

Introduction [Accountancy for Engineers]

→ Why engineers must be taught with Subjects like Accounting & Finance?

★ Relevance of Accounting & Finance for Engineers :-

- ① Here, we talk about the professional engineers who are best suited either in a corporate envt. or ~~an~~ entrepreneurial environment and thus they are required to grasp the bases and principles of accounting practice and financial management.

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Managing the finances of the business through proper acquisition of funds, investing those funds in most profitable projects and also distribute the profit so as to maximise the wealth of shareholders.

These accounting practices are concerned with recording of financial / monetary transactions and communicating the same in the form of financial statements to internal & external users of business organisation.

- ② If we look at specifically this course's objectives, then it provides an interdisciplinary approach of Education.

How? → This subject 'Accountancy for Engineers' has linked the concepts of Accountancy to the professional field of Engineering and therefore the engineers will not only be designing & structuring the projects but they will also be able to identify the profitable projects.

Interdisciplinary approach of Education emphasised on the principle of 'Thinking beyond the subject'.

And, thus this subject fulfills this objective of Education.

Course Outcomes :-

- 1) Accounting Terms → Better understanding of accounting terms relative to the practice of engineering, engineering management, project management.
- 2) Effective financial justification → Professional engineers would be able to develop essential skills for the development of viable departmental budgets and can present an effective financial justification on proposed projects.
- 3) Financial Statements → Enhanced comprehension of financial reports and financial analysis.
- 4) Enhanced knowledge of Stakeholders' Interest in financial reviews → Professional engineers in their various levels and positions are required to deal with their internal support personnel, clients, tenders, partners, investors and other professionals.

Extra

Multidisciplinary Subjects

- ① Here, different perspectives are involved to study the same topic.
- ② It also involves more than one discipline.
- ③ But stays within boundaries.

e.g. Price Rise in country

↓
Political Economical Global Geo
 Comptnt diffn

Interdisciplinary Subjects

- ① Involves combination of multiple academic disciplines into one activity.
- ② Creating something new by thinking across boundaries.
- ③ Involve two or more academic disciplines

e.g. Accounting for Engineers

↓
Commerce Science

Unit - I

Topic → Objectives or Nature of Accounting

Meaning of Accounting → Accounting is the language of finance. The way we use different languages such as English (Hindi) to communicate our ideas, feelings, thoughts, etc.; similarly, accounting is used to communicate financial aspects of business organisation.

① Accounting can be defined as the process of identifying, measuring, recording, summarizing, classifying, presenting, analyzing the financial business information so that it can be communicated to the internal and external users for the effective planning and decision making.

Objectives of Accounting :

[Journals → ledgers → Trial Balance → P&L and B/S]

1) To maintain full and systematic records of business transactions.

2) To ascertain profit or loss of the business.

① Through the preparation of P&L & B/S (Income statement)

② A comparison of Income and Expenditure gives either profit / loss.

3) To depict financial position of the business.

⑥ B/S is known as position statement, it depicts Assets and Liabilities of the Business.

⑦ It reflects how short term funds & long term funds are used to finance the assets.
(Purchase)

What company owns?

↓
Assets

What company owe?

↓
Liabilities

4) To provide information to various users.

Internal Users	External Users
- Creditors	- Debtors
- Management	- Govt. Authorities
- Employees	- Prospective Investors
- Workers	- Researchers.

5) To assist Managers

→ Accountants provide accounting information regarding financial transactions for effective decision making by managers.

→ Nature of Accounting

1) Accounting is a process

① It is identified as a process

② There are sequences / steps that are to be followed by accountants to as per the objectives or targets of business organisation

③ Identification → Measurement → Recording → Classifying
of Monetary Transactions

↓

Summarizing

↓

Presenting

↓

Analyzing

↓

Interpretation of Accounting info.
by its users

↓
(intend & extend)

2) Accounting is an Art

↓
Performing something

which involves certain creativity
and skills.

- ① Similarly, accounting is an art as it also requires creative and special skills on the part of accountant with regard to presentation of accounting information so that it is well understood by users.

3) Accounting is means and not an end
(to an end)

- ① Accounting commences the process of decision making by management through providing financial results and position of an entity.
 - ② Just keeping books of accounts can be primary objective of any business organisation.
 - ③ But it is not only objective. Again objective may be identified as taking decisions on the basis of financial information supplied by accounting.
 - ④ Thus, accounting helps attaining a specific objective.
- 4) Accounting deals with financial information and Transactions.
- ① only financial (monetary) information is subject matter of accounting.
 - ② Non-financial information is disregarded by accounting.

5) Accounting is an information System.

① It is a storehouse of Information

② As a service function, it collects, ~~process~~ processes and communicates financial information of any entity.

③ And, it is required to evolve itself so as to meet the need of financial information required by different interested groups.

Topic → Definitions & Functions of Accounting

Sub Topic (a) → Definitions :-

① Smith and Ashburne defined Accounting as :-

"The science of recording and classifying business transactions and events, primarily of financial character and the art of making significant summaries, analyses and interpretations of those transactions and events and communicating the result to the person who must make decisions or form judgements".

② In the words of Beaman and Darbin :-

Accounting may be defined as the identifying, measuring, recording and communicating of financial ~~transaction~~ information.

③ According to American Accounting Association :-

~~Accounting may be defined as the~~

Accounting is the process of identifying, measuring, recording and communicating economic information to permit informed judgements and decisions by users of information.

Sub-topic (b) → Functions :— (Features / Steps of Process of Accounting)



- 1) Maintaining Systematic Records
- 2) Communicating the financial Results
- 3) Meeting legal Needs. — Legal Requirements to present financial statements.
- 4) Protecting Business Assets — through exercising proper control over them with the help of accounting information.
- 5) Accounting assist the management in the task of planning, control and coordination of business activities.
- 6) Fixing Responsibility — Accounting helps in computation of profit of different departments of an enterprise. This would help in fixing the responsibility of each department head.

— Features / Steps of Process of Accounting :-

- 1) Identifying → ① Transactions / events of specific organisation.
② Should be of Monetary / Financial Nature.

- 2) Measuring → ① Expressing business transactions in terms of money (common unit)
- ① Monetary Transactions
eg 1) Sale of cars
2) Wages, salaries
- ② Non-Monetary Transactions
eg 1) Service by employees
2) Recruitment Policy
- 3) Recording → ① in the Books of Accounts
- ① From Documents such as Purchase and Sales Bills, Salary slips, Bank statement etc.
- ① Where to Record?
First they are recorded to the Book of Original Entry
i.e. Journal.
- ① Recording should be done with titles and in chronological manner.
- 4) Classifying → ① Business transactions are classified on the basis of their nature to the ~~Head~~ Ledger A/C.
- ① For instance, Cash transactions, Credit transactions, debit transactions are separated and recorded in Ledgers.
- 5) Summarising → ① Being together a number of classified Accounts into one single A/C
- ① For instance, a) Various suppliers from whom we have purchased goods / Raw material on credit are grouped under one head / title known as Creditors.
- b) Salaries to different employees will be recorded under Salary A/C.

6) Interpretation → ○ It requires analysis of available accounting information by accountants.

○ Comparison of past figures with present data and finding out the cause of any positive / negative deviation.

○ Also, to indicate likely changes in future.

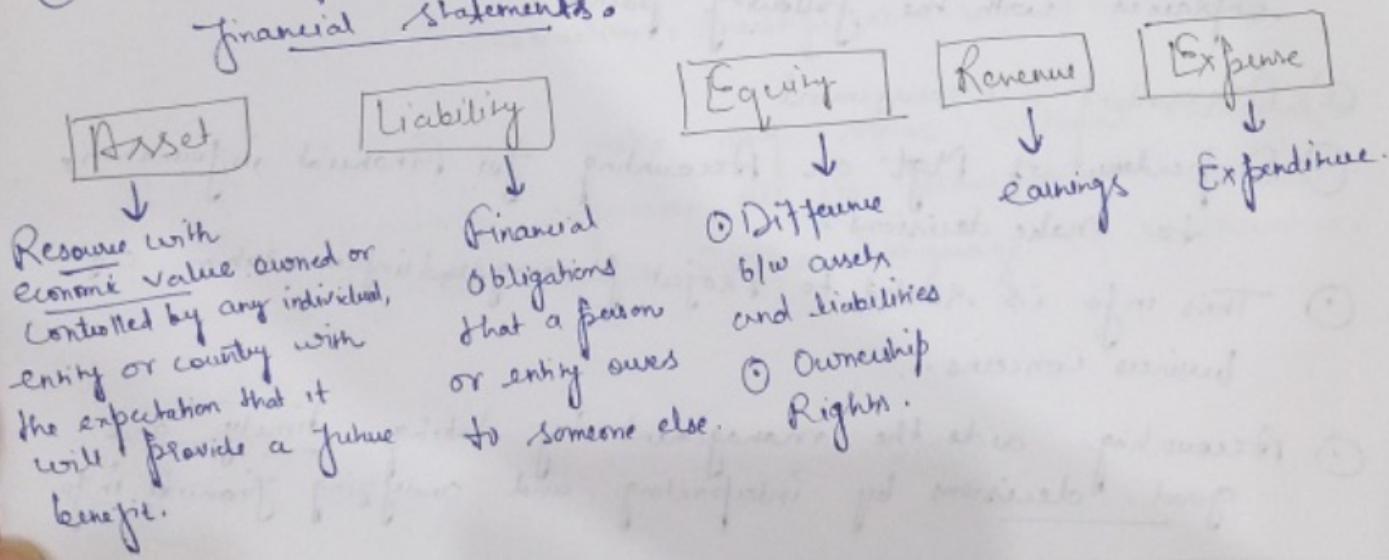
7) Communication → ○ Communicating the results of financial statements to the end-users of accounting information for the purpose of decision making in the respective area.

Topic - Accounts, Accountancy, Accounting and Book Keeping.

→ Accounts : ○ An account is a record in an accounting system that tracks the financial activities of a specific asset, liability, equity, revenue or expense.

○ These records increase or decrease as the business events occur throughout the accounting period.

○ At the year end, these are used to prepare financial statements.



Bookkeeping :-

→ Book Keeping :- It is a part of Accounting and it is the process of identifying, measuring, recording and classifying the financial transactions.

→ Accounting :- It is a wider concept and actually begins where Book Keeping ends. It includes summarizing, interpreting and communicating the financial data to the users of financial statements.

→ Accountancy : It is a field of Knowledge. It refers to systematic knowledge of the principles and the techniques which are applied in Accounting.

Topic → Interrelationship of Accounting with other Disciplines :-

① Accounting is a dynamic subject with vast area of knowledge. This field of knowledge is applicable to other domains as well.

② Interrelationship of accounting with other disciplines can be explained with the following points :-

a) Accounting & Management

① Dependence of Mgt. on Accounting for financial information to make decisions.

② This info. is related to Project planning and implementation of business concerns.

③ Accounting aids the management by taking timely and good decisions by interpreting and analyzing financial info.

b) Accounting and Economics :-

- ① Economics is concerned with satisfying unlimited wants exist through scarce resources.
- ② In business organisation, businessmen are also in dilemma of using scarce resources to fulfill various needs of the concerned organisation, it could be timely payment to employees, purchase of R.M., day to day expenses, etc.
- ③ Such balance is achieved only when accurate and reliable financial information is available to the managers of different departments.
- ④ Also, accounting information (related to financial aspects) of business helps the suppliers and buyers in determining their selling & buying decisions.

c) Accounting & Mathematics :-

↓ ↓
Language of Language of
Finance Accounting

- ① How will we present financial info? → Through Accounting
" " " Accounting figures → Through Mathematics
- ② At different stages of accounting, we apply the laws of addition, subtraction, multiplication & division of numbers.
- ③ Accounting will not make any sense without mathematics because accounting expresses all its transactions and events of financial changes in the language of mathematics.

d) Accounting & Law

- ① Accounting & Law are closely related because the trade and commerce in any country is controlled by the prevailing laws of that country.
- ② Accountant & accounts officer of a business entity must be knowledgeable about partnership law, company law, tax laws, and other relevant laws in the country of operation.
- ③ Because, at the year end accounting records of a business concern ~~is~~ are audited and it is compulsory to follow such practice.
- ④ This auditing is being done as per the relevant provision of law.
e.g. Partnership firm → Indian Partnership Act, 1932
Company → Companies Act, 2013

e) Accounting & Engineering :-

Topic — Branches of Accounting

↓
(Divisions)

1) Financial Accounting :- It is concerned with recording of transactions of financial nature and periodic preparation of financial statements (Income and Position Statements) (P&L) (B/S) and cash flow statements from such records.

- ① Such type of Accounting is meant or designed for outsiders (external users).

- ② It identifies mainly three things :-

Ascertaining
Profit or loss made
for a given period

Financial
Position at
the end of the
period.

Sources and
uses of cash
for the given
period.

2) Management Accounting :-

- ① Although M.A. and F.A. uses the same data but they organize, summarize and analyse the data in different way.

- ② Mgt. A/C serves the information need of the insiders i.e. owners, managers and employees for future planning, decision making and control by management of business organization.

for instance [Interpretation of Profit earned]

By outsiders

They analyze the
prospective growth of
business, future earnings
of enterprise.

By insiders

Managers will use such data
for their pricing decisions.
i.e. How much more Profit margin
they can add to cost of Product
to claim new Price?

3) Corporate Accounting :-

- ① As the name suggest, this type of accounting is concerned with business transactions of companies.

- ② Various rules and practices related to Mergers and acquisition of companies.

4) Cost Accounting :-

It has been developed to ascertain the cost incurred for carrying out various business operations and to help the management to exercise strict cost control.

5) Social Responsibility Accounting :-

- ① Also known as Social Reporting accounting.

- ② It discloses the benefits created and cost incurred by enterprise.

Social benefit include such facilities as medical, housing, education, canteen, provident fund and so on while the cost may include such matters as extra hours worked by employees without any payment, environmental pollution, unreasonable terminations, etc.

6) Green Accounting :-

- ① It considers the environmental cost in calculation of operating income of an enterprise.

- ② Green Accounting takes into consideration not only value of natural resources but also the costs of pollution and depletion of natural resources.

- ③ This concept is related to National Accounting wherein Gross national income ~~GNP~~ of the country as a whole is calculated.

① Green accounting put more emphasis on the quality of economic growth in terms of sustainable development.

Topic :- Advantages and Limitations of Accounting :-

→ Advantages :-

- ① Maintenance of Records rather than Memory
- ② So that necessary information about various business transactions is available in time and free from bias.
- ③ Preparation of financial statements
- ④ Accounting makes easy the preparation of financial statements which are Income Statement and Position Statement.
- ⑤ Comparison of Results
 - ⑥ Inter-firm Comparison i.e. Previous results can be compared with that of present financial statements.
 - ⑦ Inter-firm Comparison i.e. Comparison of results between two or more firms.
- ⑧ Assistance to Management
 - ⑨ assist mgt. to plan its future activities by preparing budgets in respect of sales, production, expenses, cash, etc.
 - ⑩ Also, coordination can be achieved by providing financial details of each department.
- ⑪ Managerial control can be done by measuring the deviations from planned activities in money terms and taking corrective measures or steps to improve the situation in future.

⑤ As Legal evidence

- ① How Accounting can serve the purpose of providing evidence in legal matters?

Systematic recorded accounting information provides documentary evidence in a court of law for disputes regarding the amount that ~~use~~ ^{any} business has obligation to payback to creditors and ~~receive~~ ^{get} money from debtors.

⑥ Control over assets or properties

- ① Accounting facilitates control over assets or properties of the business enterprise by providing information such as cash and bank balances, stock in hand, sundry debtors, fixed assets, etc.

⑦ Ascertainment of value of Business

- ① Accounting information can be used to determine the proper price or value of business in case a sole trader, a partnership firm or a company wish to sell its business to any person or entity.

⑧ Communication to external users

- ① Investors, Creditors, govt agencies, researchers, etc. who require such information for various purposes.

Limitations :- (Imp)

~~Note~~

- ① No Recording of Non-Monetary Transactions:-
 - As Accountancy considers the recording of Monetary transactions only.
 - Non-monetary transactions are being disregarded by it.
 - However, these transactions are equally important for the (smooth) functioning of the organisations.
 - For instance, Strike by workers, which caused a decline in production activities which affected the Revenue of the business.
But, accounting has only recorded the Revenue aspects or the no. of goods produced.
The real cause behind such decline remains undisclosed.
- ② No information about the Present value of Business:-
- Asset are recorded on the basis of Cost Concept.
 - What does it mean?
It means that New assets are recorded at Original cost which is their purchase Price
 - and Used assets are recorded at Book value which is Original cost - depreciation.

So, Market value of the assets are being ignored

 - And the effect of such practice is that true financial position of the business is not being reflected in the financial statement (B/S).
 - Inflated or deflated price of assets are ignored.

- (3) Use of estimates or personal judgements.
- Sometimes, accounting information is based on estimates or personal judgement.
 - For instance, when we charge Depreciation on Assets, it depends on accountant to select the method of Depreciation.
Also, it is not possible to accurately predict the Actual useful life of fixed assets for the purpose of depreciation expenses.
 - Such kind of rough estimates may affect the outcome or result of financial statements.
- (4) Biased accounting information:-
- Why accounting info. is considered to be biased.
Because, again it does not consider the non-monetary aspects of various transactions and events.
For instance, cost of Air pollution, Water pollution, employees' injuries and so on are disregarded by accountants.
- (5) No basis of Managerial efficiency:-
- Accounting information is not the only test of managerial efficiency or managerial performance on the basis of profits.
 - Profits can be shown in a inflated position by omitting various expenses such as advertisement expense, cost of R&D and so on.

Some Important Concepts

→ Qualitative Characteristics of Accounting :-

a) Understandability :-

- ① An essential quality of accounting information is that it must be readily understandable by users.
- ② Accounting info. must be presented in a manner that the users such as investors, creditors, employees or even govt. etc. understand it correctly.
- ③ For this purpose, it is assumed that users have a reasonable knowledge of economic and business activities and accounting and they devote time and energy to study the accounting information.
- ④ Complex accounting information ~~which is not relevant for decision making~~ should not be excluded on the ground that it is difficult for certain users to understand.

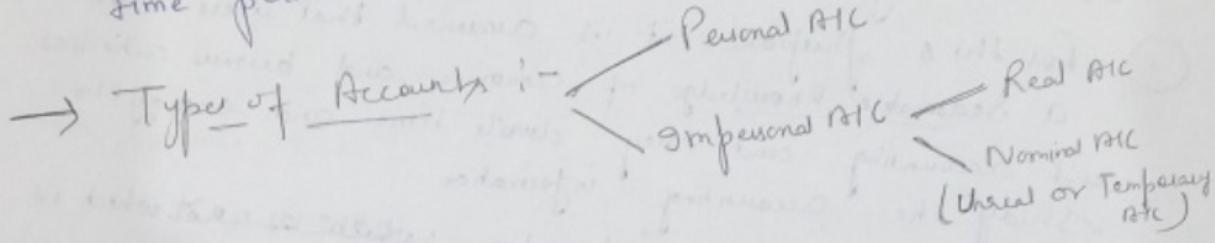
b) Relevance :-

- ① Another quality of accounting information that it must be relevant for the users.
- ② Relevant information is such which is available on time, helps in prediction and feedback and also influences the decisions of users in a positive manner.

c) Reliability :- It means that the users must be able to depend on the information. It is believed that reliable information should be free from error and bias and provide results on a consistent basis.

d) Comparability :-

- ① It is believed that it is not sufficient that the financial information is relevant and reliable at a particular time, in a particular situation and for a reporting entity.
- ② But it is equally important that the users of the general purpose financial reports are able to compare various aspects of an entity over different time periods and with other entities.



- ① Personal A/c :- Recording Business Transactions with Persons and other business enterprise.
- ② ~~Nominal~~ Comprises of Credit Transactions, i.e. when transaction is not settled in cash immediately.

③ **Debtors**
Persons to whom the goods have been sold on credit (or money lent)

Creditors

↓
Persons who have supplied goods on credit (or have advanced loans)

- ④ Types :- a) Natural Person's A/c → e.g. Abhay's A/c, Parvin's A/c, Samridhi A/c
- b) Artificial / legal Person → Companies, Partnership firm, Govt. Agencies, Institutes

c) Groups or Representative Personal A/c → A/c of different persons but of the same nature
e.g. Creditors A/c, Suppliers A/c, Debtors A/c, O/S Rent A/c
Since, they are of same nature so grouped in One A/c.

② Impersonal P/C

Such P/C include those business transactions which do not affect Persons (either natural or artificial) but affect the business enterprise.

Type:- a) Real P/C → consist of P/C of Properties and Possessions which are real, tangible and intangible.

Tangible real P/C :- Consist of real tangible things or properties which can be seen, touched, measured, purchased and sold.
e.g. Cash, Building, Goods, Furniture, Machinery, Stock, furniture

★ Bank P/C is not real P/C, because it is related to some banking company. Therefore it is Personal P/C.
(artificial legal person)

Intangible Real P/C :- Consist of those things which can't be physically seen or touched but are capable of being measured in money terms.
e.g. Goodwill, Patent Rights, Trade marks, etc.

b) Nominal P/C (Unreal or Temporary P/C)
P/C of expenses, losses, income and gains are called Nominal accounts.
e.g. Salary, Rent, Wages, Commission, Bankurt, Bad debt, etc

* O/S Rent, O/S Salary, Arrears, Amount Rec'd
in advance

Although these are also related to expense and income but these are NOMINAL AT PERSONAL P/C
Why? → because they are P/C of some unnamed debtor or creditor.

Valuation A/c [contra Accounts]
↓
Such A/cs are shown in the opposite side
of the main A/c

e.g. Machinery A/c , Provision for Depreciations on
(Debit) ↓ Machinery A/c
(Credit)

Topic → Systems of Accounting :-

Double Entry System

Single Entry System

- Double entry system is based on the Dual Aspect Principle
- Every transaction has two aspects i.e. 'a debit' and 'a credit' of an equal amount.
- This system of accounting recognises and records both aspects of the transaction.
- either one aspect is recorded or both the aspects are not recorded for all the transactions.
- It only considers those transactions which involved Cash Receipt / Payment.
e.g. Cash Book
- Used by small businesses.

Topic → Basis of Accounting

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Cash Basis
of Accounting

- ① Only Cash Transactions are recorded.
- ② O/S and Prepaid income
③ expenses are not being considered.
- ④ This basis of accounting records transactions only when cash is received or payment is made.
- ⑤ This method is not recognised under Companies Act.
- ⑥ This method of accounting is suitable only for small businesses

↓
Accrual Basis
of Accounting

- ① Both cash and credit transactions are recorded.
- ② This basis of accounting records transactions which belongs to a particular financial period whether irrespective of Cash payment or Receipts.
- ③ Recognised under Companies Act.
- ④ Suitable for business enterprises with profit motive.

[* Accounting Equation
* Rules of Debit & Credit
(after Concepts & Conventions)]