transaction Processing System

CORE - Centralised On-line Real Time Environment

SOA - Service Oriented Architecture

BPM - Business Process Management

ECM - Enterprise Change Management

OTP - One time password

PKI - Public Key Infrastructure

PIN - Personal Identification number

NBFC – Non Banking Finance Company

2.8 Self Test Questions

I. Choose the correct option:

1. ATM stands for
   a) Any Time Money
   b) Automated Teller Machine
   c) Automobile Trending Machine
   d) Alternating Turing Machine
2. Phishing
   a) is an electronic instrument for fishing
   b) is related to cyber crime
   c) is one of the latest forms of wishing somebody
   d) None of the above
3. Currently, which bank has the highest ATMs network?
   a) ICICI Bank
   b) SBI Bank
   c) HDFC Bank
   d) Central Bank

Answer Keys: 1 – b, 2 - b, 3 – b

II. Fill in the blanks:

1. Full form of ALU is _____
2. Full form of CPU is _____
3. Computerized accounting uses the concept of _____

4. Data validation is made by the _____ and _____ procedures.
5. CBS is based on ___ _____ architecture.
6. CBS helps in customer convenience through _____ and _____ Banking
7. AML stands for _____
8. CORE stands for _____ ____ ____ _____ environment.
9. Online Banking _____ and Online Banking _____ is need for online banking access.
10. Controls embedded at various in CBS are: ____ controls, ____ ____ controls and security and ____ _____ controls.

Answers: 1- Arithmetic Logic unit, 2 – Central processing unit, 3 - databases, 4 – Error detection and Error correction, 5 - Service Oriented, 6 - Anywhere and Anytime, 7 - Anti Money Laundering, 8 - Centralized On-line Real Time, 9 - Id and password, 10 - Application, IT Administrative, System Development

III. Match the following:

1.	Core Banking system	Steal Login information
2.	Money Laundering	Various delivery channels
3.	Trojan Horse	Converting black money to white money
4.	Online Banking	Mobile banking
5.	Downloadable App	Bill Payment

Answers: 1- 2, 2 – 3, 3 - 1, 4 – 5, 5 – 4

IV. True or False:

1. CPU is the brain of a computer
2. Tally is the accounting software available in the market
3. Trial balance is used for accuracy of the records.
4. Computerised accounting use database oriented applications
5. CBS is networking of computers which allows anywhere and anytime banking
6. Bank customers can transact only banking tasks through online banking

Answers: 1- True, 2 – True, 3 - True, 4 – True, 5 – False, 6 – False

V. Answer the following briefly:

1. What are the non transactional tasks through online banking?
2. What were the needs of CBS system?
3. What are the benefits of online banking?
4. What are the risks of Online Banking?
5. What are the online banking security countermeasures implemented by the Banks?
6. What are the advantages of mobile banking to the Banks?
7. What are mobile apps?

VI. Answer in detail:

1. State the meaning and characteristics of Computer?
2. Explain the limitations of a Computer?
3. Explain the role of Computers in Accounting?
4. Differentiate between Manual accounting and Computerised accounting system?
5. What are the advantages and disadvantages of using Computers in Banking?
6. What are advantages of Core Banking solution to the Bank?
7. What are the controls available in CBS system and explain each of them?
8. What are the various frauds in Computerised Banking?
9. What are the advantages / disadvantages of Online / Internet Banking?
10. What are the advantages of Mobile banking?
11. What are the services provided through mobile banking?
12. What are the frauds in Credit card?
13. Explain Phishing, skimming and spoofing?
14. Explain the process of ATMs for cash withdrawal?

VII. Activities:

1. Discuss the functions of the ATM?
2. Discuss in the precautions to be followed while using ATM card?

Learning Objective – Unit 3

Location	Duration-10 HOURS			
Classroom or Banks	**SESSION -1 BANK BANCH SET UP, STRONG ROOM**			
	Learning Outcome	**Knowledge Evaluation**	**Performance Evaluation**	**Teaching and Training Method**
	After studying this topic the learners would be able to learn the process of Bank Branch Set up and Strong Room	1. Enumerate the need of a Branch 2. List the services provided at the Branch 3. Understand the roles of Branch Manager 4. List the security set up at the Branch & Strong room	1. Describe the services provided at the Branch 2. Role of the Bank Manager in cross selling 3. Describe the importance of security at the Branch & Strong room	Classroom teaching, PPT's
	SESSION -2 FRONT OFFICE, BACK OFFICE			
	After studying this topic the learners would be able to explain the concept of Front Office and Back Office and their distinct features	1. Need of segregation of roles in the Bank 2. List the functions of the Front, Middle and Back office	1. Describe the need of segregation of the Bank 2. Enumerate the functions of the Front, Middle and Back office	Classroom teaching, PPT's
	SESSION-3 SECURITY ARRANGEMENTS IN BANK			
	After studying this topic the learners would be able to learn about the need of Security Arrangements in Bank	1. Need of security at the Branch 2. Understand the RBI guidelines for security at the Branch 3. List the use of technology for branch security	1. List the importance of security at the Branch 2. List the RBI guidelines on security arrangement at the Branch 3. Explain the technology used for branch security	Classroom teaching, PPT's
	SESSION-4 CLEARING HOUSES			
	After studying this topic the learners would be able to describe the concept & role of Clearing Houses	1. Need of clearing house 2. Study the clearing house operations	. List the functions of Clearing house 2. Describe netting, clearing and settlement at the clearing house	Classroom teaching, PPT's

ORGANISATION OF A BANK OFFICE

OBJECTIVES

After reading this unit you will be able to:

- Understand the need of Branch banking and the set up of a Branch
- List the functions of Front office, Middle office and Back office
- List the key features of security arrangements in Bank and their importance
- Summarise the functions of a Clearing House

STRUCTURE

3.1 Bank Branch Set up, Strong Room

Branch set up: The Bank branch plays a very important role as the face of the Bank to the customer. The location, decor, layout of the branch and the courtesy of the branch representatives guide the customer's decision about using the bank services.

Despite growth in the number of customers using mobile and online banking to access their accounts and make transactions, branches remain the first point of call for availing financial services and products. Although in some cases such as taking out a mortgage a customer values face-to-face interaction because he is dealing with large sums of money.

In the olden days (as late as 40 years ago in the 1970's) branches were housed in big buildings to accommodate many staff members to cater to the huge number of customers for a variety of transactions undertaken personally. Today, branches do not require huge space, since all the operations are computerised and so transactions are conducted at great speed and accuracy. They also do not require too many staff members.

In Sept 2013, RBI relaxed its policy for opening of new bank branches, i.e. allowing commercial banks to open new outlets in major cities without seeking prior approval. Under the new policy, Indian banks will also be allowed to open a larger number of branches in top-tier cities over and above their allowed quota, if the banks meet certain criteria.

Branch layout should have ambiance conducive for the customers. Big banks have developed standard branch layouts across their branches for the customers to have the same feel while visiting any branch.

Branch Structure: A typical Branch has the following categorgy of staff :

- Branch Manager
- Relationship Managers
- Sales Desk manned by Officers
- DSA coordinator
- Service Desks
- Head Teller
- Tellers
- Helpers

The varieties of services offered by the branches are:

- Accept deposits of different types and maturities from the public, offering them interest on such deposits;
- Give different types of loans for different amounts and maturities to the public, depending upon their needs and creditworthiness;
- Cash deposit / withdrawals by customers from their deposit accounts are allowed;
- Exchange unusable currency notes with fresh/usable currency notes with the customers on behalf of the RBI; and then pass on the unusable currency notes to the RBI for destruction;

- Accept cheques / drafts from their customers in their favour, for collection and credit to their deposit accounts;
- Issue of drafts on outstation locations as required by customers;
- Issue Letters of Credit/Guarantees on behalf of its customers;
- Rent out Safe Deposit Lockers to its customers and allow them to operate the lockers;
- Sell Third Party Products (TPPs) like Insurance products and Mutual Fund units to its customers.

Role of Branch Manager's:

- Generally, the Branch Manager (BM) is not directly involved in matters of the front office customer service, unless there is some issue which is beyond the capacity of the front line staff.
- He represents the bank as far as the customers are concerned and so he is entirely responsible for the smooth conduct of the branch.
- The BM should take responsibility to ensure that the ambience in the branch premises is very pleasant for the customer to visit and conduct business – this involves making available adequate number of staff to handle the business at all desks, maintenance of hygiene, cleanliness, minimum infrastructure facilities like drinking water, wash-rooms, arrangement of the counters, writing desks (for customers to use while filling up forms), discussions with customers who need his intervention etc.
- There may be some matters which are beyond his powers. In such cases he should immediately approach his higher-ups for quick action. (For example, loan proposals for amounts beyond his delegated sanctioning powers);
- He should keep all the staff members informed of the latest updates on the bank's business – for example, changes in the operational rules, introduction of new products etc. This may be done by arranging periodical briefing of staff members on various aspects of banking
- He should conduct periodical meetings of all staff members to discuss the bank's performance, the branch's performance, targets to be reached, the strategies to be adopted to meet the targets etc.
- He should be well conversant with the background of the important customers of the branch.
- He may arrange for 'mass contact' programmes like meetings with the near-by Housing Society members to sell the bank's products – similarly a group of college students, group of employees in any office etc. can be target groups for mass contact programmes.
- This list is limited only but not exhaustive.

Automated Teller Machine (ATM) facility is also available along with the Branch which provides access to the customer on 24 / 7 basis.

Security set up at the Branch: Following points, about the layout and minimum security safe-guards must be kept in mind before opening a new branch.

- Selection of area for location of Currency Chests or bank branches should be done keeping the safety and security in view and commercial considerations should not be given under weightage.
- The layout of the branch, i.e. Manager's cabin, cash vaults, Cashier's cabin, entry / exit points should be designed keeping in view the security aspect.
- Proximity to Police Station and functional communication system are very important aspects for the security of bank's staff and treasure.
- The main entrance should be provided with shutter gates.
- Collapsible gate with chain and locking arrangements permitting only eighteen inches opening should be ensured at the branch entrance.
- Strong room/safe should be out of the view of the public.

Following points, about the layout and minimum security safe-guards must be kept in mind before opening a new branch.

- All instructions regarding specification for strong rooms (wherever provided) including FBR strong room doors may be strictly implemented.
- The instructions on custody of keys under dual key looking mechanism and safe-keeping of duplicate keys may be strictly implemented.
- Care may be taken while positioning the cashiers' cabin which may be as far away as possible from the entry/exist.
- Emergency lights should be installed and should always be in working condition.
- Windows / ventilators should have proper standard grills.
- Posting of guards (armed or otherwise) should be decided on the vulnerability of the branch, keeping in the view the threat perception in the area.
- All the modern security equipments like night latches to cashier's cabin, grill gates to strong rooms, alarm system etc. should be provided.
- Hot line connection/s to Police Station / Police Control Room / Fire Brigade and auto dialler, if found necessary, should be provided to all Currency Chest and Branches.
- All weak points like opening for exhaust fans and air-conditioning ducts, skylights and windows should be strengthened with appropriate RCC work or steel plates, steel grilles etc. Unnecessary windows should be closed permanently.
- Gun and ammunition should be kept in metal gun cabinets. It should have more than the normal number of two hinges and adequate/strong locking managements.

- Gun cabinets should be embedded in the wall, if they are not kept inside the strong Room. Proper review of such embedment of Gun Cabinet should be made.

Branch Security set up:

- Police should be requested to step up patrolling in night in the areas around the bank branch, especially on Saturdays and Sundays nights or on long week-ends or consecutive holidays.
- Surprise visits to the High - risk branches by the Officers from Area and Controlling Offices should be arranged to check and implement various security measures.
- Electrical shafts / electrical junction boxes should also be strengthened and kept locked.
- The Police authorities should be consulted before locating a branch.
- The branches, which have no security arrangements at night, may be provided with sensors connected to alarm system and if possible to an auto dialler.
- In addition to the provisions of intruder alarms and police patrol of the branches during holidays / long weekends, locals may also be involved to keep a watch especially with regard to suspicious movement, noises during night etc. during holidays/weekends.

Bank Strong Room (Vault): A Bank vault (or strong room) is a secure space where Money, Valuables, Records and Documents can be stored. It is intended to protect their contents from theft, unauthorized use, fire, natural disasters, and other threats, just like a safe. Modern bank vaults typically contain many safe deposit boxes, as well as places for teller cash drawers, and other valuable assets of the bank or its customers.

Bank Vault Operations: Following care should be used for Vault Operations

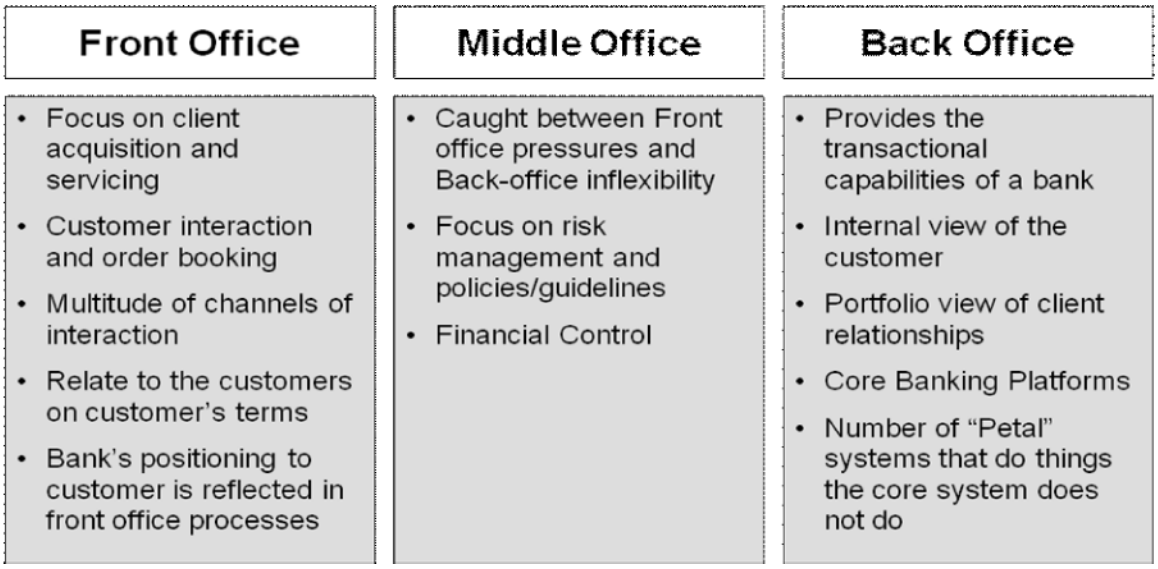
- 2 separate custodians of dual key locking mechanism
- Safe-keeping of duplicate keys at offsite and exchange once in 6 months
- Combination lock password to be kept at offsite
- Designation of Primary & Secondary custodians
- Audit trail for change in custodian
- Audit trail of daily opening and closing of vault with timer & arming of systems details
- Grill door to be locked all the time

Bank Vault comes with various technologies such as dual combination lock with timer, Grill Door with dual keys for operations and technology devices such as heat sensors, motion detectors and alarms. Vaults should be fire resistance standards which need to be followed as laid down by RBI.

3.2 Front Office & Back Office

Banks are divided internally into three areas which are Front office, Middle office and Back office.

The reason for segregating the functions into different office is to have segregation of roles and responsibilities to avoid frauds and ensure accountability and have a better focus on each area. Employees require different skills for carrying out various operations.



Front Office: As the name suggests, Front Office is the front (face) of the Bank to its customers. Front office is responsible to take care of the customer needs and also to get new customers for the Bank. Their main activity is to sign up new customers for the Bank. Front office staff consists of the sales personnel and corporate finance employees. It's in the front office where revenues are generated.

The staffs of the Front office are the first to come into contact of the customer, it is important to always remember the vision, mission and theme of the bank. Their duties vary from making and receiving phone calls to any other duty that might be assigned.

Middle Office: Middle office manages risk and IT resources for the Bank. Middle office is seen more in the case of Investments Bank operations. Middle office workers are an integral part of making money for the Bank. They directly support a deal but their actions have to be initiated by front-office staff. A middle office worker cannot as a result of their own actions increase bank profits.

Functions of the Middle office include Regulatory compliance, Risk management and financial control for the institution. This differs from customer service operations at the front office and the technical support tasks undertaken in the back office. Employees in the middle office may be engaged in a variety of activities to assist their superior authorities.

One aspect of the work in a bank middle office is regulatory compliance. Staff members need to keep track of current and pending legislation that pertains to the bank's activities. They draft documents to educate other employees, maintain records for inspection by government officials, and research planned

product offerings to determine if they fall within the law. If bank staffs have questions about the legality of an activity, they can consult the middle office for a review and recommendations.

Risk management involves analysis of financial markets and products to help banks make the right decisions. Bank middle office staff may recommend purchases and sales of securities and other financial products. They can also be involved in product development to help the bank limit risks and increase the earnings. Policies concerning lending and other activities may originate in studies conducted by the middle office to explore risks and benefits and make suitable recommendations on how to proceed.

Financial control involves the management of a firm's assets. The bank middle office can choose how and where to invest and maintains detailed records on the bank's financial health. This ties in with regulatory compliance and risk management, as the bank personnel need to obey certain legal requirements and must consider potential risks when they decide how and where to invest money. Their detailed records may also be open to auditors and other interested parties who want to keep track of the bank's activities.

These members of a bank's middle office staff may need to attend conferences, read relevant publications, and engage in other activities to keep themselves up to date with the developments in the word of finance. This helps keep them aware of trends and ready to adapt as the market developments.

Back Office: Back offices provide administrative and support services to the front office. An efficient back office is vital because if customers don't get statements and confirmations on time they will dislike the bank and may shift to some other bank.

Functions of the Back office: The functions carried out by the Back office are:

- Checking and Opening Clients' accounts as per the details provided
- Issuance of cheque books
- Execute Clients' instructions
- Cheque clearing
- Positioning for all Bank products viz. cheques, cards, personal loan, mortgage loan etc
- Sending statements
- Resolving clients queries
- Processing clients' standing instructions
- Making changes to clients' static data
- Closing clients accounts
- Processing all EMI
- Reconciliation of all entries processed

3.3 Security Arrangements in Bank

In this section we will discuss the security arrangements for the various equipment / channels provided by the Bank.

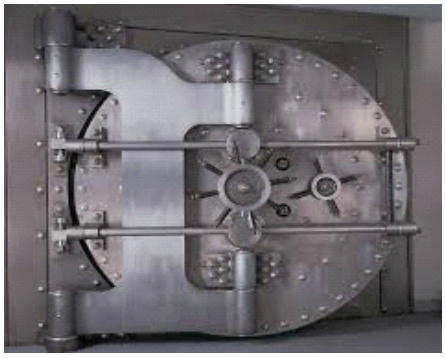
ATMs Security Arrangements: As organized global crime syndicates target ATMs, the financial industry needs a global ATM security standard to promote the availability of secure ATMs. Some of the arrangements are as follows:

- ATM should be equipped with a security camera and well lighted to have proper recording
- Banks deploy unarmed security guards personnel or caretakers.

Branch Security measures: Bank security becomes important as customers are continuously coming in and going out. Cash is handled by the customers and the teller(s). Hence, it is important to have proper security arrangement to protect the customers and the Bank.

- The entrance / exit gate should be always guarded by a gunman. The gate should be open to permit entry or exit of only one person at a time. This will prevent the miscreants to run away quickly if they try to do some mischief.
- All other entries to the branch hall should be closed to prevent anybody from entering or exiting the bank from that entry point.
- Burglar Alarms should be fixed at several places in the branch, including one each in the Vault cash cabin/s, in the cash manager's box or desk, or branch manager's cabin.
- CCTV should be fixed at strategic places at the entrance, cash cabin, inside & outside in the vault and also in the ATMs.
- Burglar alarm attached to the door of the vault should be heard in the road side also. In case of breaking open of the Vault's door after the closure of the branch, there should be an alarm bell in the nearest Police Station as well as at the residence of the branch manager.
- Fire Extinguishers have to be provided in several places within the branch premises - solid, liquid and chemical extinguishers, to extinguish fire from different cases. Fire may occur due to electrical short circuit, paper or oil stored in the premises catching fire etc.

Bank vault security arrangement:



Entire cash and all other valuable items are to be stored in the vault for overnight.

Bank vault is a secure space specially constructed with RCC on all sides as per specifications laid down for bank vaults. Lockers are also situated inside the vault. The vault protects their contents from theft, fire, natural disasters, and other threats. Burglar alarm, Fire alarm and CCTV are all fixed as per mandate of RBI.

Fire Sensor **Hooter** **Camera**

RBI has stipulated safety measures for the vault security as follows:

- The main entrance should be provided with shutter gates. After business hours, the shutter should be half-closed so that customers or anybody else do not enter the premises.
- The cashiers' cabin has to be as far away as possible from the entry / exist.
- Emergency lights should be installed and should always be in working condition. Windows / ventilators should have proper standard grills to prevent entry of burglars.
- Posting of guards (armed or otherwise) should be decided keeping in view the location of the branch and the assessment about the possibility of security threats.
- Currency Chest branches should have two armed guards throughout the day and night to ensure round-the-clock safety.
- Night latches have to be provided to cashier's cabin, grill gates to vaults, and alarm system etc. should be provided.
- Hot line connection/s to Police Station / Police Control Room / Fire Brigade and auto dialer should be provided to all Currency Chest Branches irrespective of the monetary holding limits.
- All weak points like opening for exhaust fans and air-conditioning ducts, skylights and windows should be strengthened with appropriate RCC work or steel plates, steel grills etc.

3.4 Clearing Houses

Payment Systems : The financial system provides transfer of funds from payers to payees through two systems i.e. paper based mechanism (e.g. Cash, Cheques, Drafts etc.) and paperless mechanism (e.g. Electronic Funds Transfer)

Clearing is an arrangement through which a bank exchanges cheque drawn on other banks are received by it for collections with the cheques which are drawn on it and sent by other banks for collection from it

Clearing House: is a place where banks that are members of the clearing house meet to exchange the cheques. Outward clearing refers to instruments that are deposited by customer that are drawn on other banks that need to be presented at clearing. Inward clearing means all the paper based instruments that have to be presented at the drawer bank either in person or by another bank in clearing for collection

Clearing House Functions:

- Facilitate the exchange of instruments
- Settlements of Claims
- Settlements with Major Banks
- Settlements with the Central Bank

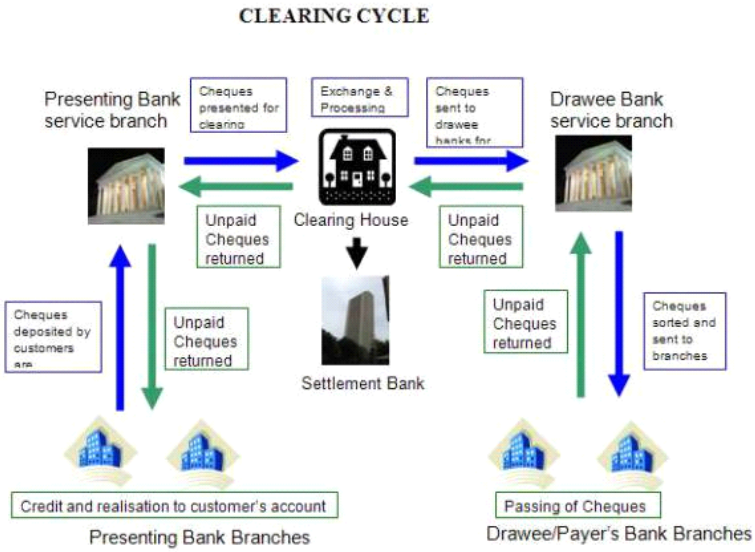
Clearing houses clear and settle transactions relating to various types of paper based instruments like cheques, drafts, payment orders, interest / dividend warrants, etc.

Normally, clearing activity is carried out by the Clearing house appointed by the central banker, but it can be outsourced to a vendor also or carried out by another bank appointed by Central Bank.

Clearing process in India: In India, the clearing system is local and confined to a defined jurisdiction covering all the banks and branches situated in the area under a particular zone. The clearing house is a voluntary association of banks under the management of a bank where the settlement accounts are maintained. Wherever Reserve Bank of India has its office (and a banking department), the clearing house is managed by it. In the absence of an office of the Reserve Bank, the clearing house is managed by the State Bank of India, its associate banks and in a few cases by public sector banks.

Currently, in India, there are about 1050 cheques clearing houses. These clearing houses clear and settle transactions relating to various types of paper based instruments like cheques, drafts, payment orders, interest / dividend warrants, etc. In 40 of these clearing houses, cheque processing centres (CPCs) using MICR (Magnetic Ink Character Recognition) technology have been set up. At 14 more clearing houses, MICR cheque processing systems are proposed to be set up. The Reserve Bank has issued the Uniform Regulations and Rules for Bankers' Clearing Houses (URRBCH) which has been

adopted by all the clearing houses. These regulations and rules relate to the criteria for membership / sub-membership, withdrawal / removal / suspension from membership and the procedures for conducting of clearing as well as settlement of claims between members.



The clearing process begins with the deposit of a cheque/other clearing instrument referred to above by the customer in a bank. The bank arranges these cheques submitted to it for clearing, bank wise and presents them through the clearing house to other banks. When there are more than one bank branch of a bank in the clearing area, they would have a coordinating branch/ service branch to take care of presenting the cheques to the clearing house. Upon receipt of the cheques/other instruments, they are passed for payment if the funds are available and the banker is satisfied about the genuineness of the instrument. The cheques that are unpaid are returned to the presenting bank through another clearing called the Return Clearing. The realization of the funds occurs after the completion of return clearing and by the absence of an unpaid cheque

Settlement of Funds: The settlement of funds in clearing occurs at several levels. The aggregate amount or value of cheques presented by a bank on other banks represents the claim by that bank on other banks. Similar claims are made by all the banks on every other bank in the clearing. A net settlement is arrived at the clearing house and the debit or credit position of the bank is determined. These are booked in their current accounts maintained by the settling bank. This represents inter- bank settlement. The settlement of funds between the service branch and the branch concerned represents the transfer of funds to the branch level. The payment process is completed only when the funds are debited from the drawer's account and credited to the payee's account. This occurs after the completion of the return clearing mentioned above.

3.5 Summary

- Today branches are the technology hubs, small and compact operations where customers carry out face to face banking services. Branches would have ATMS, Hotline to Phone Banking, and PC with Internet access for the customers.

- Branch Manager is the face of the Bank to its customers and hence need to be courteous, tactful and do cross selling of Bank products to existing customers.
- A Bank vault (or strong room) is a secure space where Money, Valuables, Records and Documents are stored. RBI has laid down guidelines for vault operations and specifications. RBI recommends using technology devices such as Heat sensors, Motion detectors and alarms for the protection of valuables in the vault.
- Bank has been segregated into three areas Front office, middle office and back office for the purpose segregation of roles and responsibilities to avoid frauds and ensure accountability.
- As the Bank deals with money, security is a key issue for the Bank. RBI has provided guidelines for the security of the Branch, ATM, Currency Chest and use of CCTV, Emergency Lights, Burglar alarm, Hotline to Police & Fire Brigade with auto dialer.
- RBI runs the clearing house for the payments and collection of cheques using Cheque Processing centre using Magnetic Ink Character Recognition (MICR) using multi lateral netting, clearing and settlement mechanism.

Key words:

TPP - Third Party Products

BM- Branch Manager

ATM – Automated Teller Machine

DSA - Direct Sales Agents

CPC - Cheque processing centres

MICR - Magnetic Ink Character Recognition

URRBCH - Uniform Regulations and Rules for Bankers' Clearing Houses

3.6 Self Test Questions

I. Choose the correct option:

1. Which part of the Bank is known as the revenue generator?
   a) Front Office
   b) Middle Office
   c) Back Office
2. Which office of the Bank is known as the SWEAT shop?
   a) Front Office
   b) Middle Office
   c) Back Office

3. Reconciliation of entries is carried out by which part of the Bank?
   a) Front Office
   b) Middle Office
   c) Back Office
4. Which activities are outsourced to the BPO?
   a) Front Office
   b) Middle Office
   c) Back Office
5. What comes first?
   a) Settlement
   b) Clearing
6. _____ is not a paper based ways of transferring money?
   a) Cheques
   b) Pay order
   c) ECS Credit
7. In absence of RBI branch in a particular city, which Bank acts as the clearing house
   a) SBI
   b) HDFC Bank
   c) Dena Bank
   d) Canara Bank
8. Actual payment of money by one Bank to another is known as?
   a) Multi lateral Netting
   b) Clearing
   c) Settlement
9. If everyone pay their share of amount owned to each, it is known as ____
   a) Multi lateral Netting
   b) Bi - lateral netting
   c) Gross settlement

Answers: 1 – a, 2 - c, 3 – c, 4 – c, 5 – b, 6 – c, 7 – a, 8 – c, 9 – c.

II. Fill in the blanks:

1. Bank Operations is segregated into ___ areas

2. _____ office face the client
3. _____ office carries out the transaction processing for the Bank
4. _____ office manages the risk for the Bank
5. _____ office manages the IT resources for the Bank
6. Selling other products to an existing customer is known as _____ selling
7. Officers holding keys to the Drill door of the vault are called vault _____

Answers: 1- 3, 2 – Front, 3 - Back, 4 – Middle, 5 – Middle, 6 - Cross, 7 - custodian

III. Match the following:

1.	Bank Manager	Mutual Fund
2.	Third Party Product	Face of the Bank to the customer
3.	Strong room	Regulatory compliance
4.	Back office	Dual keys for operations
5.	Middle office	Sweat shop of the Bank

Answers: 1- 2, 2 – 1, 3 - 4, 4 – 5, 5 – 3.

IV. True or False:

1. Financial control is the function of the Back office
2. Back office does the function of executing the clients' instruction
3. Fire extinguishers / Burglar Alarms are used for the security measure of the Branch
4. Clearing house facilities the exchange of cash between the banks
5. Clearing house are managed by RBI across the country
6. Return clearing is the clearing of honoured cheque

Answers: 1- False, 2 – True, 3 - True, 4 – False, 5 – False, 6 - False.

V. Answer the following briefly:

1. Explain the functions of the front office of the Bank?
2. Explain the functions of the middle office of the Bank?

3. Explain the functions of the back office of the Bank?
4. What are the security features implemented for a Bank vault?
5. Differentiate between clearing and settlement?

VI. Answer in detail:

1. Explain the typical structure of a Bank branch?
2. Explain the Branch Manager's duties as a Retail banker?
3. What are the different service channels available to the Bank for servicing the customers?
4. What is the need for segregation of the different areas of the Bank?
5. What are the functions of Clearing House of RBI?
6. Explain the process of cheque clearing?

VII. Activities:

1. Visit a Bank's branch and familiarize the student with the services provided to the retail customer?

Learning Objective – Unit 4

Location	Duration-10 HOURS			
Classroom or Banks	**SESSION -1 CALCULATION OF SIMPLE INTEREST AND COMPOUND INTEREST**			
	Learning Outcome	**Knowledge Evaluation**	**Performance Evaluation**	**Teaching and Training Method**
	After studying this topic the learners would be able to learn the procedure of Calculation of simple interest and Compound Interest	1. Understanding of Simple & Compound interest 2. How to calculate the simple interest & compound interest	1. List the advantages of Simple & Compound interest 2. Describe the time value of money	Classroom teaching, PPT's
	SESSION-2 CALCULATIONS OF INTEREST ON FIXED RATE AND FLOATING RATE			
	After studying this topic the learners would be able to learn the procedure of Calculation of interest based on fixed & floating rate	1. Need of Fixed & Floating rate of interest 2. Parameters of Fixed & Floating rate	1. Describe the Fixed & Floating computation 2. List the use of Fixed & Floating interest for various deposit / loans accounts	Classroom teaching, PPT's
	SESSION-3 CALCULATION OF EMIS			
	After studying this topic the learners would be able to learn the procedure of Calculation of EMIs	1. Meaning of EMI 2. Understand by examples calculations of EMIs	1. Describe the interest rate risk & its impact on the EMIs	Classroom teaching, PPT's
	SESSION-4 CALCULATIONS OF INTEREST ON SAVINGS ACCOUNTS			
	After studying this topic the learners would be able to learn the procedure of Calculation of interest accumulated on saving account	1. Need of payment of interest 2. Process of calculating for savings & Overdraft accounts	1. Describe the calculation of interest for savings accounts & Overdraft accounts	Classroom teaching, PPT's
	SESSION-5 CALCULATIONS OF DATE OF MATURITY OF BILLS OF EXCHANGE (BOE)			
	After studying this topic the learners would be able to learn the procedure of Calculation of date of maturity of bills of exchange	1. Understand the concept of Grace period for BOE 2. Rules for calculation of maturity date	1. Describe process of calculation of maturity date for BOE 2. List the impact of holidays while calculating maturity date for BOE	Classroom teaching, PPT's

BASIC OF BUSINESS MATHEMATICS

OBJECTIVES

After reading this unit you will be able to:

- Understand simple / compound interest calculation and their applications in Banking
- List the differences between Fixed / Floating rates
- Understand the procedure for calculations of EMIs
- List the process of calculating the interest on Savings Bank account and Overdraft
- Understand the rules for calculation of maturity date of Bill of Exchange

STRUCTURE

4.1 Calculation of Simple Interest and Compound Interest

As the major activities of a bank are accepting deposits and giving loans, Depositors require monetary compensation for parting with their money by way of deposits with the bank. 'Interest' is the incentive or reward paid to the depositors for postponing their other expenditures and keeping the money with the bank.

Banks use the deposits to lend to the needy borrowers. Borrowers borrow money because they do not have money which they need it. So if somebody gives them the needed money, the borrower should be prepared to compensate the lender. This is called 'interest'.

So it is clear that whenever funds are lent or borrowed, the question of receiving or paying 'interest' arises;

Factors affecting Market interest rates: Market rates of interest go on changing due to various factors. Some of them are as follow:

Opportunity cost: Opportunity cost refers to any other use to which the money could be put, for example lending to others or investing elsewhere. If one can get a higher return elsewhere, the interest rate on loans will also rise.

Inflation: Simply put, inflation is the movement in prices in % per annum terms. Usually prices move only upwards. For example, now if you can buy some articles for Rs. 100 and after one year you require Rs. 111 to purchase similar articles, then the inflation is 11%. Since the lender is postponing his consumption now to use it later, he will require as a bare minimum compensation to recover enough to

make up for the inflation and plus something more as an incentive. Because future inflation is unknown, the lender will always add some 'premium' to the expected inflation rate and demand that as his interest rate.

Demand and supply: Demand for and supplies of money are the crucial factors in determining the interest rates.

Borrower Default: There is always the risk that the borrower will become bankrupt, abscond or otherwise default in repaying the loan. In order to limit the bad consequences of such situations, the lender usually adds some 'risk premium' to the interest rate already decided and quotes such rates to the borrower.

Length of time: Shorter terms are less risky from the point of view of default and exposure to inflation because the near future is easier to predict. In these circumstances, short term interest rates are lower than longer term interest rates.

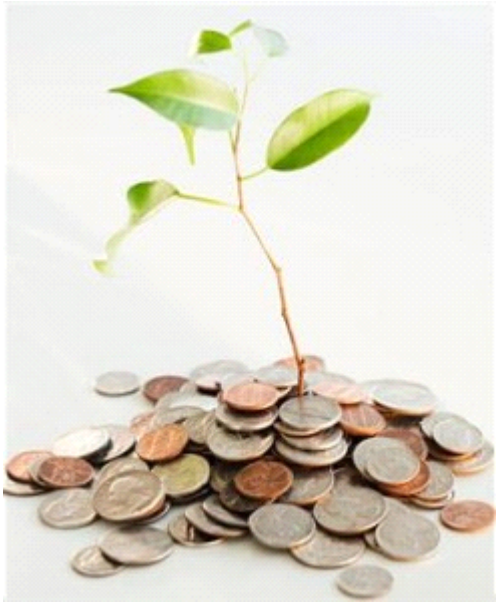
Government intervention: Government's and RBI's actions may also influence short-term interest rates.

Banks keenly follow the above factors and decide interest rates. Such rates are known as Market Interest Rates.

Default or Penal interest: Default or penal interest is the rate of interest that a borrower must additionally pay if he does not fulfil any of the conditions set by the lender at the time of lending.

Interest is always expressed in terms of percentage (%) per annum, as a normal practice, which means that the interest is calculated for period of 1 year. However, in real life situations, interest is calculated for different periods for different products, and also as per the usual practice of the bankers (as lenders while giving loans or as borrowers while accepting deposits). So appropriate adjustments have to be made in the calculations, whenever, the intervals between interest calculations differ from a year.

Calculation of Simple Interest and Compound Interest:



Money grows:

- If you lend to somebody or deposit in a bank, you get back more than what you originally lent / deposited, due to application of interest

- If you borrow, then you have to pay back more than what you originally borrowed, due to application of interest.

Risk Free Interest Rate: Risk-free interest rate is the theoretical rate of return of an investment with no risk of financial loss. One view is that the risk-free rate represents the interest that an investor would expect from an absolutely risk-free investment over a given period of time. Since the risk free rate can be obtained with no risk, it is implied that any additional risk taken by an investor should be rewarded with an interest rate higher than the risk-free rate.

Time Value of Money: The time value of money implies that a certain amount of money today has a different buying power (value) (usually more) than the same currency amount of money in the future.

While talking about interest, there are two types of calculating it: they are

- Simple interest and
- Compound interest.

"Simple" interest is easy to understand. If you deposit an amount of Rs. 10,000 in a bank as a deposit for a year carrying interest @8.50% (Remember the convention that the % is always % per annum and is not repeated every time). Here to calculate the interest element, you require three elements to calculate the interest (denoted by the letter "i").

They are:

- **Principal Amount:** The amount for which you are calculating the interest is called the "Principal" usually noted by the letter 'p' in the formula;
- **Time:** The period for which you are calculating the interest, called "Time" denoted by the letter 't' or usually in number of years denoted by the letter 'n' and
- **Rate:** The % rate at which interest is calculated, denoted by the letter 'r'

Now look at the formula:

$$i = ptr/100 \quad \text{or} \quad pnr/100$$

Depending upon whether you use t or n for denoting the period.

So using the formula in the given example, the interest 'i' is given by:

$$i = p*n*r/100 = Rs.10,000 * 1 * 8.50 /100 = Rs. 850.$$

In the same way interest on the same deposit for 5 years assuming that the interest rate is 9.25%, would be:

$$i = Rs. 10,000 * 5 * 9.25/100 = Rs. 4,625.$$

The formula given above is the standard in calculations. In real practice, banks in India pay interest every quarter.

So how do we adjust the formula?

Recall that in the formula, 'n' stands for the number of years.

So we put n =1/2 (0.5) if the interest is to be calculated for 6 months i.e. ½ a year.

On the same lines, we put n = ¼, if the interest is to be calculated for 3 months which is a ¼ or 0.25 of a year.

Similarly interest for one month is obtained by putting n = 1/12.

Practice Question: Calculate the interest on a 5 year deposit for Rs.25,000 if the interest rate is 9.50% - on a quarterly basis and on a half yearly basis.

Answer: Quarterly interest: Working: Rs. 25,000 * ¼ * 9.50/100 = Rs.593.75.

In this case, the depositor will get Rs. 593.75 at the end of every quarter from the bank.

So at the end of 5 years from the date of deposit, the bank will pay the depositor the interest for the last quarter Rs. 593.75 and also the original Principal amount of Rs. 25,000.

Half-yearly interest

Working: Rs 25,000 * ½ * 9.50/100 = Rs 1.187.50

In this case, the depositor will get Rs. 1,187.50 at the end of every half year from the bank.

So at the end of 5 years from the date of deposit, the bank will pay the depositor the interest for the last half year Rs1,187.50 and also the original Principal amount of Rs 25,000.

What we have discussed is the case of a deposit in a bank – where the bank is the borrower (debtor) and the depositor is the lender (creditor).

In the case of a loan from the bank to a customer, the roles are reversed. The bank becomes the lender (creditor) and the customer becomes the borrower (debtor). So the borrower goes on paying interest at periodic intervals to the bank.

Let us see this with an example: Calculate the interest on a loan of Rs. 1,00,000 for a period of 7 years @12.75%.at monthly, quarterly and half yearly intervals.

Answer: Monthly intervals (12 months *7 years =84 months):

Rs 1,062.50 every month and also Rs 1,00,000 in the last month i.e. at the end of 7 years.

Quarterly intervals (4 quarters in a year * 7 years = 28 times)

Rs 3,187.50 at the end of every quarter and also Rs 1,00,000in the last quarter end i.e. at the end of 7 years.

Half-yearly intervals (2 half-years in a year * 7 years = 14times):

Rs 6,375 at the end of every half year and also Rs 1,00,000 in the last half- year i.e. at the end of 7 years.

Generally loans are repayable in monthly or quarterly or half yearly installments and rarely yearly installment or entire amount at the end.

Since interest is calculated on the actual amount due, as and when the borrower repays the installments, the principal will be going on reducing and hence the interest amount also will be going on reducing as more and more installments are paid by the borrower. We will come back to this situation later. Before that let us try to understand what 'compound interest' is.

Compound Interest: Let us go back to the case of deposit in a bank.

You deposited Rs 1,00,000 in a bank for 5 years which pays you interest @ 10% .The bank has got a Fixed Deposit scheme in which the bank will not pay you interest every quarter, but will pay you all the interest and the principal in one lump sum at the end of 5 years. Since you are not in need of money for next 5 years, you agree to this scheme.

The interest calculations will change as follows:

I Quarter: The interest amount at the end of the first quarter will be, as you already know:

Rs 1,00,000 * ¼ *10/100 =Rs 2,500.

Since you are not withdrawing the interest amount of Rs 2,500, the bank is adding this Rs 2,500 to the Principal of Rs 1,00,000 and will calculate the interest for the 2nd quarter on Rs (1,00,000 + 2,500).

II Quarter: So interest for the 2nd quarter

Rs 1,02,500 *1/4 * 10/100 = Rs 2,562.50.

Again, since, you are not withdrawing the interest amount of Rs. 2,562.50.

The bank is adding this Rs2,562.50 to the Principal of Rs. 1,00,000 + the first quarter interest of Rs. 2,500.

III Quarter: So for calculation of interest for the 3rdquarter:

Principal Amount: Rs 1,00,000 + Rs2,500 + Rs2,562.50 = Rs 1,05,062.50.

So the interest for the third quarter will be

=Rs.1,05,062.50 *1/4 * 10/100

= Rs. 2626.56.

So proceeding like this, the interest for the last quarter of the 5th year, i.e. 20th quarter, will be = Rs.1,59,865.02 *1/4 *10/100 = 3,996.62

Assignment: Calculate the interest for every quarter

Thus the total amount to be received by y

Rs1,59,865.02 + Rs3,996.62= Rs1,63,861.64.

So you can observe in this process that you have earned further interest on the interest amount you have not withdrawn.

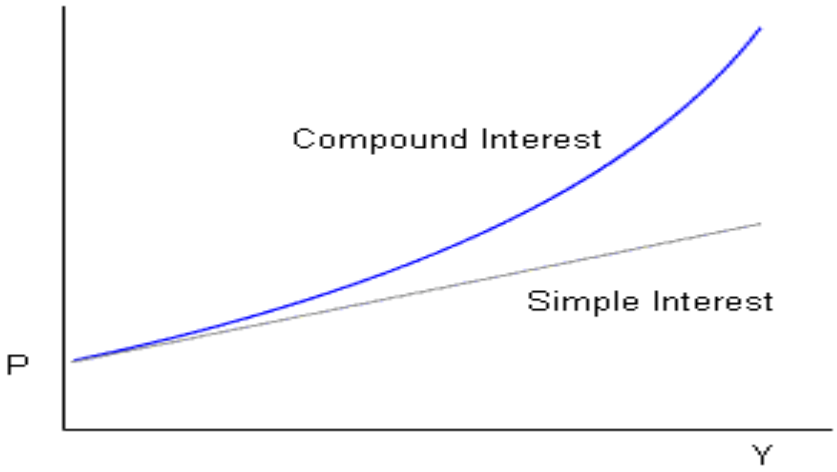
This process of calculating interest on interest is called 'compounding'.

To put in other words:

Your deposit of Rs 100,000 has earned an interest amount of Rs 63,861.64 @ 10% compounded on quarterly basis.

Compare this with the position if you had withdrawn interest at every quarter end. You would have earned Rs 2,500 * 20 times = Rs50,000 for the 5 year period towards interest and so you would have got back a total amount of Rs1,50,000 from the bank.

It is clear that due to the effect of 'compounding' the interest, you got Rs 13,861.64 more compared to the 'simple' interest calculation method.



Period along the X – axis (denoted by 'Y' for years) and

Principal along the Y – axis (denoted by 'P' for Principal)

Please note that calculations are the same and so whether you are paying or receiving interest depends upon whether you are a borrower or a depositor.

You have seen how compound interest is calculated period by period and going on with the same process till you reach the end of the total term. This is really monotonous and time consuming. Take the help of a Scientific Calculator or a computer. (Nowadays most of the Cell Phones have good calculators in them).

In the above example, use the formula: $A = P * (1 + r)^{\wedge n}$,

Where:

- A is the total amount of the initial Principal and accrued interest;
- P is the initial Principal amount;
- r is the interest rate in % per annum converted for the period
- of compounding; and
- n is the number of times you have to compound.

In the previous example: A has to be found out/calculated;

P = Rs 1,00,000;

r = 10%/4 i.e. 2.5% for quarterly period interest, we have to compound 4 times in a year and

n = 20 (since there are 20 quarters in 5 years)

So using the formula,

A = Rs.1,00,000 * (1 + 2.5/100)^20

A = Rs. 1,63,861.64

Home work: Calculate 'A' if the compounding is to be done

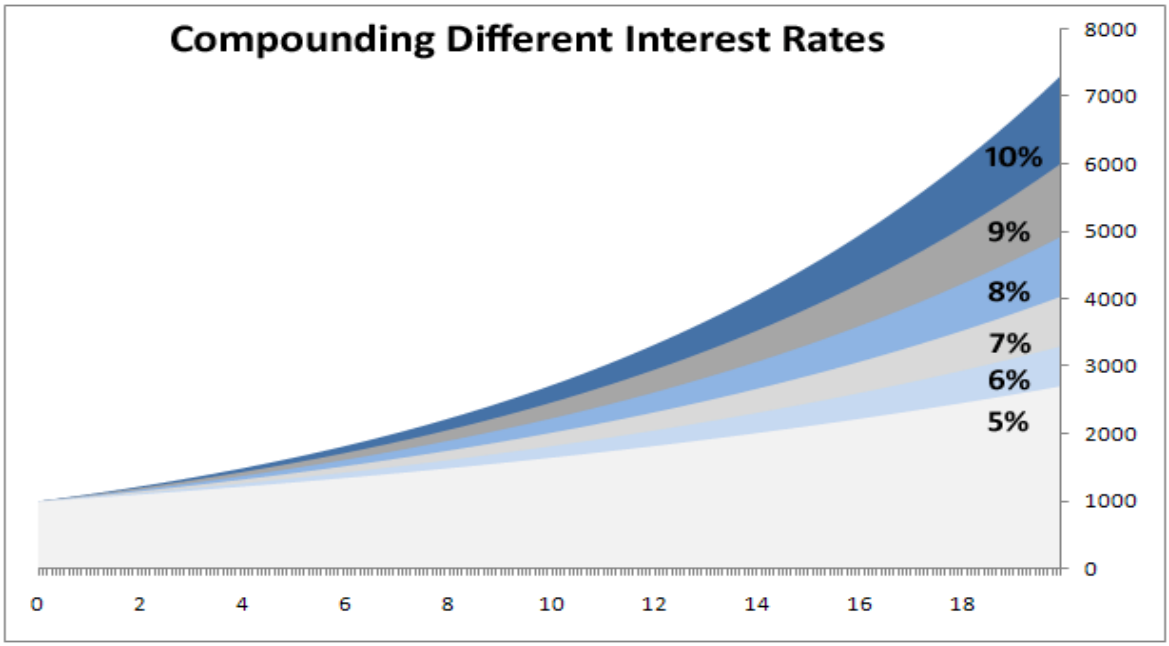
- Every one year,
- Every Half year and
- Every month.

Answers:

- Every one year: Rs.1,61,051
- Every Half year: Rs.1,62,889.46 and
- Every month Rs. 1,64,530.89

By looking at these answers, you can easily understand that as the frequency of compounding (n) increases, 'A' also increases for the same Principal (P), interest (i) and period (no. of years)

This following graph will help you understand better:



(No. of years on the X-axis and amounts on the Y-axis)

This following table shows the maturity value of $10,000 over different periods at different rates of interest.

Initial Investment = $10,000

Time (Years)	Rate of Growth					
	5%	6%	10%	11%	15%	20%
5	12,763	13,382	16,105	16,851	20,114	24,883
10	16,289	17,908	25,937	28,394	40,456	61,917
15	20,789	23,966	41,772	47,846	81,371	154,070
20	26,533	32,071	67,275	80,623	163,665	383,376
25	33,864	42,919	108,347	135,855	329,190	953,962
30	43,219	57,435	174,494	228,923	662,118	2,373,763
35	55,160	76,861	281,024	385,749	1,331,755	5,906,682
40	70,400	102,857	452,593	650,009	2,678,635	14,697,716

Rate of Return: In finance, return is a profit on an investment. It comprises any change in value, and interest or dividends from the investment. Conversely, a loss instead of a profit is described as a negative return.

Rate of return is a profit on an investment over a period of time, expressed as a proportion of the original investment. The time period is typically a year, in which case the rate of return is referred to as annual return. Return, in the second sense, and rate of return, are commonly presented as a percentage.

4.2 Fixed and Floating Interest Rates:

Fixed Rate Interest: When the rate of interest applied to a loan or a deposit remains constant and unchanged from the beginning till the maturity of the loan/deposit, it is called "Fixed Rate of Interest'.

Interest rate remains fixed irrespective of market conditions. The borrower or the depositor has peace of mind as he need not worry about the future cash-flows since they are all fixed and known in advance. The uncertainty about the quantum of cash-flows over the period is removed. Thus it brings a sense of certainty and security.

Floating Rate Interest: Floating interest rate as the name implies is the rate of interest which varies with market conditions. The biggest benefit with floating rate home loans is that they are cheaper than fixed interest rates. So, if you are getting a floating interest rate of 11.5 per cent while the fixed rate loan is being offered at 14 per cent, you still save money if the floating interest rate rises by up to 2.5 percentage points. Even if the floating rate goes over the fixed rate, it will be for some period of the loan and not for the entire tenure. The interest rates may fall over a long period and, thus, the floating interest rate brings a lot of savings.

The drawback with floating interest rates is the uneven nature of monthly instalments. This makes it difficult to budget with floating interest rate home loans. As seen in recent times, due to the hike in floating home loan interest rates, the borrowers had to shell out thousands per month extra as their EMIs, throwing their entire budget out of order.

In the case of floating interest rate, the total amount of interest is not determined for the entire period of loan, at the time of borrowing, but is dependent on some underlying index, which goes on changing, i.e. 'floating' in financial terms.

For example, a person may borrow Rs 1,000,000 at an interest rate equal to the Bank's Base Rate (BR) + 1% per annum. Here the bank' base rate is the floating index. A Bank's 'Base Rate' is normally the minimum rate of interest that the bank will charge from any borrower.

Every Bank in India has to decide its BR based on some factors as prescribed by RBI and BR goes on changing periodically depending upon the changes in the parameters prescribed by RBI.

However, during the period when the bank's BR does not change, the total interest that has to be paid by the borrower also does not change. Further in the above example, where the interest rate fixed is BR + 1%, 1% is called the 'margin' over the index. But once the margin over the BR is fixed (like 1% as mentioned above) for a particular loan, will remain constant till the loan is fully repaid. So, the total rate of interest will change only when the BR will change (either upwards or downwards).

So a 'Floating Rate of interest' borrower may find that his total interest rate may come down or may go up depending upon the movements in the BR. BR is generally used as the Floating Index for all borrowers like Retail customers.

For well informed corporate borrowers more, sophisticated indices like MIBOR is used. MIBOR stands for Mumbai Inter Bank Offered Rate This is the rate at which banks in Mumbai offer loans to one another.

But there is a huge difference between BR and MIBOR. BR does not change daily but changes as and when economic situations warrant. MIBOR is decided on a daily basis based on the demand for and supply of funds among banks.

The procedure is to take the MIBOR prevalent on the date of arranging the loan. By mutual agreement, the chosen MIBOR will be re-set at the end of 3 months or 6 months as agreed between the lender and the borrower. Depending on the period of reset, the lender also borrows from the market for the same period and on-lends to the borrower with the mark up of the margin.

Let us taken an example for easy understanding:

MIBOR on the date of agreement for loan between a bank and a corporate say 20th March 2014: 7.5%; Margin agreed over the MIBOR: 3%, agreed reset is every 3 months. What it implies is that the bank will charge interest @ (7.5%+ 3%) i.e. 10.5% to the corporate for the three month period from 20/03/2014 to 19/06/2014. Even though MIBOR changes daily, neither the bank nor the Corporate is affected by such changes since both of them are committed.

On the reset date viz. 20/06/2014, suppose MIBOR is 7.65%, then from that date onwards the bank will charge interest at 10.65% to the corporate up to 19/09/2014. This process goes on till the maturity of the loan.

4.3 Calculation of EMIs:

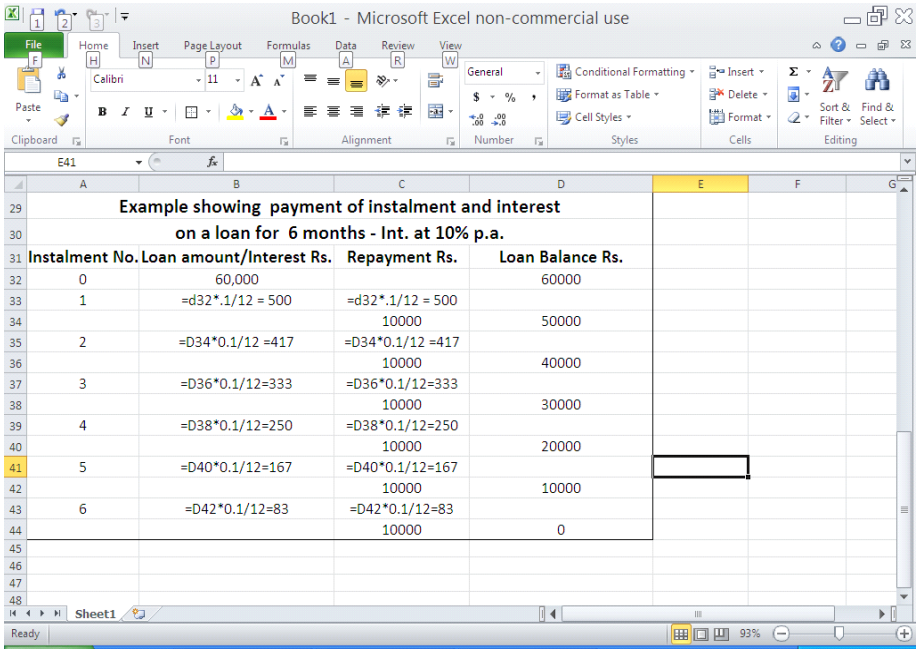
What is EMI?

An Equated Monthly Instalment (EMI) is defined as "Payment of a fixed payment amount made by a borrower to a lender at a specified date each calendar month. Equated monthly instalments are used to pay off both interest and principal each month, so that over a specified number of years, the loan is fully paid off along with interest."

The benefit of an EMI for borrowers is that they know precisely how much money they will need to pay toward the repayment of loan each month, thus making the personal budgeting process easier.

For example, a borrower has taken a loan from a bank for Rs 60,000 and has agreed to pay Interest @ 10% per annum on monthly interval basis and also pay an installment of Rs 10,000. So the loan has to be cleared in 6 months. See how the interest is calculated for the first month: see the cell no.B33. This cell calculates the interest on the previous month's balance which is in the cell D32. Interest rate of 10% per annum is shown as 0.1 and period of a month is shown as 1/12, since interest is calculated on monthly intervals.

Column B shows the interest payable by the borrower in the respective months. The same amount is repeated in Column C to show that the borrower pays the interest and also pays the installment. Column D is arrived at by taking the previous month's balance, adding the interest calculated in column B and then deducting the repayments by the borrower as shown in the column C. This process goes on till the loan is fully paid.



If you observe column C, you can find that the borrower has paid Rs 10,500 in the first month and paid Rs 10,083 in the last month. The variation in the installments paid is due to the variation in the interest amounts.

The previous table is simple enough to construct if you know elementary Excel.

Now look at the same example re-worked with the assumption that the borrower pays a constant amount of installment (EMI) uniformly from the beginning till full repayment of the loan. Here the borrower has paid some amount which includes the actual interest amount + some varying amount towards the Principal. Here the Principal amount paid per month has varied as against the previous table where the interest amount has varied. However the loan is completely repaid in the same period of 6 months as in the previous case.

But the question is how to calculate the EMI?

Use this formula: (You can use a calculator also)

EMI = [(P*r/1200)*(1+r/1200)^N] / [(1+r/1200) – 1]

P = Total loan amount, Rs.60,000;

N = Number of installments, 6

r = Rate of interest, 10%

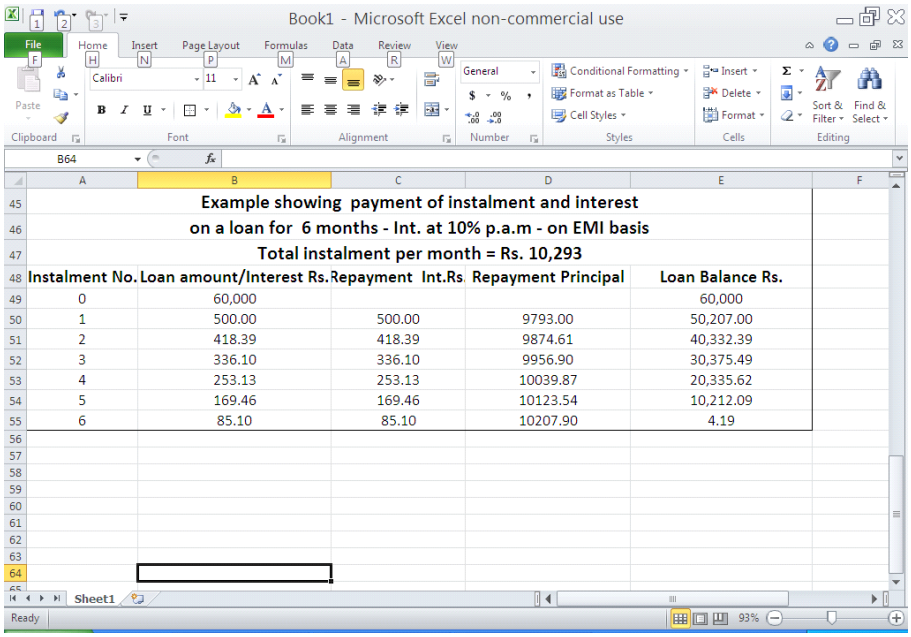
What we have done is to add the Principal amount to the total accrued interest for the entire period of the loan and then divided that total amount by the number of installments to arrive at that uniform constant amount to be repaid by the borrower every month called EMI.

So applying the formula for the given example:

The EMI = [(60000*10/1200)*(1+10/1200)^6] / [(1+10/12000^6) – 1]

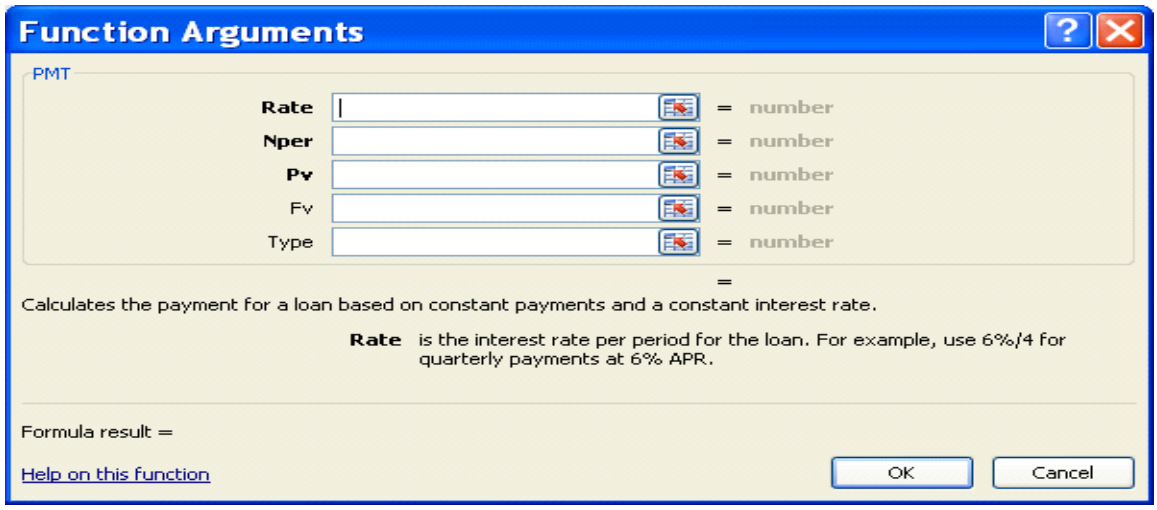
In this case this works out to Rs. 10,292.50, rounded off to Rs. 10,293.

See the actual working in the excel sheet as follows:



There is another easier way to work with Excel to solve this problem. Using this formula, whatever is the rate of interest or period or amount, you can get the EMI.

- Open an Excel sheet
- Click 'Formulas' on the top line and then click the 'fx inserts function' option which you will find on the top left.
- From the list which appears select 'PMT' and click it and you see this box.



Rate: input 10% / 12 (Since interest is calculated at monthly intervals, the rate in % is divided by 12)

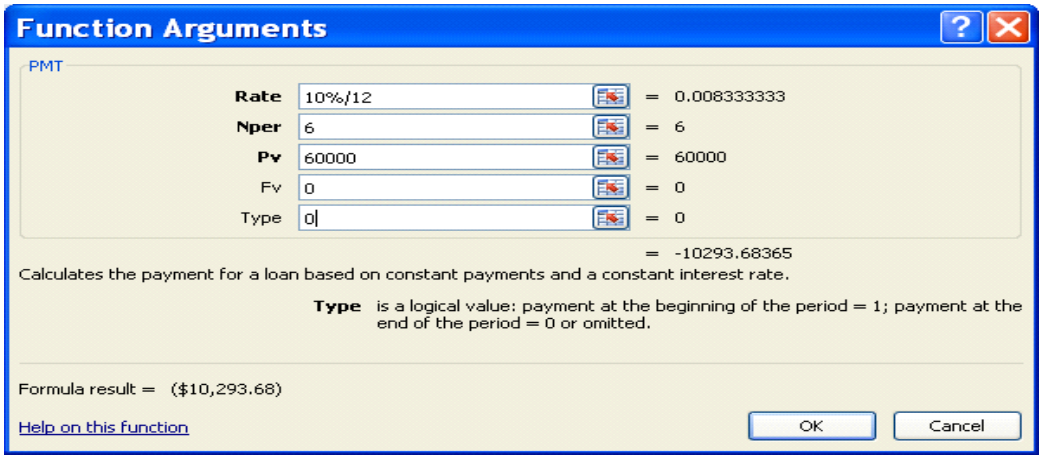
Nper: Number of months in which the loan is to be paid = 6. (Example if the loan is for 7 years, then Nper = 84)

PV: This is the total loan amount = 60000 (Enter the figure without commas)

Fv = 0 (At the end of the loan period, the outstanding amount in the loan should be zero)

Type=0 (At the end of the payment you are not making any payment i.e. you are making zero payment)

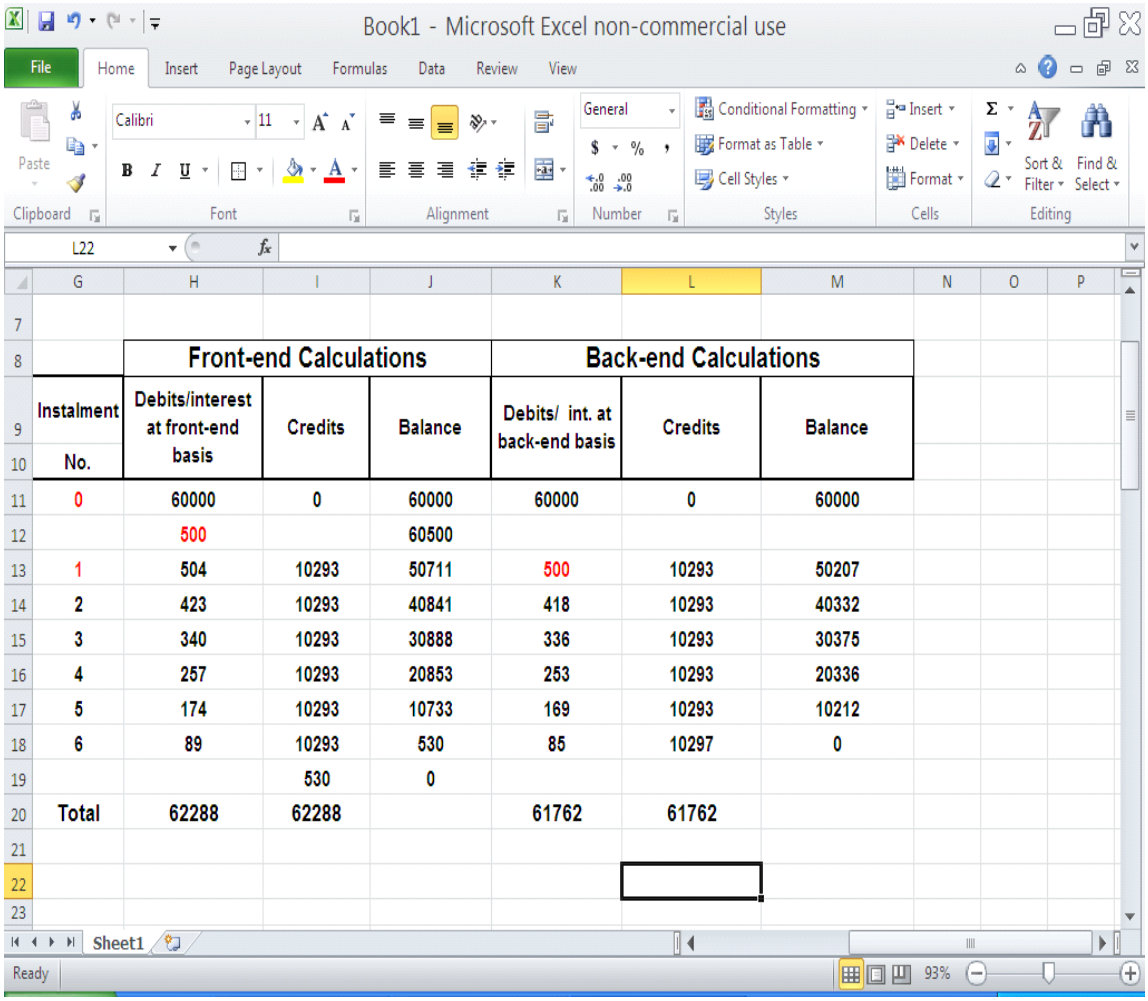
Now you can get the result instantaneously as you see here below :(The amount used is US$ in the Excel worksheet – Never mind it applies to any currency)



Do some exercises with Excel and cross-check with calculators.

Calculation of Front End and Back End Interest: Front end interest is interest calculated at the beginning of the loan installments, in advance, whereas the back end interest is interest calculated at the end of the installments when interest amounts fall due. To explain this let us go back to the previous example and work it out both ways:

Loan amount Rs. 60,000 for six months @ 10% with EMI @Rs. 10293.



	Front-end Calculations			Back-end Calculations		
Instalment No.	Debits/interest at front-end basis	Credits	Balance	Debits/ int. at back-end basis	Credits	Balance
0	60000	0	60000	60000	0	60000
	500		60500			
1	504	10293	50711	500	10293	50207
2	423	10293	40841	418	10293	40332
3	340	10293	30888	336	10293	30375
4	257	10293	20853	253	10293	20336
5	174	10293	10733	169	10293	10212
6	89	10293	530	85	10297	0
		530	0			
Total	62288	62288		61762	61762	

Back-end interest calculations are the same as what you have seen earlier.

Interest is calculated at end of each and every period and recovered.

If you observe the Front-end calculations you can find the difference: that is, the interest is calculated up-front i.e. at the beginning of the month itself. So in the front end calculation, interest is calculated on Rs. 60,000 for one month and added to Principal at the time of releasing the loan itself. In the above screen shot, you can see interest appearing at the start itself. (Installment number 0 and interest Rs. 500 are marked in red color).

In the back end, interest is calculated at the end of the month and shown in red color against installment number 1. If you compare the totals, you can immediately understand that in the Front-end calculation method, the borrower is paying an additional amount of Rs 526. Front-end interest is not charged by banks.

4.4 Calculation of Interest on Savings Accounts

In real life situations, banks charge interest on loans based on the actual balances in the accounts at the end of each day, add them up till the end of the month and then calculate the interest. This applies to payment of interest on Savings Bank accounts also.

Let us see some example as to how it works in an overdraft account.

Limit Rs. 100,000. Interest rate =12%.

(Balances are understood to be debit balances. If by chance there is credit balance in the account on some days, then no interest is charged on those days and no interest is paid also for the credit balance.

(Limit Rs. 100000 means that the customer will not be allowed to draw more than Rs. 1 lakh at any time.)

Date of Transaction	Amounts Debited	Amounts Credited	Balance in the Account	Products Products
01/02/2014	Op. Balance 50000	50000	—	—
03/02/2014	Ch. 20000		Dr.70000	2*50000=100000
04/02/2014		10000	60000	1*70000=7000
07/02/2014	Ch 30000		90000	3*60000=180000
11/02/2014		40000	50000	4*90000=360000
18/02/2014	Ch.20000		70000	7*50000=350000
24/02/2014	Ch 20000		90000	6*70000=420000
27/02/2014		60000	30000	3*90000=270000
				2*30000=60000
Totals	140000	110000		1810000

At the end of the month summations for all the columns are made (except the balance column). You can find that the difference between the dr. column and Cr. Column tallies with the balance column and

hence the calculations are arithmetically correct. The last column in the table shown above is called the 'Product' which is equal to the amount of loan outstanding in the account multiplied by the number of days such amount remained outstanding.

For example, the opening balance in the account viz. Rs. 50000 was outstanding for two days i.e. on 01/02/2014 and 02/02/2014. At the end of 03/02/2014 the balance changes to 70000 which are outstanding for one day…. and so on. The last transaction in the month was on 27/02/2014 which was outstanding for two days viz. 27th and 28th February.

Now having found out the product, for the month, it is easy to calculate the interest chargeable on the account to the borrower.

You know the formula: interest = p*n*r*/100.

In this example, you have to take p as the total product viz. 1810000;

n as the number of years for which you have to calculate interest – in this case n = 1/365 i.e. one day since you have individually worked out the balances outstanding on each day and added them up. And r is given as 12%.

So the interest to be charged on the account for the month is:

= pnr / 100

= 1810000*1/365*12/100

= Rs. 595.07.

As per RBI's rules, the amount is rounded off to the nearest rupee i.e. Rs. 595.

Savings Bank Account Interest Calculation: Instead of a loan account, if it is a Savings Bank account, the bank will be giving interest to the customer in the same way as shown above at the appropriate rate. Most of the banks in India pay interest on savings accounts at 4% p.a. So let us see an example.

Date of Transaction	Amounts Debited	Amounts Credited	Balance in the Account	Products
01/02/2014	Op. Balance	75342	Cr.75342	————
08/02/2014	Ch. Rs. 7963		67379	7*75342=527394
14/02/2014		5000	72379	6*67739=404274
21/02/2014	Ch. Rs.5400		66979	7*72379=506653
28/02/2014	61627	128606		7*66979=468853
				1*128606=128606
Totals	13363	141969		2035780

Interest payable to the customer at 4% = Rs. 2035780*4/100*1/365

= Rs. 223.10

= Rs. 223 on rounding off.

In banks nowadays, nobody does these calculations manually but the computers do them automatically when the interest payments fall due. When the interest is due on the loans they are automatically calculated and debited to the accounts and credited to the income accounts.

Similarly when the interest is due on Savings Bank or other deposit accounts (usually at quarterly intervals) they are calculated and credited to the same accounts and debited to interest paid account.

4.5 Calculations of Date of Maturity of Bills of Exchange

In this section we will see how the date of maturity of the Bill of Exchange is calculated.

Maturity: The maturity of a promissory note or bill of exchange is the date at which it falls due for payment.

Days of Grace: Every promissory note or bill of exchange which is not expressed to be payable on demand, at sight or on presentment, is at maturity on the third day after the day on which it is expressed to be payable.

Calculating Maturity of Bill: Section 23: Calculating maturity of bill or note payable so many months after date or sight:

In calculating the date at which a promissory note or bill of exchange, made payable a stated number of months after date or after sight, or after a certain event, is at maturity, the period stated shall be held to terminate on the day of the month which corresponds with the day on which the instrument is dated, or presented for acceptance or sight, or noted for non acceptance, or protested for non acceptance, or the event happens, or, where the instrument is a bill of exchange made payable a stated number of months after sight and has been accepted for honour, with the day on which it was so accepted.

If the month in which the period would terminate has no corresponding day, the period shall be held to terminate on the last day of such month.

- A negotiable instrument, dated 29th January 20XX, is made payable at one month after date.

  The instrument is at maturity on the third day after the 28th February 20XX.

- A negotiable instrument, dated 30th August 20XX, is made payable three months after date.

  The instrument is at maturity on the 3rd December 20XX.

- A promissory note or bill of exchange, dated 31st August 20XX, is made payable three months after date.

The instrument is at maturity on the 3rd December, 20XX (after allotting 3 days of grace)

Section 24: Calculating maturity of bill or note payable so many days after Date or sight:

In calculating the date at which a promissory note or bill of exchange made payable a certain number of days after date or after sight or after a certain event is at maturity, the day of the date, or of presentment for acceptance or sight, or of protest for non-acceptance, or on which the event happens, shall be excluded. Hence the a day is excluded in the calculation of number of days

Section 25: When day of maturity is a holiday:

When the day on which a promissory note or bill of exchange is at maturity is a public holiday, the instrument shall be deemed to be due on the next preceding business day. The expression "public holiday" includes Sundays and any other day declared by the Central Government, by notification in the Official Gazette, to be a public holiday. Bills payable after 30 days of sight (drawn on 30 August 20XX, will mature on 28 Sept 20XX.If 28 Sept 20XX happens to be a Sunday, and then the maturity date will be 27 Sept 20XX.

4.6 Summary:

'Interest' is the incentive paid to the depositors for postponing their other expenditures and keeps the money with the bank

Market interest rate depends on opportunity cost, inflation, demand & supply, borrower defaults, Length of time, Government intervention.

Simple interest is simple to calculate using the formulae i = pnr/100 or ptr/100 and this is used for calculating for saving bank account interest

Compound interest in Interest on Interest using the formulae $A = P * (1 + r)^{\wedge n}$ and is used for computing the interest on Fixed Deposit and Recurring Deposit.

Rate of return is a profit on investment and is expressed as a % of the original investment

Fixed interest rate is fixed through the life of the loan & Floating rate Interest is not determined for the entire period of loan, at the time of borrowing - but is dependent on some index, which goes on changing, i.e. 'floating' in financial terms.

MIBOR stands for Mumbai Inter Bank Offered Rate is the rate at which banks in Mumbai offer loans to one another and changes on a daily basis

An Equated Monthly Instalment (EMI) is defined as a fixed payment amount made by a borrower to a lender at a specified date each calendar month which includes the Interest and part of the Principal of the loan. In the earlier stage of the loan, Bank collects major portion of the interest and at the end of the loan, the principal portion will be higher and at the end of the loan period it should be ZERO. It is useful to the borrower as he knows his fixed liability on month to month basis.

Savings Bank interest is calculated based on the "daily closing balance" in the client account.

Every promissory note or bill of exchange which is not expressed to be payable on demand, at sight or on presentment is at maturity on the third day after the day on which it is expressed to be payable. If the third day falls on a public holiday, the instrument shall be deemed to be due on the next preceding business day.

Key words:

FD – Fixed Deposit

BR – Base Rate

MIBOR - Mumbai Inter Bank offered Rate

EMI - Equated Monthly Instalment

RD - Recurring Deposit

4.7 Practice Questions

I. Choose the correct option:

1. In case of a fixed deposit with a Bank, Bank periodically credit interest amount into the account, interest calculated will be ____ interest

   a) Simple

   b) Compound

   c) Complex

   d) Floating

2. In case of a fixed deposit with a Bank, Bank pays interest at the end of the deposit period, interest calculated will be ____ interest

   a) Simple

   b) Compound

   c) Complex

   d) Floating

3. When a fixed deposit mature, Bank credits _____ to the account

   a) Interest only

   b) Principal plus Interest only

   c) Principal only

4. EMI on a fixed rate loan remains _____ during the tenor of the loan

   a) Fixed

   b) Changing

   c) Increases

   d) Decreases

5. Interest collected by the Bank on a loan is _____ for the Bank

   a) Income

   b) Expense

   c) Liability

   d) Asset

6. Interest paid by the Bank on a loan is _____

   a) Income

   b) Expense

   c) Liability

   d) Asset

7. Loan given by the Bank is shown as _____ on the Bank balance sheet

   a) Income

   b) Expense

   c) Liability

   d) Asset

8. Interest on loan is calculated by the Bank on ____

   a) Original Loan amount

   b) Loan Outstanding amount

   c) Average Outstanding loan amount

9. When the fixed loan comes near to it maturity, the interest amount on the loan _____

   a) Increases

   b) Decrease

   c) Remains same

   d) Depends on market

10. In case of floating rate loan, Borrower will benefit if the _____

    e) Interest rate remains constant

    f) Interest rate in the future is higher

    g) Interest rate in the future is lower

    h) Interest rate has no bearing

Answer Keys: 1 – a, 2 - b, 3 – b, 4 – a, 5 – a, 6 – b, 7 – d, 8 – b, 9 – b, 10 – c

II. Fill in the blanks:

1. EMI includes _____
2. Upward movement in prices in per annum terms is known as _____
3. In case of short term loans, interest rates is _____ than interest rate for long term loan
4. Front end interest calculated is _____ than Back End interest
5. Interest is always expressed in terms of _____ per annum
6. In case of a deposit in a bank, _____ is the creditor
7. MIBOR stands for _____
8. In case of overdraft account, interest is charged only on the _____ balance

Answer Keys: 1- Equated Monthly Instalment, 2 – Inflation Front, 3 - lower, 4 – higher, 5 – Percentage, 6 – Customer, 7– Mumbai Inter Bank Offered Rate, 8 – overdrawn

III. Answer in detail:

1. What is the difference between Simple Interest and Compound Interest?
2. What is the difference fixed and floating rate interest?
3. Explain briefly calculation of EMI using Excel?
4. Explain the factors which determine the interest rate?
5. What is rate of return?
6. Explain the calculation of maturity date of a bill of exchange?

II. Activities:

1. Get a pass book and illustrate the interest calculation done on the balances in the account
2. Get a fixed deposit and illustrate the interest calculation done on the fixed deposit

Learning Objective – Unit 5

Location	Duration-10 HOURS			
Classroom or Banks	**SESSION -1 CASH RESERVE RATIO**			
	Learning Outcome	**Knowledge Evaluation**	**Performance Evaluation**	**Teaching and Training Method**
	After studying this topic the learners would be able to learn about the statutory guidelines applicable for CRR	1. Credit & Monetary functions of RBI to control inflation 2. Need for CRR 3. Impact of CRR on the economy	1. Describe the credit & monetary policies used by RBI to control inflation 2. Explain how CRR is used as Risk Management tool to control liquidity	Classroom teaching, PPT's
	SESSION -2 STATUTORY LIQUIDITY RATIO			
	After studying this topic the learners would be able to learn about the statutory guidelines applicable for SLR	1. Need for SLR 2. Impact of SLR on the economy	1. Explain how SLR is used as Risk Management tool by RBI 2. Elucidate the impact of SLR rate	Classroom teaching, PPT's
	SESSION-3 BANK RATE			
	After studying this topic the learners would be able to learn about the concept of Bank rate	1. What is Bank rate?	1. Describe the use of Bank rate	Classroom teaching, PPT's
	SESSION-4 REPO RATE			
	After studying this topic the learners would be able to learn about the concept of Repo rate	1. What is Repo rate 2. Understand the uses of Repo rate	1. Describe the repo rate 2. Explain the impact of repo rate on the loan rate of the Bank	Classroom teaching, PPT's
	SESSION-5 REVERSE REPO RATE			
	After studying this topic the learners would be able to learn about the concept of Reserve Repo rate	1. What is Reverse Repo rate 2. Understand the uses of Reverse Repo rate	1. Describe the reverse repo rate 2. Explain the impact of reverse repo rate on the loan rate of the Bank	Classroom teaching, PPT's
	SESSION-6 BASE RATE			
	After studying this topic the learners would be able to learn about the concept of Base rate	1. Understanding the base rate	1. Use of Base rate by the Bank	Classroom teaching, PPT's

RESERVE BANK OF INDIA REGULATION ON BANKS

OBJECTIVES

After reading this unit you will be able to

Understand the Credit / Monetary tools used by RBI to control inflation

Understand the various ratio / rate viz. Cash Reserve Ratio, Statutory Liquidity ratio, Bank rate, Repo / Reverse repo rate, Base rate and their uses

STRUCTURE

Main functions of RBI of are as follows:

Financial Supervision: is carried out under the guidance of the Board for Financial Supervision (BFS). BFS objective is to undertake consolidated supervision of the financial sector comprising commercial banks, financial institutions and non-banking finance companies.

Monetary Authority: As the monetary authority of the country, RBI formulates implements and monitors the monetary policy as well as it has to ensure an adequate flow of credit to productive sectors. The RBI controls the monetary supply, monitors economic indicators like the gross domestic product and has to decide the level of intresed.

Issuer of currency: Design, printing and distribution of different currency notes. RBI issues and exchanges or destroys currency and coins not fit for circulation. The objectives are giving the public adequate supply of currency of good quality and RBI can issue currency notes based on the security deposit in the form of Gold and Forex exchange reserves. This principle of currency notes issue is known as the 'Minimum Reserve System'.

Banker to the Government: Performs banking functions for the central and the state governments; also acts as their banker and advisor.

Banker to Banks: Maintains Bank accounts of all scheduled Banks

Financial Regulation and Management:

- As the regulator and the supervisor of the banking system, the Reserve Bank has a critical role to play in ensuring the system's safety and soundness on an ongoing basis.

- The objective of this function is to protect the interest of depositors through an effective prudential regulatory framework for orderly development and conduct of banking operations, and to maintain overall financial stability through various policy measures.

Manager of Foreign Exchange: To facilitate external trade and payment, it acts as a custodian and administer the Foreign Exchange Management Act, (FEMA) 1999. RBI buys and sells foreign currency to maintain the exchange rate of Indian Rupee v/s foreign international currencies. Promotes Orderly development and functioning of Foreign exchange market in India.

Developmental Role: To develop the quality of banking system in India, RBI performs a wide range of promotional functions to support national objectives. To establish financial institutions of national importance, for e.g.: NABARD.

Export Credit: Recognising the important role of exports in maintaining the viability of external sector and in generating employment, the Reserve Bank had sought to ensure adequate availability of concessional bank credit to exporters. It took the lead role in setting up the Export Import Bank of India (EXIM Bank) in January 1982.

Inflation Management by RBI: In economics, inflation is a sustained increase in the general price level of goods and services in an economy over a period of time. When the price level rises, each unit of currency buys fewer goods and services. Consequently, inflation reflects a reduction in the purchasing power per unit of money – a loss of real value in the medium of exchange and unit of account within the economy. Price inflation is the measus by inflation rate, the annualized percentage change in a general price index (normally the consumer price index) over time. The opposite of inflation is deflation.

RBI manages the inflation using the monetary and fiscal policies

Monetary Policy: Monetary Policy operates on monetary magnitudes or variables such as money supply, interest rates and availability of credit. Monetary Policy ultimately operates through its influence on expenditure flows in the economy. In other words affects liquidity and by affecting liquidity, and thus credit, it affects total demand in the economy.

Credit Policy: Central Bank may directly affect the money supply to control its growth. Or it might act indirectly to affect cost and availability of credit in the economy. In modern times the bulk of money in developed economies consists of bank deposits rather than currencies and coins. So central banks today guide monetary developments with instruments that control over deposit creation and influence general financial conditions. Credit policy is concerned with changes in the supply of credit. Central Bank administers both the Credit and Monetary policy. Goals of Monetary Policy are: Price Stability High Employment, Economic Growth, Financial Markets Stability, Interest rate stability and Stability in foreign exchange market.

Importance of Price Stability a dominant objective for the Central Banker: Price stability refers to the long run average stability of prices. Price stability involves avoidance of both inflationary and deflationary pressures. Price Stability contributes to improvements in the standard of living of people. It promotes saving in the economy while discouraging unproductive investment. Stable prices enable exports to compete in international markets and contribute to the strengthening of Balance of Payment (BOP). Price stability leads to interest rate stability and exchange rate stability (via export import stability). It contributes to the overall financial stability of the economy.

Instruments of Monetary Policy are as follows:

Quantitative or General Methods:

- Bank Rate
- Open Market Operations
- Change in
  - Cash Reserve Ratio (CRR)
  - Statutory Liquidity Ratio (SLR)
  - Repo and Reverse Repo rates

Qualitative or Selective Methods:

- Selective Credit control
- Rationing of credit
- Moral Persuasion
- Direct action

5.1 Cash Reserve Ratio

Scheduled Commercial Banks are required to maintain with RBI, an average cash balance, the amount of which shall not be less than a specific percentage of the total Net Demand and Time Liabilities (NDTL) in India.

Demand Liabilities include all liabilities which are payable on demand and they include current deposits, demand liabilities portion of savings bank deposits, margins held against letters of credit/ guarantees, balances in overdue fixed deposits, cash certificates and cumulative / recurring deposits, outstanding Telegraphic Transfers (TTs), Mail Transfer (MTs), Demand Drafts (DDs), unclaimed deposits, credit balances in the Cash Credit account and deposits held as security for advances which are payable on demand.

Time Liabilities are those which are payable otherwise than on demand and they include fixed deposits, cash certificates, cumulative and recurring deposits, time liabilities portion of savings bank deposits, staff security deposits, margin held against letters of credit if not payable on demand, deposits held as securities for advances which are not payable on demand, India Millennium Deposits and Gold Deposits.

CRR is calculated on the basis of average of the daily balance maintained with RBI during the reporting fortnight. Scheduled Commercial Banks are required to maintain minimum CRR balances up to 70 per cent of the total CRR requirement on all days of the fortnight.

In order to improve cash management by banks, as a measure of simplification, a lag of one fortnight in the maintenance of stipulated CRR by banks has been introduced with effect from the fortnight beginning November 06, 1999. Banks have to pay Penal interest on the shortfall by adjustment from the interest receivable on the balances with RBI.

Use of Cash Reserve Ratio to control liquidity in the market:

RBI uses CRR to:

- Drain excess liquidity or
- Release funds needed for the growth of the economy from time to time.
- Higher the ratio (i.e. CRR), the lower is the amount that banks will be able to lend and invest.
- Thus, it is a tool used by RBI to control liquidity in the banking system.

If RBI wants to tighten the monetary policy, it will raise the CRR. Lowering the CRR releases more liquidity into the banking system. Changes in CRR tend to have an immediate impact on the market. Cash Reserve Ratio (CRR) is 4% (15 Jan 2015).

Impact of CRR on Interest rates & Inflation: With the increase in CRR, Banks have less money for lending. To maintain the profit margin banks increase the lending rates. This leads to customers borrowing less and eventually spends less money. Demand for goods and services thus come down Thus, increase in CRR increases interest rates and pulls down inflation to some extent.

5.2 Statutory Liquidity Ratio (SLR)

All banking companies in addition to CRR, are required to maintain liquid assests companies of :

- Cash at hand (exclusive of minimum CRR requirement), OR
- Current account balances with SBI and other public sector commercial banks,
- unencumbered approved securities valued at a price as specified by the RBI from time to time,
- Gold valued at a price not exceeding the current market price,

SLR is to be equal to.

An amount which shall not, at the close of the business on any day, be less than specified percent of the total of its demand and time liabilities in India as on the last Friday of the second preceding fortnight.

SLR has three objectives:

- To restrict the expansion of Bank credit
- To increase Bank's investment in approved securities and
- To ensure solvency of Banks

If a banking company fails to maintain the required amount of SLR, it is liable to pay to RBI the penal interest for that day @3 % pa above the Bank Rate on the shortfall and if the default continues on the next succeeding working day, the penal interest may be increased to 5% pa above the Bank Rate for the concerned days of default on the shortfall.

Liquidity management using SLR: Higher statement liquidity ratio forces commercial banks to maintain a larger proportion of their resources in liquid asset and thus reduces their capacity to grant loans and advances. Thus it is an anti-inflationary measure. A higher liquidity ratio diverts the bank funds from loans and advances to investment in government and other approved securities.

If RBI wants to tighten the monetary policy, it will raise the SLR. Such a measure would not be effective, if banks' holding of SLR is higher than the statutory SLR rate. Lowering the SLR means that banks can sell some of their SLR securities to raise funds. It therefore tends to soften interest rates. Current SLR rate is 21.50% (15 Jan 2015)

Pros / Cons for RBI to decrease SLR:

For	Against
• Will improve credit flow to private companies	• Will adversely impact fiscal deficit
• Focus Should Be To Boost Participation Of The Private Sector By Providing Ready Access To Debt Finance Instead Of Redistributing Liquidity Artificially In favor Of The Government Sector	• Indian banks have been able to withstand the global storm due to these prudent polices of the Reserve Bank of India
• Solvency Measures prevalent in most other Emerging Markets continue to be lower than that in India.	• Risk Mitigation Tool
• Compliance with SLR targets compels banks to invest in government bonds, rather than allowing demand and prices of such securities to be determined by market forces.	• Banks accept public deposits and are in a way repositories of public trust, and the confidence reposed by investors in institutions is very important from the financial markets perspective
• Higher SLR increases market risk for banks due to the sheer size of holdings of price-sensitive securities	• In the current context, worldwide banks are being criticized for having risky asset portfolios, there is a perceptible shift among banks' asset portfolios from credit and other derivative instruments to holdings of sovereign government bonds.

Open market operation: In well-developed economies, central banks use open market operations. Buying and selling of eligible securities by central bank in the money market is undertaken to influence the volume of cash reserves with commercial banks and thus influence the volume of loans and advances they can make to the commercial and industrial sectors. In the open money market, government securities are traded at market related rates of interest. The RBI often is resorts to open market operations.

5.3 Bank Rate

- Bank rate is the standard rate at which RBI is prepared to buy or rediscount bills of exchange or other eligible commercial paper from Banks
- It is basic rate of rediscounting and refinance facilities from RBI

Change in Bank rate by RBI affects interest rates on the Loans, and Deposits across the board in the same direction. Hence, increase in Bank rate will increase the interest rates on the Loans / Deposits and vice versa. Since 1991, after deregulation and Banking reforms, Banks are allowed to fix the deposit / lending rates through their Boards with only with few exceptions. Current Bank rate is 8.50% (15 Jan 2015).

5.4 Repo Rate

Reserve Bank of India lends funds to the commercial banks under its Liquidity Adjustment Facility (LAF) to meet their short term needs of funds. The rate at which banks borrow short-term funds from RBI is called Repo Rate. Such funds are provided on the promise of repurchase of approved securities by banks. Thus there are two legs in the Repo Transaction Process. Banks facing a shortage of funds can borrow from RBI through a repo transaction. The transaction is backed by sale of approved securities to the RBI.

In the first leg, the bank sells the approved securities to RBI. RBI will release funds to the bank against this transaction.

In the second leg, the banks buy back the same securities after a day or few days. The price for buying them back (higher than the price for the first leg) is pre-decided, when the repo transaction is agreed upon. The difference between the prices for the two legs thus, is the borrowing cost for the borrowing bank. A repo transaction is meant to meet only the short term (single day to a few days) requirements of banks.

This is much safer for Central Bank than giving a loan since the transaction involved is Buy / Sell and not lend / borrow. In case of default of any Banks, the securities are already transferred in the name of the Central Banker. This enable Central Bank to recover that money without .any hassles.

5.5 Reverse Repo Rate:

A reverse repo is the opposite of a repo. RBI announces the repo rate and reverse repo rate. The reverse repo rate will always be lower than the repo rate. Current Reverse Repo rate is 6.50% (15 Jan 2015)

Usage of Repo rate / Reverse rate to control liquidity: If RBI wants to signal tight monetary policy, it will increase the repo rate and vice versa. If the overall liquidity position is tight, banks will increase their deposit rates or lending rates, since the borrowing cost from RBI is higher.

A reduction in reverse repo rate makes it less interesting for banks to park their funds with RBI. This measure is adopted when there is too much liquidity in the market, as reflected in the inter-bank call money market or short term funds.

In general, the call money rate (which is determined by the market, not RBI) is expected to be between the repo rate and reverse repo rate .

Repo vs. Bank rate: Two parties are constantly involved – the central bank (RBI) and the commercial bank. Both repo rates and bank rate help the Banks to raise funds from RBI. Both indicate the cost of funds to the banks. Bank rate is changed when banks borrow funds or re discount bills in the normal course of business. But Repo rate is charged by RBI when banks borrow funds under the Liquidity Adjustment Facility provided by RBI to meet the short term liquidity mismatch of the banks. Such short term funds are provided for overnight or at the most for one week.

5.6 Base Rate

Reserve Bank of India introduced the Benchmark Prime Lending Rate (BPLR) system which was introduced in 2003. BPLR was the rate at which a bank was willing to lend to its most trustworthy, low-

risk customer. It fell short of its original objective of bringing transparency to lending rates. This was mainly because under the BPLR system, banks could lend below BPLR. For the same reason, it was also difficult to assess the transmission of policy rates of the Reserve Bank to lending rates of banks.

Hence, to bring transparency to lending rates, RBI has made it mandatory for all banks to introduce Base Rate wef 1st July, 2010. The Base Rate is the minimum interest rate of a Bank below which it cannot lend, except in cases allowed by RBI. Base Rate system is applicable to all new loans and for those old loans that come up for renewal after July 2010. Existing loans based on the BPLR system may run till their maturity. In case existing borrowers want to switch to the new system, before expiry of the existing contracts, an option may be given to them, on mutually agreed terms

As per RBI guidelines (as in July 2012), the following categories of loans could be priced without reference to Base Rate:

(a) DRI Advances;

(b) Loans to banks' own employees including retired employees;

(c) Loans to banks' depositors against their own deposits

RBI does NOT fix the base rate. It has issued broad guidelines to bank as to how they should arrive at the base rate. Thus, individual bank itself fixes its own base rate.

The calculation of the BPLR by various banks was not transparent. In case of BPLR, Banks normally used to take into consideration the factors like cost of funds, administrative costs and a margin over it. However, such parameters were neither disclosed by banks nor were same for all the banks. The Base Rate calculations include all those cost elements which can be clearly identified and are common across borrowers. The constituents of the Base Rate includes

The interest rate on retail deposits (deposits below Rs. 15 lakh) with one year maturity (adjusted for CASA deposits);

(ii) Adjustment for the negative carry in respect of CRR and SLR;

(iii) Unallocatable overhead cost for banks which would comprise a minimum set of overhead cost elements; and

(iv) Average return on net

Current Base Rate is between 10 – 10.25% (15 Jan 2015)

5.7 Summary

- RBI as the central bank of the country has many functions to ensure smooth running and development of the country Functions include
- Financial supervision.

- Monetary management.
- Issue of currency.
- Banker to government.
- Banker to bank.
- Formulate monetary policy.
- Financial regulation and management.
- Manager of foreign exchange.
- Development role.
- Inflation is a sustained increase in the general price level of goods and services in an economy over a period of time and RBI manages inflation using monetary and fiscal policies
- Quantitative or General Methods
- Bank Rate
- Open Market
- Operation(OMO)
- Change in Cash
- Reserve Ratio (CRR)
- Statutory Liquidity Ratio(SLR)
- Qualitative or Selective Methods
- Selective Credit Control
- Rationing of Credit
- Moral Persuasion
- Direct Action

Cash Reserve Ratio: Scheduled Commercial Banks are required to maintain with RBI, an average cash balance, the amount of which shall not be less than 4% of the total of the Net Demand and Time Liabilities (NDTL) in India. RBI uses CRR to manage liquidity in the market.

Statuary Liquidity Ratio: All Scheduled Commercial Banks, in addition to CRR, are required to maintain in India, a) Cash at hand (exclusive of minimum CRR requirement), or (b) Current account balances with SBI and other public sector commercial banks, (c) unencumbered approved securities valued at a price as specified by the RBI from time to time, d) in gold valued at a price not exceeding the current market price

An amount which shall not, at the close of the business on any day, be less than 21.50 per cent of the total of its demand and time liabilities in India as on the last Friday of the second preceding fortnight.

SLR has three objectives:

- To restrict the expansion of Bank's limit
- To increase Bank's investment in approved securities and
- To ensure solvency of Banks

Bank rate is the standard rate at which RBI is prepared to buy or rediscount bills of exchange or other eligible commercial paper from Banks. Change in Bank rate by RBI affects a) Interest rates on the Loans b) Interest rate on the Deposit across the board in the same direction.

Repo and Reverse Repo: RBI uses these rates in easing or tightening of the monetary policy. It is safer way for RBI to lend money to the Banks as the ownership of securities get transferred in case of Repo / Reverse repo. The transaction, backed by approved securities, has two legs.

Base Rate is the minimum interest rate of a Bank below which it cannot lend, except in cases allowed by RBI.

Key words:

CRR - Cash Reserve Ratio

SLR - Statutory Liquidity Ratio

BR - Bank rate

BFS - Board for Financial Supervision

GDP- Gross Domestic Product

FEMA - Foreign Exchange Management Act

NABARD - National Agricultural Bank for Rural Development

IDBI – Industrial Development of India

EXIM Bank - the Export Import Bank of India

5.8 Self Test Questions

I. Choose the correct option:

1. Minimum Reserve System' principle refers to
   a) Currency notes issue
   b) Reserve levels to be maintained by the Banks

c) Minimum reserve ratio

d) RBI reserve level to be maintained

2. RBI maintains banking accounts with all scheduled Banks. This is for which role of RBI?

a) Banker of Last resort

b) Bankers' Bank

c) Clearing Purpose

d) Good relationship account

3. Which of the following is the Qualitative instrument of Credit Control?

a) Open Market Operations

b) CRR

c) Direct Action

d) SLR

4. Demand Liabilities of a Bank includes which of the following?

a) Letter of Credit

b) Recurring Deposits

c) Both the above

d) None of the above

5. Time Liabilities of a Bank includes which of the following?

a) Fixed Deposit

b) Gold Deposits

c) Both the above

d) None of the above

6. In case the Cash Reserve ratio is decreased by the RBI, Banks will be able to lend _____ money in the market

a) More

b) Less

c) Does not matter

d) None of the above

7. With the decrease in CRR rate, Inflation will _____

   a) Increase

   b) Decrease

   c) No impact

   d) All of them and many more

8. In case the SLR ratio is increased by the RBI, inflations will _____

   a) Increase

   b) Decrease

   c) No impact

   d) All of them and many more

9. Minimum interest rate of a Bank below which it cannot lend, except in cases allowed by RBI is known as?

   a) Bank Rate

   b) Prime Lending Rate

   c) Repo Rate

   d) Base Rate

10. Which of the following is safer for RBI when lending to Banks?

    a) Loan Transaction

    b) Loan against collateral

    c) Repo / Reverse Repo transaction

    d) Cash / Stock Lending & Borrowing

11. The standard rate at which RBI is prepared to buy or rediscount bills of exchange or other eligible commercial paper from other Banks

    a) Bank Rate

    b) Prime Lending Rate

    c) Repo Rate

    d) Base Rate

12. What is the policy related to direct taxes and government spending refers to?

    a) Credit Policy

    b) Monetary Policy

    c) Fiscal Policy

    d) Government Policy

Answers: 1 – a, 2 - b, 3 – c, 4 – b, 5 – a, 6 – a, 7 – a, 8 – a, 9 – d, 10 – c, 11 – a, 12 – c.

II. Fill in the blanks:

1. Export Import Bank of India (EXIM Bank) was set up in _____
2. Buying and selling of eligible securities by central bank in the money market is known as _____ _____ _____.
3. Bank Rate is _____ form of credit control
4. To ensure solvency of Banks, RBI directs the Banks to maintain ____ ____ ratio
5. Rate at which RBI lends short terms funds to the Bank is known as ____ rate
6. Discount rate is known as _____
7. In case of deflation, the purchasing power per unit of money will _____

Answers: 1- 1982, 2 – Open market operations, 3 - Quantitative, 4 – Statutory Liquidity, 5 – Repo, 6 – Bank rate, 7– increase.

III. Answer the following briefly:

1. What is Cash Reserve Ratio?
2. What is Statutory Liquidity Ratio?
3. What is Bank rate?
4. Explain Repo Rate?
5. What is Reverse Repo Rate?
6. What is Base Rate?
7. What is rationale for keeping CRR and SLR by RBI?
8. What are the tools used by RBI to control inflation?

9. What are the goals of monetary policy?
10. What are the instruments of monetary policy?
11. What are the Qualitative / Quantitative instruments of Credit Control?
12. What is the impact of increase / decrease SLR rate by RBI?
13. Explain the difference between Bank Rate and Repo rate?
14. What are the powers of the RBI for regulating the Banks?

IV. Activities:

1. Draw a comparative chart depicting the CRR / SLR / REPO / Reverse REPO rate and discuss it implications on the economy

Learning Objective – Unit 6

Location	Duration-10 HOURS			
Classroom or Banks	SESSION -1 PROFIT & LOSS ACCOUNT AND BALANCE SHEET			
	Learning Outcome	**Knowledge Evaluation**	**Performance Evaluation**	**Teaching and Training Method**
	After studying this topic the learners would be able to identify the components of the Profit & Loss Account and Balance Sheet of a Banking Company	1. Understand the various accounting concepts & principles followed 2. Types of accounts maintained 3. Accounting process for preparation of Final accounts	1. Explain the various rules to be followed in accounting 2. Elucidate the life cycle of a transaction from voucher to Balance sheet 3. Describe the proforma of the P&L and Balance sheet 4. Explain the various provision & Schedules of the Balance sheet	Classroom teaching, PPT's

PROFORMA OF FINAL ACCOUNTS OF BANKING COMPANIES

OBJECTIVES

After reading this unit you will be able to:

Understand & appreciate the various items that appear in the final accounts of a Banking company.

STRUCTURE

6.1 Profit & Loss Account and Balance Sheet

There are some notable differences between a bank's accounts and any other general company's accounts. For example, banks maintain the accounts of millions of Individuals, Corporate and other legal entities.

Further any transaction affecting any customer's account should be recorded as and when it occurs – unlike in the case of a company, where there can be a time lag. In fact, a bank's Balance Sheet is ready on a daily basis, with the help of 'Core Banking' software. In a bank's accounting, each and every transaction (either debit or credit) has to be documented by a voucher – most of the transactions are documented in individual vouchers for each transaction and there are cases where a bunch of transactions

of the same type conducted during the day are documented by a single voucher.

Vouchers: In a bank's accounting, all transactions - debit or credit – are documented by vouchers. Some type of transactions during the day are bunched and documented by a single voucher.

A Voucher is a:

- Formatted document in which the details of the transaction are recorded
- Debit or credit
- Head of account
- Amount of the transaction
- Date of the transaction
- Branch name etc. and
- Authenticated by an authorized official

Debit and credit vouchers are in different colours for easy identification and processing. The vouchers are then posted directly into the respective ledger accounts, skipping the step of first entering in a 'Journal'. (In companies' accounts, a 'Journal' which is a book of original entry is maintained as the first step and entries are posted in the ledger accounts thereafter).

Credit vouchers - three types:

One is the 'Pay-in-Slip' - initiated by customer. Some banks use different Pay-in-slips for different types of accounts. Multiple pay-in-slips will be convenient for processing but also will be expensive for the banks. Nowadays most banks have a single common Pay-in slip for all accounts.

Second type of pay-in-slip is specific for use for the purpose of remittances (Drafts, Mail Transfers, Pay orders etc.). In the above two cases, the customer initiates the transactions

In the third type, Bank's internal vouchers. Internal voucher is in another standardised format which is prepared by the bank staff when bank itself initiates a transaction - crediting periodical interest to the depositors' accounts – debiting interest to customer's loan account etc. These vouchers are authenticated by the authorised officials of the bank

Some banks have the system of using differently coloured Pay-in-slips for each type of account – like SB Account, Current Account, Fixed Deposit Account, Recurring Deposit Account, Overdraft Account and Loan Account. Some banks have common Pay-in-slip for all types of deposit and Loan Accounts. Such multiple pay-in-slips will be convenient for processing but also will be expensive for the banks. Nowadays most banks have a single common Pay-in slip for any account – deposit or loan.

Rules for the three accounts respectively are:

- 'Debit what comes in and Credit what goes out'

- ‘Debit the receiver and Credit the giver’ and
- ‘Debit expenses and Credit incomes’.

The Main Day Book which is prepared for each working day is simply a summary of the total amounts of debits and credits under the three categories of Cash, Clearing and Transfer in all the Heads of Accounts.

General Ledger (GL): The GL consists of separate folios for each Head of Account in which the branch has conducted transactions at any time.

Trial Balance (TB):

It is simply a list of all the Heads of Accounts that have some outstanding balances, with their outstanding balances listed and showing whether they are Dr. Balances or Credit Balances.

Head of Account	Dr. or Cr.	Dr. Balance	Cr. Balance
…….			
Savings Bank	Cr.		1,45,35,35,156
Overdrafts	Dr.	84,27,13,128	

After all the outstanding balances are extracted and copied in the TB from the GL, if the totals are arrived at for the Dr. and the Cr. Columns of the TB, they should be the same.

Profit & Loss account:

A financial statement that summarizes the revenues, costs and expenses incurred during a specific period of time - usually a fiscal quarter or year.

The statement of profit and loss follows a general form. It begins with an entry for revenue and subtracts from revenue the costs of running the business, including cost of goods sold, operating expenses, tax expense and interest expense. The bottom line (literally and figuratively) is net income (profit).

The balance sheet, income statement and statement of cash flows are the most important financial statements produced by a company. While each is important in its own right, they are meant to be analyzed together.

FORM OF CONSOLIDATED PROFIT AND LOSS ACCOUNT OF A BANK AND ITSSUBSIDIARIES ENGAGED IN FINANCIAL ACTIVITIES

Profit and Loss Account of _____ (here enter name of the banking group)
(000's omitted)

	Schedule	Year ended 31.3…….. (Current Year)	Year ended 31.3……. (Previous Year
I. Income			
Interest and dividend earned [1]	13		
Share of earnings in Associates			
Other income	14		
Total			
II. Expenditure			
Interest expended	15		
Operating expenses	16		
Provisions and contingencies			
Total			
Consolidated Net profit/(loss) for the year before deducting Minorities' Interest			
Less: Minorities' Interest			
Consolidated profit/(loss) for the year attributable to the group			
Add: Brought forward consolidated			
profit/(loss) attributable to the group			
III. Appropriations			
Transfer to statutory reserves			
Transfer to other reserves			
Transfer to Government/Proposed Dividend			
Balance carried over to consolidated			
Total			
Earnings per Share			

[1] Interest and dividends earned should be disclosed separately.

The basic function of a bank is to accept deposits and give out loans. On the loans that it gives out, it charges an interest rate. This interest earned is the key revenue source for a bank. This term is known

as 'interest income'.

Apart from interest income from loans advanced, it also earns interest from certain investments that it makes. In addition, a bank is also required to keep a certain amount of its cash reserves with the RBI. However, it must be noted that a bank's interest income from investments depends upon some key factors like monetary policies (Cash reserve ratio and statutory liquidity ratio limits) and credit demand. Cash reserve ratio (CRR) is a certain percentage of deposits which a bank is mandated to maintain with the RBI. Statutory liquidity ratio (SLR) is the second part of regulatory requirement, which requires banks to invest in G-Secs.

The bank's revenues are basically derived from the interest it earns from the loans it gives out as well as from the fixed income investments it makes. If credit demand is lower, the bank increases the quantum of investments. Apart from interest income being the key revenue source for a bank, it also earns income in the form of fees that it charges for the various services it provides. These services include processing fees for loans and forex transactions, amongst others.

Expenditures: The key expense of a bank is interest on deposits that are made with it. These could be in the form of term (fixed) or savings bank account deposits. The second biggest expense head for a bank would be its operating expenses. This head would include all operational costs. It includes employee costs, advertisement and publicity costs, administrative costs, rent, lighting and stationary.

Under expenses, there is also an item called 'provisions and contingencies'. In the simplest terms, these are liabilities that are of uncertain timing or amount. This includes provisions for unrecoverable assets. In accounting terms, such provisions are called as 'Provisions for Non-performing assets (NPAs)'. Apart from NPAs, these provisions also include provision for tax and also depreciation in the value of investments.

After removing these heads from the income generated, we simply arrive at the profits figure.

	Schedule	Year ended 31.3…….. (Current Year)	Year ended 31.3……. (Previous Year
I. Income			

Item	**Schedule**	**Coverage**
Interest earned	13	I. Interest /discount on advances/bills.
II. Income on investments		
III Interest on balances with Reserve Bank of India and other interbank funds ,Others		
Other		

Income 14 I. Commission, Exchange& brokerage

II Net Profit on sale of Investments(net profit on sale-net loss on sale)

III. Net Profit on revaluation of investments

IV. Net Profit on sale of land, building & other assets

V. Profit (net of loss) on exchange transactions

VI. Income earned by way of dividends, etc. from subsidiaries/ companies and/or joint ventures abroad/ in India

VII. Miscellaneous Income

Interest

Expended 15 I. Interest on deposits

II. Interest on RBI/ Inter-Bank borrowings

III. Others

Operating

Expenses

Provisions

& Contingencies 16 I. Payments to and provisions for employees II. Rent, Taxes & Lighting

III. Printing & Stationery IV. Advertisement and Publicity

V. Depreciation on Banks' property, VI. Directors' fees, allowances and

Expenses VII. Auditors' fees &expenses (including branch auditors)

VIII. Law charges IX. Legal and other expenses debited in respect of PB Accounts, X. Postage, Telegram, Telephones, etc. XI. Repairs and Maintenance XII. Insurance XIII. Other Expenditure

Provisions & Contingencies made for i) Income Tax ii) Other Taxes

iii) NPAs iv) Investments v) Others

I. Transfer to Statutory Reserves II. Transfer to Capital

Balance sheet:

A balance sheet (also known as a statement of financial position) is a formal document that follows a standard accounting format showing the same categories of assets and liabilities regardless of the size or nature of the business. Accounting is considered the language of business because its concepts are time-tested and standardized and Generally Accepted Accounting Principles (GAAP) are used to develop

financial statements.

Computerisation of Bank Accounting: With the introduction of CBS by all the banks, lot of tedious and cumbersome jobs like collecting complicated statistics and processing them to get meaningful data for taking decisions which were all done manually have become history. So with the introduction of CBS, Banks' Balance Sheets are now available on a daily basis – as compared to a few months' lag when manual processing was the only way.

Preparation of Final Accounts of Banking Companies: In the case of branch accounts at the year end, there are very few 'adjustment entries' like provision for expenses accrued but not paid, like electricity, water, telephone bills to be paid for the period up to 31st March, and prepaid expenses like rent paid in advance etc.

The principle is that the expenditure made for a period beyond the balance sheet date is an asset for the bank and so the proportionate amount which pertains to the next year is debited to the account called 'Prepaid expenses account' and credited to the respective expenditure account. For example when the rent is paid, the bank pays one month rent extra by debiting 'Rent Paid account'. The year-end adjustment entry would be debited to 'Prepaid expenses account' and credit 'Rent Paid account' so that the expenditure under the head 'Rent Paid' shows the correct picture.

Similarly when a customer pays Locker rent for two years, the revenue received pertains to a period beyond the current year. The amount pertaining to the next year is calculated and credited to 'Prepaid Income account' by debiting to 'Locker Rent Received account'

One more important item is coming under 'Bills purchased and discounted'. The usual procedure adopted by a bank while financing a usance bill (payable after a period of say 30, 60 days etc.) is to calculate the interest for the entire period of usance and collect it in advance at the time of discounting itself.

Many of the bills discounted towards the end of the year may have maturity in the next year. So the branch has to calculate the discount amount pertaining to the next year and transfer it to the head of account 'Prepaid income account-discount' by debiting it to 'Discount earned' account.

All such adjustment entries can be reversed by the branches on the first working day of the next financial year (i.e. April)

Forex assets and Liabilities: They should be valued at the rates prevailing on the Balance Sheet date. Since the rates fluctuate continuously and are different in different banks, the common rates for valuation are declared by Foreign exchange Dealers' Association of India (FEDAI) to be applied by all the banks in India. If there are depreciations in assets or appreciations in liabilities, they should be recognised by debit the bank's P& L account. If there are appreciations in assets or depreciations in liabilities, they should be ignored.

Balance Sheet:

In the case of a bank as a whole the P & L Account and the Balance Sheets are prepared and made available to the public as at the end of every quarter –June, September, December and March. Out of

these four, the half-yearly balance sheet as on 30th September and the yearly balance sheet as on 31st March are more important.

The balance sheet of the bank comprises of two sides; the assets side and the liabilities side. It is customary to record liabilities on the left side and assets on the right side. The following is the Performa of a balance sheet of the bank.

Balance Sheet of the Bank

Liabilities		**Assets**	
1.	Capital	1.	Cash
	a. Authorised capital		a. Cash on hand
	b. Issued capital		b. Cash with central bank and other banks
	c. Subscribed capital		
	d. Paid-up-capital		
2.	Reserve fund	2.	Money at call and short notice
3.	Deposits	3.	Bills discounted
4.	Borrowings from other banks	4.	Bills for collection
5.	Bills payable	5.	Investments
6.	Acceptances and endorsements	6.	Loans and advances
7.	Contingent liabilities	7.	Acceptances and endorsement
8.	Profit and loss account	8.	Fixed assets
9.	Bills for collection		

Liabilities

Liabilities are those items on account of which the bank is liable to pay others. They denote other's claims on the bank. Details of the various items on the liabilities side are as follows:

Capital

The bank has to raise capital before commencing its business. Authorised capital is the maximum capital up to which the bank is empowered to raise capital by the Memorandum of Association. Generally, the entire authorised capital is not raised from the public.

That part of authorised capital which is issued in the form of shares for public subscription is called the issued capital. Subscribed capital represents that part of issued capital which is actually subscribed by the public. Finally, paid-up capital is that part of the subscribed capital which the subscribers are actually called upon to pay.

Reserve Fund

Reserve fund is the accumulated undistributed profits of the bank. The bank maintains reserve fund to tide over any crisis. But, it belongs to the shareholders and hence a liability on the bank. In India, the commercial bank is required by law to transfer 20 per cent of its annual profits to the Reserve fund.

Deposits

The deposits of the public like demand deposits, savings deposits and fixed deposits constitute an important item on the liabilities side of the balance sheet. The success of any banking business depends to a large extent upon the degree of confidence it can instill in the minds of the depositors.

The bank can never afford to forget the claims of the depositors. Hence, the bank should always have enough cash to honour the obligations of the depositors.

Borrowings from Other Banks

Under this head, the bank shows those loans it has taken from other banks. The bank takes loans from other banks, especially the Central bank, in certain extraordinary circumstances.

Bills Payable

These include the unpaid bank drafts & transfers issued by the bank. These drafts and transfers are paid to the holders thereof by the bank's branches, agents and correspondents who are reimbursed by the bank.

Acceptances and Endorsements

This item appears as a contra item on both the sides of the balance sheet. It represents the liability of the bank in respect of bills accepted or endorsed on behalf of its customers and also letters of credit issued and guarantees given on their behalf.

For rendering this service, a commission is charged and the customers to whom this service is extended are liable to the bank for full payment of the bills. Hence, this item is shown on both sides of the balance sheet.

Contingent Liabilities

Contingent liabilities comprise of those liabilities which are not known in advance and are unforeseeable. Every bank makes some provision for contingent liabilities.

Profit and Loss Account

The profit earned by the bank in the course of the year is shown under this head. Since the profit is

payable to the shareholders it represents a liability on the bank.

Bills for Collection

This item also appears on both the sides of the balance sheet. It consists of drafts and hundies drawn by sellers of goods on their customers and are sent to the bank for collection, against delivery documents like railway receipt, bill of lading, etc., attached thereto.

All such bills in hand at the date of the balance sheet are shown on both the sides of the balance sheet because they form an asset of the bank, since the bank will receive payment in due course, it is also a liability because the bank will have to account for them to its customers.

Assets

The assets side of the balance sheet is more complicated and interesting. Assets are the claims of the bank on others. In the distribution of its assets, the bank is governed by certain well defined principles. These principles constitute the principles of the investment policy of the bank or the principles underlying the distribution of the assets of the bank. The most important guiding principles of the distribution of assets of the bank are liquidity, profitability and safety or security.

In fact, the various items on the assets side are distributed according to the descending order of liquidity and the ascending order of profitability. The various items on the assets side are as follows:

Cash

Distinguish cash on hand from cash with central bank and other banks cash on hand refers to cash in the vaults of the bank. It constitutes the most liquid asset which can be immediately used to meet the obligations of the depositors. Cash on hand is called the first line of defence to the bank.

In addition to cash on hand, the bank also keeps some money with the central bank or other commercial banks. This represents the second line of defence to the bank.

Money at Call and Short Notice

Money at call and short notice includes loans to the brokers in the stock market, dealers in the discount market and to other banks. These loans could be quickly converted into cash and without loss, as and when the bank requires. At the same time, this item yields income to the bank. The significance of money at call and short notice is that it is used by the banks to effect desirable adjustments in the balance sheet. This process is called 'Window Dressing'. This item constitutes the 'third line of defence' to the bank.

Bills Discounted:

The commercial banks invest in short term bills consisting of bills of exchange and treasury bills which are self-liquidating in character. These short term bills are highly negotiable and they satisfy the twin objectives of liquidity and profitability. If a commercial bank requires additional funds, it can easily rediscount the bills in the bill market and it can also rediscount the bills with the central bank.

Bills for Collection:

As mentioned earlier, this item appears on both sides of the balance sheet.

Investments:

This item includes the total amount of the profit yielding assets of the bank. The bank invests a part of its funds in government and non-government securities.

Loans and Advances

Loans and advances constitute the most profitable asset to the bank. The very survival of the bank depends upon the extent of income it can earn by advancing loans. But, this item is the least liquid asset as well. The bank earns quite a sizeable interest from the loans and advances it gives to the private individuals and commercial firms.

Acceptances and Endorsements

As discussed earlier, this item appears as a contra item on both sides of the balance sheet.

Fixed Assets

Fixed assets include building, furniture and other property owned by the bank. This item includes the total volume of the movable and immovable property of the bank.

Fixed assets are referred to as 'dead stocks'. The bank generally undervalues this item deliberately in the balance sheet. The intention here is to build up secret reserves which can be used at times of crisis.

Balance sheet of a bank acts as a mirror of its policies, operations and achievements. The liabilities indicate the sources of its funds; the assets are the various kinds of debts incurred by a bank to its customers. Thus, the balance sheet is a complete picture of the size and nature of operations of a bank.

Notes to the accounts:

The Reserve Bank has recognised the need for improving the disclosure requirements prescribed for banks. Keeping in view factors like computerisation and the level of MIS in banks, development of the market, etc., it has been agreed that the level of transparency needs to be brought on par with international best practices. In line with the above approach, the disclosure standards of banks have gradually been enhanced. In addition to the 16 detailed schedules to their Balance Sheet, banks are required to furnish in the "Notes to Account" details such as:

- Capital Adequacy Ratio; Tier I capital; Tier II capital;
- Percentage of share holding of the Government of India in the nationalised banks;
- Amount of subordinated debt rose as Tier-II capital;
- The gross value of investments separately on investments in India and outside India and the net value of investments in India and outside India;

- Provisions made towards depreciation in the value of investments and the movement of such provisions;
- Percentage of net NPAs to net advances; Provisions made towards NPAs and the movement of such provisions;
- Details of loan assets subjected to restructuring; restructuring under CDR; details of financial assets sold to an SC / RC for Asset Reconstruction; details of nonperforming asset purchased / sold;
- Details of 'Provisions and Contingencies'; provisions made during the year towards income-tax, standard asset, floating provisions, etc.;
- Disclosures of business ratios such as interest income as a percentage of working funds; operating profit as a percentage to working funds; return on assets; business (deposits plus advances) per employee, and profit per employee;
- Asset Liability Management - maturity pattern of loans and advances; investment securities; deposits; borrowings; and foreign currency assets and liabilities;
- Lending to sensitive sectors, which are sensitive to asset price fluctuations. These should include advances to sectors such as capital market, real estate, etc., and such other sectors to be defined as sensitive by the Reserve Bank from time to time;
- Exposure to country risk;
- Details of single borrower/group borrower limit exceeded by the bank;
- Disclosures relating to repo transactions; non-SLR investment portfolio; forward rate agreement/ interest rate swaps; exchange traded interest rate derivatives; and risk exposure in derivatives.

Non- performing Assets (NPA):

The banks have to classify their advances into four broad groups (1) standard assets, (ii) sub-standard assets, (iii) doubtful assets and (iv) loss assets. Broadly speaking, classification of assets into the above categories should be done after taking into account the degree of well defined credit weaknesses and extent of dependence on collateral security for realisation of dues.

Standard Assets: Standard asset is one which does not disclose any problems and which does not carry more than normal risk attached to the business. Such an asset is not a NPA.

Sub-standard Assets: Sub-standard asset is one which has been classified as NPA for a period not exceeding 12 months. In such cases, the current net worth of the borrower guarantor or the current market value of the security charged is not enough to ensure recovery of the dues to the bank in full. In other words, such an asset will have well-defined credit weaknesses that jeopardize the liquidation of the debt and are characterized by the distinct possibility that the bank will sustain some loss, if deficiencies are not corrected. A loan classified as doubtful has all the weaknesses inherent in that classified as substandard with the added characteristic that the weaknesses make collection or liquidation in full, on

the basis of currently known facts, conditions and values, highly questionable and improbable.

Loss Assets: A loss asset is or where loss has been identified by the bank or internal or external auditors or the RBI inspection but the amount has not been written off, wholly or partly. In other words, such an asset is considered uncollectible and of such little value that its continuance as a bank asset is not warranted although there may be some salvage or recovery value. It may be noted that the above classification is meant for the purpose of computing the amount of provision to be made in respect of advances and not for the purpose of presentation of advances in the balance sheet. The balance sheet presentation of advances is governed by the Third Schedule to the Banking Regulation Act, 1949, which requires classification of advances altogether differently. Taking into account the time lag between an accounts becoming doubtful of recovery, its recognition as such, the realization of the security and the erosion over time in the value of security charged to the banks, it has been decided that banks should make provision against sub-standard assets.

FORM OF CONSOLIDATED BALANCE SHEET OF A BANK AND ITS

SUBSIDIARIES ENGAGED IN FINANCIAL ACTIVITIES

Balance Sheet of _____ (here enter name of the banking group) (000's omitted)

Balance Sheet as on March 31 (Year)

Schedule	Year ended
31.3……..	
(Current Year)	Year ended
31.3……	
(Previous Year	
CAPITAL & LIABILITIES	

VI. Answer in detail:

1. Explain the accounting process?
2. What are the various accounting concepts followed while preparing books of accounts?
3. What are the Rules for Bank Accounts? Briefly explain.
4. Explain the process of writing a Main Day Book and how it is useful to the bank accounting?