



**After Studying this Chapter, you will be able to:**

- ◆ Learn the significance and salient features of accounting in computerised environment.
- ◆ Understand the classification and grouping of accounts.
- ◆ Familiarize with the hierarchy of ledgers.
- ◆ Understand the meaning and significance of accounting packages and consideration for their selection.

## **Introduction**

By now the students are familiar with the concepts of accounting and how different methods of accounting are to be adopted in different situations. We now look into accounting in a computerised environment. The first and foremost thing to remember is that the fundamentals of accounting does not change whether books of account are maintained manually or are computerised. The same principles of debit and credit that we apply for recording income or expenditure, purchase or sale of assets or creation or discharge of liability in a manual accounting system is equally applicable in a computerised environment. However, since the recording medium is something else compared to hard copy documents and considerable reliance have to be placed on the software for the input, processing and output of the data certain precautions, methodologies and techniques are to be adopted while maintaining accounts in a computerised environment.

## **Meaning of Computerised Accounting**

1. It captures business transactions in the form of accounting entries.
2. The accounting entries are then used to prepare financial statements.

3. The financial statements are prepared based on accounting standards.
4. Various financial reports are prepared from the data available in the financial statements.

The above functions are performed by using a computer, the system so developed is called Computerised Accounting.

## Salient Features of Computerised Accounting System

### The Main Features of Computerised Accounting

1. **Speed:** work done by the computers at a very high speed. Let us imagine the quantum of manpower required if 1,000 sales invoices are to be accounted daily and also to keep track of such sales, due date of receipt of money against the sale, money received in advance, etc. With the help of computers, these things can be managed by a few people and in a shorter time.
2. **Accuracy:** unlike people, machines do not make errors once they are programmed to work correctly. Thus, let us say a clerk is preparing a trial balance of an entity having 100 sales transactions daily and the trial balance does not tally. It would take days to find out the mistake. However, calculations done by machine are accurate and after all the transactions are fed into computer, the trial balance is ready within seconds after the completion of data feeding work.
3. **Various Informative Reports can be Generated:** in a computerised accounting system, it is possible in a manual system. Let us say a clerk is asked to prepare an area-wise list of sales from total sales throughout the year and the volume of sales transactions is about 500 a day. It would take the clerk or the accounts staff a few weeks to prepare such a statement. However, by using computers, such a statement can be prepared in a few minutes from the sales records by giving a few commands only.
4. **Economy:** Nowadays, computerised accounting has become cheaper as compared to human labour that has become more costly because of inflation. It is now economical to buy a computer and perform the accounting operations rather than employ a large number of people who would carry out the same job in a longer period.
5. **A Computerised System may be a Single Stand Alone Unit or a Multiple User, i.e. LAN, WAN, etc.:** A computerised system may be a single machine containing software and operated by only a single user. It could also be several computer machines interconnected by LAN (Local Area Network), WAN (Wide Area Network) or other means such as telephone connections, satellites, etc., used by multiple users at the same time, in multiple user computer system, data can be processed faster as more than one person is at work at the same time to complete the data feeding. In a computerised accounting system with multiple users, each user handles a particular segment of the transactions only, say, either sales, purchase, cash, bank, etc., and the ledger gets updated automatically based on the feedings done by all the users.

Computer information system environment exists when one or more computer(s) of any type or size is (are) involved in the processing of financial information, including quantitative data, of significance to the audit, whether those computers are operated by the entity or by a third party.

A computerised accounting environment will therefore have the following salient features:

1. The processing of financial information will be by one or more computers.
2. The computer or computers may be operated by the entity or by a third party.
3. The processing of financial information by the computer is done with the help of one or more computer software e.g. tally.
4. A Computer Software includes any program or routine that performs a desired function or set of functions and the documentation required to describe and maintain that program or routine.
5. The computer software used for the accounting system may be acquired software or may be developed for the business.
6. Acquired software may consist of a spread sheet package or may be prepackaged accounting software. Larger organisations may use an Enterprise Resource Planning (ERP) package for:
  1. Developing a customised accounting package is an option that some organisation prefers so as to suit the peculiarities of their business function.
  2. Outsourcing of the accounting system is also becoming popular where an organisation is having the financial accounting processed from a third party.

### **Advantages of Computerised Accounting System are:**

1. **Accurate, High Speed and Low Cost of Operation:** In a manual accounting system, special journals, subsidiary ledgers, etc., are used for recording accounting data. A computer-based system performs the accounting functions more rapidly, more accurately and (if the volume of repetitive transactions is large) at lower cost.
2. **Availability of Various Reports from the Same Accounting Data:** A computerised accounting system can generate as per instructions various reports in addition to the traditional balance sheet and profit and loss account. These reports that are generated as per requirements are useful for various purposes.
3. **Error free Accounting:** Computerised Accounting is error - free. A computer can perform millions of operations without committing any error unlike a human being.
4. **Automatic Completion of all Records by Feeding Only One Entry into the Computer:** In computerised accounting, once the initial feeding of the transactions is done in the computer, the entries set of accounts gets ready automatically. As required in manual accounting, there is no need to first write the subsidiary books, ledger, the general ledger, etc., and then prepare the financial statement.
5. **Multiple Set of Printouts Available:** Number of printouts with various modifications and including/excluding narrations can be taken and the data used more freely unlike manual system where there is only one set of accounts.

### Disadvantages of Computerised Accounting System are

1. **Requirement of Special Programme and Professional:** Special programmes are required to enable the computer to carry out accounting operations that can be written only by programmers. Thus, Efficient computerised accounting system and its programmes are sometimes costly.
2. **Qualified Staff Required for Operations:** Only a technically qualified person can operate a computer. Hence, the accounting staff has to be initially trained in a computer operations by a computer professional. This increases staff cost initially cost when there is a change from manual to computerised accounting.
3. **Costly Computer Peripherals and Stationery:** A computer requires various peripherals such as floppy disks for storage, printers, etc., and other special stationery items that are costly as compared to the traditional books of account.
4. **Regular back-up is Required as Data may be Lost for Various Reasons:** Regular back-ups on various storage devices such as hard disks, floppy disks, magnetic tape, etc., have to be taken to guard against possible loss of data. It is difficult to retrieve data lost from the computer due to inadvertence.
5. **Computer Viruses:** Data in a computer are subject to various risks including those by computer viruses. a computer viruses is a mischievous computer software written for fun/frolic. It damages data inside a computer. A computer virus may destroy the entire data in a computer and those kept in a back-up.

### A Terms Used In Computerised Accounting

The various terms used in computerised accounting and computer language are:

1. **Data:** Data mean any facts, observations, assumptions, or occurrences. In accounts, these would mean accounting entries to be passed to prepare financial statements and other related information e.g. in sales, invoices, details such as price, sales tax, date of sale, etc., are data.
2. **Record:** It consists of a group of data items related to an object of data processing, e.g. sales register may be called record of sales invoices.
3. **Data File or File:** It is a compilation of related records maintained in some pre-arranged order. It is similar to manual files wherein various papers are stored. An example of a computer file would be a payroll file of 1,000 employees of an entity.
4. **System:** It means various components that process the data, i.e. transactions/occurrences and give output, i.e. results. In a manual accountings system, the components would be persons, books of account such as ledgers, cash book, etc., which gives results in the form of trail balance. In a computerised accounting system, it would mean the computer machine, the software programme and computer peripherals such as keyboard monitor, etc.

### Significance of Computerised Accounting System

With computers becoming extensively used in business today, it is obvious that accounts which were earlier maintained in a manual form will be gradually replaced with computerised accounts. The

speed with which accounts can be maintained is several fold higher. Basic difficulties faced like balancing of trial balance, correct posting into the general ledger and subsidiary ledger is a thing of the past. Today any person maintaining accounts in the computer does not have to consider that while making say a cash expense entry through the cash payment screen that the corresponding ledger posting of the expense has been done properly or not. Similarly the trial balance should automatically tally unless some mistake is made while recording the opening balances. The only concern that has increased today are concerns for controls, security and integrity of the computer system as more and more information is stored not in the hard print but as soft copies inside the computer. Issues like unauthorised access to the data either through the local area network or through the internet by hacking into the company server are becoming potential threat to the computer usage.

### Codification and Grouping of Accounts

Unlike a manual accounting system where account codes are rarely used a computerised accounting system frequently uses a well defined coding system. However, it should not be concluded that computerised account must always have account codes. There are many accounting software's available which support a non-coded accounting system. A coded accounting system is more convenient where there are numerous account heads and the complexity is high. It also to some extent reduces the possibility of the same account existing in several names due to spelling mistakes or abbreviations used.

A proper codification requires a systematic grouping of accounts. The major groups or heads could be Assets, Liabilities, Revenue Receipts, Capital Receipt, Revenue Expenditure, Capital Expenditure. The sub-groups or minor heads could be "Cash" or "Receivables" or "Payables" and so on. The grouping and codification is dependent upon the type of organisation and the extent of sub-division required for reporting on the basis of profit centres or product lines.

There could a classification based on geographical location as well.

- (a) The main unit of classification in accounts should be the major head which should be divided into minor heads, each of which should have a number of subordinate heads, generally shown as sub-heads. The sub-heads are further divided into detailed heads. Sometimes major heads may be divided into 'sub-major heads' before their further division into minor heads.

The Major heads, Minor heads, Sub-heads and Detailed heads together may constitute a four tier arrangement of the classification structure of Accounts.

- (b) Major heads of account falling within the Receipt Heads (Revenue Account) may correspond to different activities or line of business of the company such as car manufacture, servicing of cars, repairs and maintenance of cars, while minor heads subordinate to them shall identify the specific manufacturing activity like manufacture of car body, components and spare parts, etc. A manufacture of car body may consist of a number of activities like the manufacture of the chassis, the door, the front panel, the rear panel, etc. These will then correspond to 'sub-heads' below the minor head represented by the main activity - car manufacture.
- (c) A "detailed head" is often termed as an object classification. In the expenditure account being considered in the above example the main purpose of the detailed head is to control

expenditure on an item to item basis and at the same time group the objects according to the nature. Example of such detailed head could be 'Salaries', 'Office Expenses', 'Salesman Expenses', 'Workshop Overhead', etc.

- (d) The detailed classification of account heads and the order in which the Major and Minor heads shall appear in all account records should be approved by the top management of the organisation and should be reviewed by the auditor before they are introduced in the computerised accounting environment.

## Maintaining the Hierarchy of Ledgers

Once the classification of accounts into various groups is complete and codification is done after formation of major, minor, sub and detailed heads the same is required to be inserted into the computer system.

Account master files are created with codes and description of the accounts. Some accounting software allows ledgers and subsidiary ledgers to be created from the main ledgers. The subsidiary ledgers can further be subdivided to sub subsidiary ledgers thereby allowing grouping under various profit centres. These are particularly useful where accounts are maintained without codes. In a coded system this is easily achieved by allotting codes to major, minor, sub and detailed heads and thereafter obtaining reports based on these codes.

Apart from the general ledger and the subsidiary ledger (or the sub-subsidiary ledger as is available in some software) there are other ledger accounts that are automatically created by any standard accounting software. These are the debtors ledger and the creditors ledger.

At the time of creation of the account heads some of account heads are indicated to the system as cash account, bank account, debtors account and creditors account. Thereafter whenever an entry is made say with a cash account and a bank account the computer automatically indicates it as a contra in the reports. Similarly when a sale transaction is made, the reflection is given in the debtors account and when a purchase transaction is made the reflection goes to the creditors account.

Another important ledger which forms part of most standard accounting package is the inventory ledger. In simple accounting softwares this may give only the movement of inventory items without valuation of inventories. However, many of the packages give the option of valuation of inventories based on the method of costing set like the FIFO, LIFO, weighted average, etc.

## Accounting Packages and Consideration for their Selection

- ◇ Account can be maintained in a computerised environment even by using a spread sheet package.
- ◇ User will have to use his knowledge and skills of spread sheet software to keep control of the figures.
- ◇ Special spreadsheet controls including physical spreadsheet controls like spreadsheets locked on a protected shared drive with restricted access and read/write access controls and password-protected cells and formulas with passwords should be used.

- ◇ Spreadsheet softwares allow grouping of accounts, replication of cell contents, formulas and macros, pivot tables, calculations and functions which help in the maintenance of the accounts.
- ◇ The limitations of a spreadsheet could be that double entry is not automatically completed thereby requiring the users to set formulas or other means to complete the double entry. Further, where large number of data is involved spreadsheet software may not work. It may also be difficult in a lan environment where users may require to simultaneously access a spreadsheet.

To sum up the advantages of spreadsheet software as an accounting tool are:

1. It is simple to use and easy to understand
2. Most of the common functions like doing calculations, setting formulas, macros, replication of cell contents, etc can be easily done in a spreadsheet.
3. Grouping and regrouping of accounts can be done.
4. Presentation can be made in various forms including graphical presentations like bar diagram, histogram, pie-chart, etc.
5. Basic protection like restricted access and password protection of cell can be used to give security to the spread sheet data.

The disadvantages of a spreadsheet as an accounting tool are:

1. It has data limitations. Depending upon the package they can accept data only up to a specified limit.
2. Simultaneous access on a network may not be possible. Many of the modern softwares allow locking of the table when updation is taking place. This is not possible in a spread sheet.
3. Double entry is not automatically completed. Formulas or other means have to be adopted to complete the double entry.
4. Reports are not automatically formatted and generated but have to be user controlled. Each time a report has to be printed, settings have to be checked and data range has to be set. In many accounting software this is automatically taken care of by the program.

## Pre-packaged Accounting Software

There are several pre-packaged accounting software which are available in the market and are used extensively for small and medium sized organisations. These softwares are easy to use, relatively inexpensive and readily available.

The installation of these softwares is very simple. An installation diskette or CD is provided with the software which can be used to install the software on a personal computer. A network version of this software is also generally available which needs to be installed on the server and work can be performed from the various workstations or nodes connected to the server.

Along with the software an user manual is provided which guides the user on how to use the software.

After installation of the software, the user should check the version of the software to ensure that they have been provided with the latest. The vendor normally provides regular updates to take care of the changes of law as well as add features to the existing software.

These softwares normally have a section which provides for the creation of a company. The name, address, phone numbers and other details of the company like VAT registration number, PAN and TAN numbers are feeded into the system. The accounting period has to be set by inserting the first and the last day of the financial year.

The next step in the use of this software could be the creation of accounts. This is done by adding the accounts along with their codes into the master file files. Each account has to be classified into whether it is an asset or liability or an income or expenditure account. Whether the account has other subsidiary ledgers under it needs to be indicated to the system. The opening balances are to be entered into the master file files. The company parameters need to be set at this point of time so that the accounts which are the cash, bank, sundry debtors, sundry creditors, etc are known to the system. The customer's name, address and other basic details are also entered in the customer master file. Similarly, the creditors details are entered into the creditor master file files. Product details are entered through the product master file files. Here the unit of measurement and the opening stock quantities including the values are provided. The system of valuation of stock like the FIFO, LIFO, Weighted average, etc are defined in the product master file files.

Once the basic parameters are set and the master files are updated, the system is ready for use.

To summarise, any standard pre-packaged software will have the following master file screens:

- ◆ Company Master File
- ◆ Accounts Master File
- ◆ Sub ledger Master File
- ◆ Customer Master File
- ◆ Vendor Master File
- ◆ Product Master File
- ◆ Division Master File

The entry screens differ in look and feel from software to software and from vendor to vendor. However, the basic entry screens are the following:

- ◆ Cash Receipts and Payment Entry
- ◆ Bank Receipts and Payment Entry
- ◆ Petty Cash Voucher Entry
- ◆ Journal Entry
- ◆ Purchase Order, GRN, Bill, Purchase return Entry
- ◆ Sales Order, Challan, Invoice, Sales Return Entry
- ◆ Debit Notes and Credit Notes Entry

- ◇ Cash Sales & Purchase Memos
- ◇ Production
- ◇ Consumption
- ◇ Stock Transfer

Each of the screens are provided with the add, modify or delete options. Special options like the date modification and voucher number modifications are provided in some of the softwares.

The next section that the software provides is the reports section where the following reports are common to most of the softwares:

- ◇ Cash Book
- ◇ Bank Book
- ◇ Petty Cash Book
- ◇ Purchase Book
- ◇ Sales Book
- ◇ Cash Sales Book,
- ◇ Cash Purchase Book,
- ◇ Sales Return Register
- ◇ Purchase Return register
- ◇ Journal Book
- ◇ General Ledger
- ◇ Subsidiary Ledger
- ◇ Debtors Ledger
- ◇ Creditors Ledger
- ◇ Debit Note Register
- ◇ Credit Note Register
- ◇ Stock Ledger
- ◇ Stock Movement Register
- ◇ Production Register
- ◇ Consumption Register

Document printing options like printing of purchase orders, challans and bills, sales order, challans and invoices, declaration forms and return forms.

- ◇ Trial Balance
- ◇ Profit and Loss Account
- ◇ Balance Sheet

Some of the softwares provide bank reconciliation options. In the entry screen date of clearances can be inserted. Reports can thereafter be generated of all uncleared items to make the BRS report.

There are special reports also provided by some softwares like the cash, bank maintenance reports which shows any date on which the cash or bank by mistake had credit balance. There are also MIS reports like aging of debtors, slow moving and non-moving stock, etc.

The last section also called the house keeping section of these softwares provide the system maintenance features. Backup can be taken and restored under the housekeeping section.

Clean-up, fine tuning and re-indexing of the software is part of this section of the software.

### Advantages of Pre-packaged Accounting Software

1. **Easy to Install:** The CD or floppy disk is to be inserted and the setup file should be run to complete the installation. Certain old DOS based accounting softwares required some settings to be added in the system configuration file and the system batch file. These instructions are generally provided in the user manuals.
2. **Relatively Inexpensive:** These packages are sold at very cheap prices nowadays.
3. **Easy to Use:** Mostly menu driven with help options. Further the user manual provides most of the solutions to problems that the user may face while using the software.
4. **Backup Procedure is Simple:** Housekeeping section provides a menu for backup. The backup can be taken on floppy disk or CD or harddisk.
5. **Flexibility:** Certain flexibility of report formats provided by some of the softwares. This allows the user to make the invoice, challan, GRNs look the way they want.
6. **Very Effective for Small and Medium Size Businesses:** Most of their functional areas are covered by these standardised packages.

### Disadvantage of Pre-packaged Accounting Software

1. **Does not Cover Peculiarities of Specific Business:** Business today are becoming more and more complex. A standard package may not be able to take care of these complexities.
2. **Does not Cover all Functional Area:** For example production process may not be covered by most pre-packaged accounting software.
3. **Customisation May not be Possible in most Such Softwares:** The vendors for these softwares believe in mass sale of an existing source. The expertise for customisation may not have been retained by the vendor.
4. **Reports Generated is not Sufficient or Serve the Purpose:** The demands for modern day business may make the management desire for several other reports for exercising management control. These reports may not be available in a standard package.
5. **Lack of Security:** Any person can view data of all companies with common access password. Levels of access control as we find in many customised accounting software packages are generally missing in a pre-packaged accounting package.

6. **Bugs in the Software:** Certain bugs may remain in the software which takes long to be rectified by the vendor and is common in the initial years of the software.

### Consideration for Selection of Pre-packaged Accounting Software

There are many accounting softwares available in the market. To choose the accounting software appropriate to the need of the organisation is a difficult task. Some of the criteria for selection could be the following:

1. **Fulfilment of Business Requirements:** Some packages have few functionalities more than the others. The purchaser may try to match his requirement with the available solutions.
2. **Completeness of Reports:** Some packages might provide extra reports or the reports matches the requirement more than the others.
3. **Ease of Use:** Some packages could be very detailed and cumbersome compare to the others.
4. **Cost:** The budgetary constraints could be an important deciding factor. A package having more features cannot be opted because of the prohibitive costs.
5. **Reputation of the Vendor:** Vendor support is essential for any software. A stable vendor with reputation and good track records will always be preferred.
6. **Regular Updates:** Law is changing frequently. A vendor who is prepared to give updates will be preferred to a vendor unwilling to give updates.

### Summary

Significance of computerised accounting:

- ◇ Increase the speed, Accuracy, Security
- ◇ Reduce the error
- ◇ Remove the delicacy of work
- ◇ Immediate information

Accounting Package:

- ◇ Maintained by using a spread sheet package,
- ◇ Use protected shared
- ◇ Limitations: Double entry is not automatically completed
- ◇ Controlling operations
- ◇ Deciding sequence of operations
- ◇ Accounting operations

Advantages of Pre-packaged Accounting Software:

- ◇ Easy to install
- ◇ Relatively inexpensive
- ◇ Easy to use

- ◇ Backup procedure is simple
- ◇ Certain flexibility of report formats provided by some of the softwares
- ◇ Very effective for small and medium size businesses

Disadvantage of Pre-packaged Accounting Software:

- ◇ Does not cover peculiarities of specific business
- ◇ Does not cover all functional area
- ◇ Customisation may not be possible in most such softwares
- ◇ Reports generated is not sufficient or serve the purpose
- ◇ Lack of security
- ◇ Bugs in the software

Consideration for Selection of Pre-Packaged Accounting SoftwareL

- ◇ Fulfilment of business requirements
- ◇ Completeness of reports
- ◇ Ease of use
- ◇ Cost
- ◇ Reputation of the vendor
- ◇ Regular updates

Q1. Define Computerised Accounting.

Q2. What are the salient features of Computerised Accounting?

Q3. Explain Computerised Accounting with its advantages and disadvantages.

Q4. Explain Codification and Grouping of Accounts with its classification in brief.

Q5. Short Note on:

(a) Maintaining the Hierarchy of Ledgers.

(b) Consideration for Selection of Pre-Packaged Accounting Software

Q6. What considerations should be taken during selection of accounting packages?

Q7. Explain Pre-Packaged Accounting Software with its advantages and disadvantages in details.

Q8. Discuss the advantages and disadvantages of spreadsheet software as an accounting tool.

