1ST CHAPTER
Entrepreneurship

The word ‘entrepreneur’ is derived from the French verb ‘’entreprendre’’, which means to undertake. This refers to those who ‘undertake’ the risk of new enterprises. An enterprise is created by an entrepreneur. The process of creation is called ‘entrepreneurship’.

Entrepreneurship is a process of actions of entrepreneur who is a person always in search of something new and exploits such ideas into gainful opportunities by accepting the risk and uncertainty with the enterprise.

Need of Entrepreneurship:

1. Development of managerial capabilities:
The managerial capabilities are used by entrepreneurs in creating new technologies and, products in place of older technologies and products, resulting in higher performance.

2. Creation of Organisations:
Entrepreneurship results into creating of organisations when entrepreneurs assemble and coordinate physical, human and financial resources, and direct them towards achievement of objectives through managerial skills.

3. Improving standards of living:
(a) By creating productive organisations, " entrepreneurship, helps in making variety of goods. and services available to the society which results into higher standards of living for the people (b) Possession of luxury cars, computers, mobile phones, rapid growth of shopping malls etc. are pointers to the rising living standards of people and all this is due to the efforts of entrepreneurs.

4. Means of economic development:
Entrepreneurship involves creation and use of innovative ideas, maximisation of output from given resources, development of managerial skill etc. and all these factors are so essential for the economic development of a country.

Characteristics of an entrepreneur:

Here are the 10 best characteristics of an entrepreneur that one must nurture.

1) Creativity:
Creativity gives birth to something new. Without creativity, there is no innovation possible. Entrepreneurs usually have the knack to pin down a lot of ideas and act on them. Not necessarily every idea might be a hit. But the experience obtained is gold.

2) Professionalism:

Professionalism is a quality which all good entrepreneurs must possess. An entrepreneurs' mannerisms and behaviour with their employees and clients goes a long way in developing the culture of the organization.

3) Risk-taking:

Entrepreneurs have a differentiated approach towards risks. Good entrepreneurs are always ready to invest their time and money. But, they always have a backup for every risk they take. Without knowing the consequences, a good entrepreneur wouldn't risk it all.

4) Passion:

Passion acts, as a driving force, with which, you are motivated to strive for better. It also allows you the ability to put in those extra hours or efforts which may make a difference.

5) Planning:

Planning basically sums up all the resources at hand and enables you to come up with a structure and a thought process for how to reach your goal. The next step involves how to make optimum use of these resources, to weave the cloth of Success.

6) Knowledge:

A good entrepreneur always try to increase his knowledge which is why he is always a learner. Knowledge is the key to success. An entrepreneur should possess complete knowledge of his industry. He should also know that his strengths and weaknesses are so that they can be worked on and can result in a healthier organisation.

7) Social skills:

Social skills involve relationship building, hiring and talent sourcing, team strategy formulation.

8) Empathy:

Empathy is the understanding of what goes on in someone's mind. A good entrepreneur should know the strengths and weaknesses of every employee who works under him.

9) Customer satisfaction:

A good entrepreneur will always know this; a business is all about the customer. How you grab the customer's attention is the first step. This can be done through various mediums such as marketing and advertising.

10) Self-motivation:

One of the most important traits of entrepreneurs is self-motivation. When want you to succeed you need to be able to push yourself. You need to be dedicated to your plans and keep moving forward.

Qualities of an entrepreneur:

1- Self-confidence
2. Competitive spirit
3. Ego involvement
4. Ego strength
5. Risk taking
6. Decision

7. Independent thinking
8. Desire for unique production.
9. Managerial skill
10. Organising ability
11. Intelligence
12. Emotional tolerance
13. Achievement orientation
14. Visualisation ability
15. Goal directed thinking
16. Conflict resolved
17. Imaginative thinking
18. Popularity
19. Reality oriented
20. Cooperative
21. Quality control capacity
22. High motivation

Types of Entrepreneurs:

Entrepreneurs can be classified through various parameters. On the basis of economic development, there are 5 types of entrepreneurs.
(1) Innovating entrepreneur
(2) Imitative entrepreneur
(3) Fabian entrepreneur
(4) Drone entrepreneur
(5) Social entrepreneur

(1) Innovating entrepreneur:

→ These entrepreneurs have the ability to think newer, better and more economical ideas of business organisation and management.

→ Inventions like the introduction of a small car "NANO" by Ratan Tata, making mobile phones available to the common man by Anil Ambani are the works of innovative entrepreneurs.

(2) Imitative entrepreneur:

→These entrepreneurs imitate innovative entrepreneurs and follow the path shown by innovative entrepreneurs.
→Development of small shopping complexes, manufacturing small cars are now imitative entrepreneurs.

(3) Fabian entrepreneur:

→ By nature these entrepreneurs are shy and lazy. These type of entrepreneurs are neither will to introduce new changes nor desire to adopt new methods of production innovated by most of the entrepreneurs.
→ They are not interested in taking risk.

(4) Drone entrepreneurs:

→ Drone entrepreneurs are those individuals who are satisfied with the existing mode and speed of business activity and show no inclination in gaining market leadership.

→ In other words, drone entrepreneurs are die hard conservatives and even ready to suffer the loss of business.

(5) Social entrepreneurs:

→ Social entrepreneurs drive social innovation and transformation in various fields including education, health, human rights, worker's rights, environment and enterprise development.
→ Dr. Yunus of Bangladesh who started Gramin. Bank is a case of social entrepreneur.

Functions of an entrepreneur:

Some of the important function performed by entrepreneur are as follows:

1. **To prepare plan:** Plan refers to scheme of production, scale of production, types of goods to be produced and its quantity.

2. **Selection of the site:** The selection of place may be near marked, railway-station of near the source of raw materials.

3. **Provision of capital:** Capital is required to install a factory or an industry.

4. **Provision of Land**: Land has to be arranged either by purchasing or hiring.

5. **Provision of labour:** Different types of labour are required to produce one type of commodity.

6. **Purchase of machines and tools:** It is required to start and continue the production.

7. **Provision of raw materials:** Entrepreneur should purchase best quality of raw materials at minimum cost. He should also know the sources of raw materials.

8. **Coordination of the factors of production:** It is required to reduce the cost of production to minimum.

9. **Division of labour:** The splitting up of production into different parts and entrusting them to different workers is also function of an entrepreneur.

10. **Quality of product:** Keeping in view the competition in the market, the entrepreneur has to determine the quality of his product.

11. **Sale of goods:** He employs a good number of salesman to market the goods.

12. **Advertisement:** He has to do advertisement of quality of his goods through newspapers, magazines, radio, TV etc.

13. **Search for markets:** He should produce goods in accordance with customer's tastes and explore markets for his product.

14. Supervision: The main job of an entrepreneur is to supervise all the factors engaged production process.

15. Contact with the government: A license should be taken before the start of precaution. He has to abide by certain rules and regulations of production and has to pay taxes regularly.

16. Payment to factors of productions: He has to make payments to the landlord, labour, capitalist in the form of rent, wages and interest.

17. Quantity of production: He determines the quantity of production keeping in view the demand for goods and the extent of market.

18. Risk-taking: There are chances that he may be rewarded with a handsome profit or he may suffer a heavy loss. Therefore, risk-bearing is the final responsibility of an entrepreneur.

Barriers in entrepreneurship:

(1) Environmental Barriers:

(a) Raw material: Non-availability of raw materials can increase its price due to competition.
(b) Labour: It includes shortage of skilled labour, lack of committed and loyal employees.
(c) Machinery: Machines are sometimes expensive, and becomes difficult for the small organisations to keep the production process updated.
(d) Land and buildings: It requires huge expenditure.
(e) Infrastructure support: It includes adequacy of electricity, proper road, water and drainage facilities etc.

(2) Financial Constraints: The availability of funds is a major concern. Delay in starting or running business results in a delay in the source of finance.

(3) Personal barrier:

(a) Lack of confidence: They feel that they will never get a successful idea and any necessary resources.
(b) Lack of dependence on others: Entrepreneurs go through trial and error and experience rather than seeking personal help from others.
(c) Motivation: Lack of motivation when thoughts do not work.
(d) Lack of Patience: They desire to achieve success or become rich immediately.

4. Society barrier:
(a) Socio-cultural norms and values
(b) Financial stability and family background
(c) Caste and religious affiliation

5. Political barrier:
(a) Governmental rules, taxation, licensing etc.

(b) Lack of supportive governmental regulations.
(c) Without funds a person cannot begin to organise, train, develop and sell product.

Entrepreneurs Vs Managers:

SL NO	BASIS FOR COMPARISION	ENTREPRENEUR	MANAGER
1	MEANING	Entrepreneur refers to a person who creates an enterprise by taking financial risk in order to get profit.	Manager is an individual who takes the responsibility of controlling and administrating the organisation.
2	FOCUS	Business startup	Ongoing operation
3	PRIMARY MOTIVATION	Achievement	Power
4	APPROACH TO TASK	Informal	Formal
5	STATUS	Owner	Employee
6	REWARD	Profit	Salary
7	DECISION MAKING	Initiative	Calculative
8	RISK	Risk taker	Risk adverse

Forms of business ownership:

The important business organisations
(1) Sole-proprietorship,
(2) Partnership,
(3) Joint Hindu Family business,
(4) Cooperative Society,
(5) Joint stock company/Private limited company

(1) Sole Proprietorship:

→ When a business & started by a single person it is known as sole proprietorship or ownership or one-man business.
→ In this business, the proprietor uses his own resources, skill, knowledge and manages the business alone. He may take the help of employees in managing the work in a business.
→ All the profits earned by the business belong to the sole proprietor.
Ex: Book keeping, computer repair services, tutoring, virtual assistant etc.

Features:
→ Such a business is owned and controlled by a single individual.

→ The individual invests his own capital in this business.
→ The sole proprietor bears all the risk to which the business is exposed.
→If there is any profit or less in business when it goes to or comes from sole-proprietors' pockets.
→ It doesn't require license and permissions or clearance from any authorities. So, it is very easy to start such a business.
→ Sole proprietor may take the help of his employees who may get salary.
→ Sole-proprietor does not enjoy separate legal status.
→ He may expand his business, close it, shift it to any other place with unlimited freedom of actions.

(2) **Partnership:**

→According to section-4 of Indian parliament act 1932, partnership is defined as. "A relation between persons who have agreed to share the profits of a business, carried on by all or anyone acting for all. Persons entering to the agreement are individually called partners, and collectively in a firm and the name under which business is carried out is called firm name."
→Partnership is the result of an agreement between or business among persons to carry on some business.
→The partners pull their own resources to conduct the business
→ They manage the business themselves and share the profits or losses as per agreement.

Features:

→ The minimum number of members in case of a partnership business is two and the maximum limit is twenty. However, in case of banking and financial business the maximum membership is restricted to 10 only. Such an agreement must be valid in the eye of law.
→ It may be in writing or in oral words. Such an agreement in writing is known as partnership deed.
→ The motive of all partners in the partnership must be to earn profit and share it.
→ To be a partnership, there must be a business. If the partners agree to carry on something which is not a business, it will not be called as partnership.
→ A partner in a partnership is an agent well as the principal and there exists a relationship among the partners which is a principal-agent relationship.
→ A partnership firm has no separate legal existence. Apart from it, both the partners and the firm are considered as one unit in eye of law.
→ Transfer of share in case of partnership is totally illegal.
→ A partnership firm is the result of mutual understanding, faith and confidence among the partners.
→ If the partners have agreed to carry on business for a limited period of time it is known as "partnership for a fixed team". If they have agreed to carry on the business for the completion of a particular job or project it is called particular partnership.
→ Usually se partnership firm comes to a close, in the event of death, retirement or insolvency of a partner.

(3) **Joint Hindu family business:**

→ A large number of business in India is carried on by different families and such a business is called Joint Hindu Family business.
→Joint Hindu family business operates under the Hindu Succession Act, 1956.

(4) **Cooperative Society:**

→ When a group of persons belonging to particular class or themselves and start a category or group associate. business for their mutual benefits, it may be called as Cooperative society.
→ The main aim of a cooperative society is not to earn profit but to render the best possible Services to its members.

(5) Joint Stock Company: It can be defined as an artificial person created by law, having a distinctive name with a common seat, a common capital with limited liabilities and with perpetual successions.

Industry:

Industry refers to those economic activities, which are responsible for the production of goods and services.

Depending upon the nature, activities of industry, industry can be classified into 5 categories:
(1) Manufacturing industry
(2) Extractive industry
(3) Genetic industry
(4) Construction industry
(5) Service industry

(1) Manufacturing industry:

Here the production activities are carried on at a particular place with the use of men and machine.

There are the factories and mills where raw materials are introduced and finished products are found out.

Manufacturing industries are further classified into four categories:
(a) Assembling industry
(b) Processing industry
(c) Analytical industry
(d) Mixed type or synthetic type

(a) Assembling industry: This type of industries procures or purchase different components, parts, assembling, accessories and assemble them into useable products.
Ex: Bicycle industries, automobile industries, watch industries, TV industries etc.

(b) Processing industry: This type of industries purchases different raw materials and are put into the processes. Under the arrangement, some type of processing, modifying, grinding, polishing, shaping, heating etc. are done at different stages at different processes with the aid of plant, machinery and equipment.
Ex: Furniture making, textile industries, paper making, jute mills etc.

(c) Analytical industry: This type of industries introduces raw material at one point and several products come out at different processes by due segregation, separation, analysis etc.
Ex: Milk products like ghee, cheese, curd, butter, milk powder, condensed milk etc. come out of different processes.

(d) Mixed type industry: Under this type of industries different raw materials are combined at different processes or different stages and after further processing, finished products come out at the end of processes.
Ex: Food processing industries, Ayurvedic medicine preparation.

(2) Extractive industry:

This type of industries is engaged in the process of extraction of different minerals, collection of forest products, deep sea fishing, hunting etc.

(3) Genetic industries:

This type of industries is process of reproduction. **Ex:** poultry

(4) Constructive industries:

This type of industries is engaged in the construction of various infrastructure like road, dam, bridge, canal, flyover, tunnel, building, factories etc.

(5) Service industries:

This type of industries provides services of various types to the people to the industries and other organisation.
Ex: Service station, garage, cinema halls, internet, hospital etc.

Concept of start-up:

→ A start-up is a young company founded by one or more entrepreneurs to develop a unique product or service and bring it to the market.

→ Through a vast majority of start-ups fails, some of history's most successful entrepreneurs created start-ups like Microsoft (founded by Bill Gates), Ford motors (founded by Henry Ford), and Mc. Donald's (founded by Ray Kroc).

Entrepreneurial support agencies:(National, State and district level)

1) DIC (District Industries Centre):

→ It was established on 1st May 1978.
→ District Industries Centres by central program was initiated by central government to promote tiny, cottage, village and small scale industries (SSIs) in smaller towns and their particular areas to make them. available with all the basic needs, services and facilities.
→ DIC's primary focus is to generate employment in rural regions of India.
→ DIC perform various functions like arrangements for credit and machinery and equipment and raw materials, development. and expansion of industrial clusters, identification of suitable schemes, recognizing and financially supporting new entrepreneurs.

2) NSIC (National Small Industries Corporation):

→ National small industries corporation (NSIC) was established in the year 1955 in order to promote, aid and foster the growth of small business units in the country. The functions of NSIC are as follows:
(a) To create awareness about technological upgradation.
(b) To serve as technology business incubators.
(c) To provide mentoring and advisory services.
(d) To develop technology transfer centres and software technology parks.

(e) To obtain, supply and distribute indigenous and imported raw materials.
(f) To export the products of small business units in order to develop export worthiness.

3) OSIC (Odisha Small Industries Corporation):

→ The Odisha Small Industries corporation was established 3rd April 1972.
→The basic objective of the corporation is to aid, assist and promote the MSMEs in the state for their sustained growth and development to the industrialization process in the state.
→ It provides quality raw material and building material to MSMEs of the state.
→ It assists in marketing the products of the MSME sector.

4) SIDBI (Small Industries Development Bank of India):

→ Small industries and development Bank of India mainly focusses on the financing, promotion and development of the Micro, Small and Medium Enterprises (MSMEs). It was established on 1990.
→ It offers financial support to MSMEs Small Scale Industries (SSIs) and other service sectors. → It provides funding via banks and other financial institutions.
→ It aims to create equilibrium in the financial sector by strengthening credit flows and promoting skill development.

5) NABARD (National Bank for Agricultural and Rural Development)

→ It was established in 1982.
→ It is a development bank focussing primarily on the rural sector of the country. It is an apex banking institution to provide finance for agriculture and rural development.
→ It is responsible for the development of the small industries, cottage industries and any other such village or rural projects.
→ It prepares rural credit plans, annually, for all districts in the country.
→ It also promotes research in rural banking, and the field of agriculture and rural development.

6) Commercial Banks:

→ A commercial bank is a financial institution which performs the functions of accepting deposits from the general public and giving loans for investing with the aim of evening profit.
→ **Examples:**
State Bank of India (SBI)
Housing Development Finance Corporation (HDRC)
Corporation Bank etc.

7) KVIC (Khadi and Village Industries Commision):

→ Khadi and Village Industries Commision plans, promotes, organizes and implements programs for the development of Khadi and other village industries in rural areas nationwide.
→ It has also helped in creation of employment, in Khadi Industry.
→ It was formed in April 1957 (as per RTI) by Government of India.
→ It promotes the sale and marketing of Khadi and Village Industries products.

Technology Business Incubators (TBIs)

→ An organisation designed to accelerate the growth and success of entrepreneurial companies through an array of business support resources and services that could include physical space, capital, coaching, common services and networking connections, is called business incubator.
→ Their goal is to help create and grow young businesses by providing them with necessary support and financial and technical services.
→ There are approximately 900 business incubators nationwide, according to the National Business Incubation Association.
→ Incubators provide numerous benefits to owners of start-up businesses, but they carefully screen potential businesses because their space, equipment and finances are limited.
→ Incubators have specialised ideas or businesses so that growth rate is quicker or better.
→ They provide administrative support, office equipment, potential investors and training.

Science and Technology Entrepreneur's Parks:

→ Science and Technology Entrepreneurs Park (STEP) programme was initiated to provide a re-orientation in the approach to innovation and entrepreneurship involving education, training, research, finance, management and the govt.
→ The main objectives of stets are:

(a) To forge a close linkage between universities, academic and R&D institutions on one hand and industry on the other.
(b) To provide R&D support to the small-scale industry mostly through interaction with research institutions.
(c) To promote innovation based enterprises.

2ND CHAPTER
MARKET SURVEY AND OPPURTUNITY IDENTIFICATION (BUSINESS PLANNING)

A research method for defining the market parameters of a business is called market survey.

Business Planning:

→ The purpose of a business plan is to identify, describe and analyse a business opportunity of a business already underway, examining its technical, economic and financial feasibility.
→ Moreover, it should serve as a business card for introducing the business to others: banks, investors, institutions, public bodies or any other agent involved, when it comes time to seek cooperation or financial support of any kind.
→ No two business plans are same. But they all have the same elements. Below are some of the common and key parts of a business plan.

* **Executive Summary:** This section outlines the company and includes the mission statement along with information about the company's leadership, employees, operations and location.
* **Products and Services:** Here the company can outline the products and services it will offer, and may also include pricing, product lifespan, and benefits to the consumer.
* **Market analysis:** A firm needs a good handle of the industry as well as its target market. It will outline who the competitor is and how it factors in the industry, along with its strengths and weaknesses.
* **Marketing strategy:** This area describes how the company will attract and keep its customer base and how it intends to reach the consumer.
* **Financial planning:** The company should plan its finance and future projections. Financial statements, balance sheets and other financial information may be included for already established businesses.
* **Budget:** This includes costs related to staffing, development, manufacturing, marketing and any other expenses related to the business.

Small Scale Industries (SSIs):

→ The small scale industries are generally comprised of those industries which manufacture, produce and render services with the help of Small machines and less manpower.

→ The industries are the lifeline of the economy, especially in the developing countries like India.
→ These play an important role in generating employment. Its investment limit shouldn't exceed 1 crore.
→ Examples: Bakeries, School stationaries, water bottles, leather belt, small toys, beauty parlours etc.

Characteristics of SSIs:

- **Ownership:** SSIs are generally under single ownership. So it can be either sole proprietorship or sometimes partnership.
- **Management:** Both management and control is with owners. Hence the owner is actively involved in day-to-day activities.
- **Labour intensive:** Its dependence on technology is limited and use of labour is more.
- **Flexibility:** In case of adapting new things or new environments they are flexible than

large industries.

- **Limited reach:** They can meet their local and regional demand.
- **Resources utilisation:** They use local and readily available resources which helps the economy fully utilise natural resources with minimum wastage.

Ancillary units:

→ The term ancillary industry refers to that industry which supports the main industrial activity in a given region or city.
→ They manufacture parks, components, sub-assemblies, tools, intermediates, machines etc.
→ The supply of its products and services is more than 50% of its existing products and services.
→ It increases productivity in small scale industry.

Tiny units:

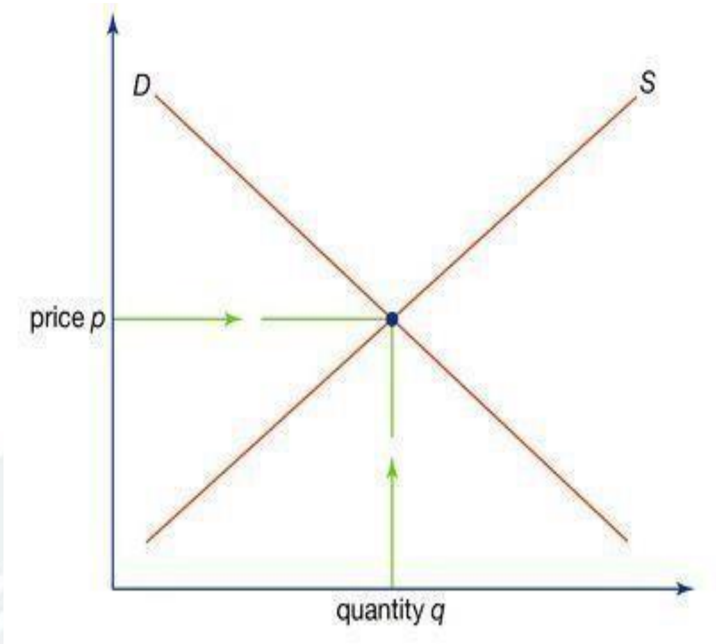
A tiny unit is defined as an industrial or business enterprise whose investment in plant and machinery is not more than Rs 25 lakhs.

Service Sector units:

Activities in the service sector units include retail, banks, hotels, real estate, education, health, social work, computer services, recreation, media, communications, electricity, gas and water supply etc.

Demand and Supply:

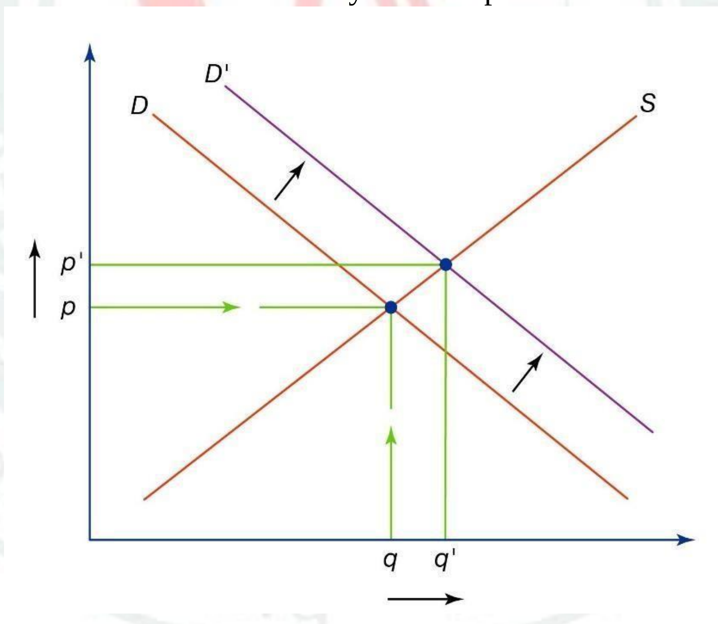
→ Supply and demand, in economics is the relationship between the quantity of a commodity that producers wish to sell at various prices and the quantity that consumers wish to buy.
→ It is the main model of price determination. The price of commodity is determined by the interaction of demand and supply in market.



(Relationship of price to supply and demand)

→ **Demand curve**: The quantity of a Commodity demanded depends on the price of that commodity and potentially on many other factors such as, the prices of other commodities, the incomes and preference of the customers and seasonal effects.

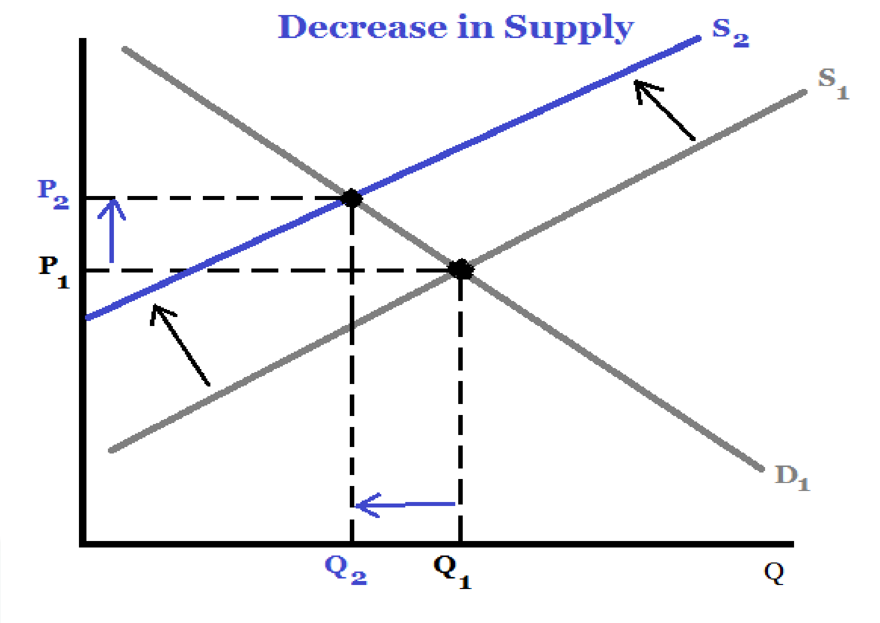
A demand curve is almost always downward-sloping, reflecting the willingness of consumers to purchase more of the commodity at lower price levels.



(Increase in demand)

→ **Supply Curve:** The quantity of a commodity that is supplied in the market depends not only on the price obtainable for the commodity but also potentially on many other factors, such as price of substitute products, the production technology, and the availability and cost of labour and other factors of production.

A supply curve is upward-sloping, reflecting the willingness of producers to sell more of the commodity they produce in a market with higher prices.



(Decrease in supply)

Identifying business oppurtunities:

→ Spotting market opportunities is essential for business growth and survival. These are typically external and include things like economic trends, market trends, shifting or expanding customer base, changes in govt. and industry regulations, changes in partnership or relationship with suppliers, competitors etc.

→ One of the best ways of identifying new business is SWOT analysis. SWOT analysis is one of most popular strategic analysis tools which focuses on four key factors like strengths, weaknesses, opportunities, threats facing your business.

→ Other ways to detect new business opportunities other than SWOT analysis are:

- **Segment your Consumers:** Divide your customer base into smaller groups that share common characteristics such as age, gender, location, lifestyle, attitude of purchasing habits. This allows you to analyse the demand for your products or services and target each segment.
- **Analyse your purchase situation:** Look at distribution channels, payment methods and other factors around purchasing to understand how your customers buy your products or services.
- **Analyse your competition**: Research existing businesses in the market to understand their value proposition and their competitive advantage. Establish your unique selling point to set yourself apart from your competitors.
- **Look at other markets:** Consider carefully what the market is like. To increase the likelihood of success, research the competitors, local habits. and the likely demand for your products or services.

Steps involved in final product selection:

There are three basic stages/steps involved in product selection-

(1) Idea generation: Product ideas or investment opportunities come from different sources such as business/financial newspapers, research institutes, consulting firms, natural resources, universities, competitors etc.

(2) <u>Evaluation:</u> Each identified product and investment opportunity needs to be adequately evaluated.

(3) <u>Choice:</u> A choice is made of product which has been found to be commercially viable, technically feasible and economically desirable. At this stage, necessary machinery is set in motion.

3RD CHAPTER
PROJECT REPORT PREPERATION

Preliminary Project Report:

→ A Preliminary Project Report is a brief summary of a project describing the expected inputs and outputs like finance, manpower, materials, machinery, technology, expenses, production, profits, sales etc. of a project before the project is actually implemented.
→ A PPR is a rough estimate of the project envisaged by the entrepreneur basing on which he will make a detailed project report and start working on the project.
→ The entrepreneurs have to submit copies of his PPR to various government agencies and banks and get provisional registration and approval with an assurance for licence, permission, loan etc.
→ A PPR highlights following data:
(a) A clear description of problem or need of project.
(b) A brief description of addressing the solution.
(c) An analysis summary of work relevant to project.
(d) Current state of project work, including activities completed and unfinished.
(e) Analysis of project in criterias like cost-effectiveness, feasibility and manageability, performance, others.
(f) A timeline with specific milestones and events related to project work.

Preliminary Project Report

1.	Name of the Project	
2.	Sectoral area	
3.	Total Financial Outlay	
4.	Details of the external development agencies (and the amount sought form each)	
5.	Financial arrangement	

Total external assistance	Counterpart funds being made available by				Total
	Implementing agency	State Government	Central Government	Others, if any	
	-	-	-	-	-

6.	Project duration (dates/months/years)	
7.	Location of project	
8.	Previous phases, if any	
9.	Statutory Clearances required	
10	Statutory clearance obtained	
11.	Details of Feasibility Studies done, if any	
12.	Implementing Agency	
13.	Basic design of the project	
-	Goals and Objectives	
-	Activities involved	
-	Outputs of the project	
-	Outcome of the project	
-	Foreign Component and Technical Coop. component	
14.	Target population/groups	
15.	Details Action Plan (Year wise)	

Year	Physical progress (%)	Financial Progress (Rs. in Crores)
2012-13	-	-
2013-14	-	-
2014-15 . .	-	-

16.	Quantitative and qualitative (verifiable) target indicators	-
17.	Environmental sustainability of the project	-
18.	Land acquisition/Resettlement and Rehabilitation involved	-
19.	Linkages with Similar Projects	
(i)	Information regarding projects in similar undertaken previously (add evaluation reports, if any)	
(ii)	Does the project form part of the sectoral project? If yes, who are the other partners with details of the specific activities being undertaken by them.	

Detailed Project Report:

→ Detailed Project Report (DPR) is nothing but a detailed elaboration of each and every information and estimates mentioned in the preliminary project report.

→ While preparation of a detailed project report, the entrepreneur may take the help of experts to do the job.

→ Preparations of DPR requires a lot of time. Detail analysis of each and every item is necessary.

→ For ex: Furniture is one item in the PPR but in the preparation of DPR all the furniture is to be mentioned in details like items, size, specification, use, price, quality, name of the supplier, date of supply, date of payment, transportation expenses etc.

→ A detailed project, generally contain the following information:

(a) Introduction to project and industry:

Industry position in the world scenario, industry position in the country, value addition by the industry, profile of the industry in the country.

(b) Project Details:

Promoters, registered office, location of the factory, line of activity, background of other directors, scheme of project, land and site development, building and civil works, plant and machinery, contingencies to plant and machinery, utilities, miscellaneous fixed assets, vehicles, quality control and testing equipment, erection and commissioning, deposits, working capital margin, schedule of implementation, management etc.

(c) Raw materials details:

Requirement of raw materials, feasibility of import of raw materials, suppliers of raw materials, Annual requirement, transportation of raw materials, varieties and grades of raw materials, cost of raw materials.

(d) Utilities details:

Power, steam, compressed air, fuel, water, chilled water, effluent and waste disposal etc.

(e) Technical details:

Plant capacity, capacity utilization, manufacturing process, plant layout, product description & properties, packaging and its cost, plant & machinery detailers.

(f) Manpower details:

Manpower requirement, organization chart, availability of manpower.

(g) Financial details:

Cost of project, means of finance, estimates of production & sales, cost of production & profitability, projected balanced sheets, statement of debt service coverage ratio, statement of computation of working capital, statement of break-even analysis, working for financial projections.

(h) Marketing details:

Present state of industry, consumer preferences, market requirements, distribution channels, market characteristics of the product, marketing and selling arrangement.

(i) Project evaluation:

Socio-economic benefit, labour availability, impact on ecology, value addition, technology absorption etc.

Techno-economic feasibility:

Techno-economic feasibility refers to the estimation of project demand potential and choice. of optimal technology.

Techno-economic feasibility is an analysis on the existing market and technology.

Project viability:

A project is called viable if the economic benefits of the project exceed its economic costs, when analysed for society as a whole.

4TH CHAPTER
Management Principles

Management is an art of gelling things done through other people.

Management is defined as the creation and maintenance of an internal environment in an enterprise, where individuals working together in groups can perform efficiently and effectively towards the attainment of group goals.

Principles of Scientific management: (management)

* Development of each one's job:

(a) This principle suggests that work assigned to any employee should be observed, analysed with respect to each and every element and part and time involved in it.
(b) This can be done by the method of enquiry, investigation, data collection, analysis and framing of rules.

* Scientific selection, Training & development of workers:

(a) Workers should be selected and trained scientifically to make them fit for the job.
(b) Physical, mental and other requirement should be specified for each and every job.

* Cooperation between management and workers:

(a) There should be no conflict between managers & workers.
(b) The employees should be fully harmonized so as to secure mutually understanding relation between them.

* Division of responsibility:

The management should assume the responsibility of planning the work whereas workers should be concerned with execution of task.

Functions of management:

The most widely accepted functions of management are:

1. Planning
2. Organizing
3. Staffing
4. Directing
5. Controlling

(1) Planning:

→ Planning is a systematic thinking about ways and means for accomplished of pre-determined goals.
→ Planning is necessary to ensure proper utilisation of human and non-human resources.
→ It is an intellectual activity and it also helps in avoiding confusion, uncertainties, risks & wastages.

(2) **Organising:**

→ It is the process of bringing together physical, financial and human resources and developing productive relationship amongst them for achievement of organisational goals.

→ To organise a business involves determining and providing human and non-human resources to the organisational structure.

→ Organizing as a process involves:

(1) Identification of activities.
(2) classification of grouping of activities.
(3) Assignment of duties.
(4) Delegation of authority and creation of responsibility.
(5) Coordinating authority and responsibility relationships.

(3) **Staffing:**

→ It is the function of manning the organisation structure and keeping it manned.

→ Staffing has assumed greater importance in the recent years due to advancement of technology, increase in the size of business, complexity of human behaviour.

→ The main purpose of staffing is to put right man on right job.

→ Staffing involves:

(a) Manpower planning (estimating manpower in terms of searching, choose the person and giving the right place)
(b) Recruitment, selection & placement
(c) Training & development
(d) Remuneration.
(e) Performance appraisal
(f) Promotions & transfer

(4) **Directing:**

→ Direction is that inter-personal aspect of management which deals directly with influencing, guiding, supervising, motivating sub-ordinate for the achievement of organizational goals.

→ Direction has the following elements:

(a) **Supervision:** It implies overseeing the work of subordinates by their superiors.
(b) **Motivation:** It means inspiring, stimulating, encouraging the sub-ordinates with zeal to work.
(c) **Leadership:** It may be defined as a process by which manager guides and influences the work of sub-ordinates in desired direction.
(d) **Communication:** It is process passing information, experience, opinion etc. from one person to another.

(5) **Controlling:**

→ It is the measurement and correction of performance activities of sub-ordinates in order to make sure that the enterprise objectives and plans desired to obtain them as being accomplished.

→ It has following steps:

(a) Establishment of standard performance.
(b) Measurement of actual performance.
(c) Comparison of actual performance with the standards and finding out deviations if any.
(d) Corrective action.

Levels of management:

Most organizations have three management levels:
(1) Top-level management
(2) Middle-level management
(3) Low-level management.

(1) Top-level management:

→ The board of directors, president, vice-president and CEO all are the examples of top-level managers.
→ These managers are responsible for controlling and overseeing the entire organisation. They develop goals, strategic plans, company policies and make decisions on the direction of the business.
→ In addition, top-level managers play a significant role in the mobilization of outside resources.
→ Top-level managers are accountable to the shareholders and general public.

(2) Middle-level management:

→ General managers, branch managers, and department managers are all examples of middle-level managers.
→ Middle level managers devote more time to organizational and directional functions than top-level managers.
→Their roles can be emphasized as:
(a) Executing organizational plans in conformance with the company's policies and the objectives of top management.
(b) Defining and discussing information and policies from top management to lower management.
(c) Inspiring and providing guidance to low-level managers towards better performance.

(3) Low-level management:

→ Supervisors, section heads and foremen are examples of low-level management titles. These managers focus on controlling and directing.
→ Low-level managers usually have the responsibility of:
(a) Assigning employees tasks.
(b) Guiding and supervising employees on day to day activities.
(c) Ensuring the quality and quantity of production.
(d) Up-channelling employee problems.
(e) Making recommendations and suggestions.

5th Chapter
Functional areas of management

(A) Production management

Functions of production management:

The functions of production ma management are

(a) planning
(b) Routing
(c) Scheduling
(d) Loading
(e) Dispatching
(f) Follow up
(g) Inspection

(a) Planning:

→ At this stage the management decides the products to be produced. It will also decide the ingredients, raw materials, size, colour, shape, quality, specification, quantity of production, cost of production etc.

(b) Routing:

→ The main aim of routing is to find out the best and cheapest of way of production and decide the best route which will be economical, efficient and less time consuming.
→ Routing also includes the selection of men, machines and processes to carry out the work in the desired manner.

(c) Scheduling:

→ Scheduling involves fixation of time and date for starting and completion of each operation and the entire operations. It also includes the determination of total time required for completion of each operation.

(d) Loading:

→ It is essential to maintain records of the loads assigned. These should neither be over-load or under-load of works to anyone.

(e) Dispatching:

It includes:
→ Issue of necessary materials, tools, equipment and accessories to individuals, jobs, process, department or sections.
→ Issuing necessary orders for inspections at various stage and to the person to carry on production.

(f) Follow up:

It involves the following process:

→ See that the raw materials, equipment etc. reach the shops in time as per schedule.
→ Check the progress of the works and ensure that they are and schedules being done as per plans, routes and schedules.

(g) Inspection:

→ Inspection is the last stage of production planning and control. It involves checking the quality of goods produced and ensure that they confirm to the standard.
→ Inspection includes the appointment of inspectors at various points where the chances of deviation are high.

Productivity:

Productivity is the increase of output from each unit in the production process. The ways of achieving productivity includes the training of workers and the introduction of machinery and equipment into the production process.

Production planning & control:

It may be defined as," Coordination of a series of functions according to a plan, which will regulate the orderly movement of goods through the entire manufacturing cycle from the procurement of all the materials to the shipping of finished goods at a pre-determined rate."

Quality Control:

Quality Control is a process through which business seeks to ensure that production quality is maintained or improved.

(B) Inventory Management

Need for inventory management:

(1) It protects a company from fluctuations in demand, of its products.
(2) It tries to protect fluctuations in output, from risks and uncertainty.
(3) It enables a company to provide better services to its customers.
(4) It keeps a smooth flow of raw-materials and aids in continuing production operations.
(5) It helps to minimize administrative workload, manpower requirement and even labour cost.
(6) It checks and maintains the right stuck and reduces the risk of loss.
(7) It makes effective use of working capital by avoiding over-stocking.
(8) It helps to maintain a check on loss of materials due to carelessness or pilferage (stealing).
(9) It facilitates cost accounting activities.
(10) It avoids duplication in ordering of stuck.

Techniques of inventory management:

→ Just-In-Time (JIT):

Just-in-time (JIT) is an inventory strategy companies employ to increase efficiency and decrease waste by receiving goods only as they are needed in the production process, thereby reducing inventory costs.

This method requires producers to forecast demand accurate.

→ ABC Analysis:

It stands for "Always Better Control" It is based upon Pareto principle which states that 80% of the overall consumption value is based on only 20% of total items.

ABC analysis is a dividing on-hand popular technique for inventory into three categories: A, B and C, based on annual consumption unit, inventory value and cost significance.

A: Items of high value (70%) and small in number (10%)
B: Items of moderate value (20%) and moderate in number (20%)
C: Items of small value (10%) and large in number (70%)

→ Drop shipping:

Drop shipping provides goods by direct delivery from the manufacturer to the retailer or customers. Here the retailer does not keep goods in struck, but instead transfer customers' orders and shipment details to either the manufacturer, another retailers or a wholesaler who then ships the goods directly to the customer.

→ Cross-docking:

It is a distribution method in which the goods flow in an unbroken sequence from receiving to shipping (dispatching) thus eliminating storage. It is also called as flow through distribution.

It helps to achieve a competitive advantage, speed and productivity of a supply chain.

→ Bulk-shipping:

It refers to the activity of moving goods or commodities which are not packaged, in large quantities from one place to another is called bulk shipping.

Ex: Examples of commodities that can be shipped in bulk are ores, coal, scrap, iron, vegetable oil etc.

(C) Financial Management

Functions of financial management:

There are four functions of finance.

(1) Investment delusion
(2) Financial decision
(3) Dividend delusion
(4) Liquidity decision.

(1) Investment decision:

→ One of the most important finance functions is to intelligently allocate capital to long term assets. This activity is also known as capital budgeting. It is important to allocate capital in those long-term assets so as to get maximum yield in future.

→ Since the future is uncertain and there may be many risk involved, so there are many possibilities to be considered while calculating expected return.

(2) Financial decision:

→ It is important to make wise decisions about when, where and how should a business acquire funds. Funds can be acquired through many ways and channels.

→ A firm tends to benefit most when the market value of a company's share maximizes. It also maximizes the shareholder's wealth.

→ On the other hand, the use of debt affects the risk and return of a shareholder. It is riskier though it may increase the return on equity funds.

(3) Dividend decision:

→ Earning profit is a common aim of all business, but the key function of a financial manager performs in case of profitability is to decide whether to distribute all the profits to the shareholders or distribute part of the profits to the shareholders and other part to the business.

→ It's the financial manager's responsibility to decide an optimum dividend policy which maximizes the market value of the firm.

(4) Liquidity decision:

→It is very important to maintain a liquidity position of a firm to avoid insolvency. Firm's profitability, liquidity and risk all are associated with the investment in current assets.

→ In order to maintain a trade-off between profitability and liquidity, it is important to invest sufficient funds in current assets. But since current assets don't earn anything for business, therefore a proper calculation must be done before investing in current assets.

Working Capital:

→ Working capital, also known as net working capital, is the difference between a company's current assets, such as cash, accounts receivable and inventories of raw materials and finished goods, and its current liabilities, such as accounts payable.

Management of Working capital:

→ **Cash:** Cash is one of the most liquid and important components of working capital. It is needed for performing all the activities of a firm, i.e., from acquisition of raw materials to marketing of finished goods.

→ **Inventory management:** It represents a complete list of items, such as property, goods in stuck or the contents of a building etc. Efficient management of inventory results in maximisation of earning of the shareholders.

→ **Accounts receivable management:** It represents Sundry debtors of a firm. The term receivable is defined as any claim for money owed to the firm from customers arising from sale of goods or services in normal course of business.

→ **Accounts payable management:** It represents sundry creditors of a firm. It leads to steady supply of materials to a firm as well as enhances its reputation.

Costing:

Costing is any system for assigning costs to an element of a business.

It is the system of computing cost of production or of running a business, by allocating expenditure to various stages of production or to different operations of a firm.

Break-even analysis:

→ Break-even analysis looks at the level of fixed costs relative to the profit earned by each additional unit produced and sold. In general, a company with lower fixed costs will have a lower break-even point of sale.

→ Break-even point is calculated by dividing the total fixed cost of production by the price of a product per individual unit less the variable costs of production.

Book Keeping: (Double-entry).

→ Whatever may be the reasons, every business has to maintain records of its financial transactions in a systematic manner. Book keeping is the maintenance of the accounts in a systematic manner.

→ Book means record and keeping means maintaining. So book keeping means record maintaining.

→ Almost all the business organisation now-a-days maintain accounts under double-entry system of book keeping. Under this system, each and every business transaction is recorded twice.

→ Under this system, a business usually maintains a number of accounts such as cash A/C, Salary A/C, Rent A/C, Interest A/C, Raw materials A/C, finished goods A/C, Machineries A/C, Bank A/C etc.

Accounts:

→ To facilitate the maintenance of accounts under double entry system of book keeping, all the accounts have two sides each.

→ The left side of an account is known as the debit side shortly known as Dr Side and the right side of the account is known as the credit side, shortly known as Cr side.

Types of Accounts:

It is of 3 types:

(1) **Real account:** It refers to all the real things which are visible and tangible, such as cash, machineries, buildings, furniture, materials, finished goods, tool and equipment etc.

(2) **Personal account**: It refers to all the accounts of different individuals or persons as well as artificial persons, like companies, banks, corporate bodies, like, LIC, SBI etc. with whom the business has credit transactions; both credit sale and credit purchases including loans and borrowings.

(3) **Nominal account:** It refers to all the accounts related to different incomes and expenses, losses and gains. These items are not visible and tangible like rent, interest, salary, commission etc.

Rules of Debit and Credit:

(1) Real account- Debit what comes in & credit what goes out.
(2) Personal account- Debit the receiver & credit the giver.
(3) Nominal account- Debit all expenses and losses & credit all incomes and gains.

Journal:

→ All the transactions are recorded in the journal and for that all the entries made in the journal are known as journal entry.
→ All the journal entries have to be made as per the rules of debit and credit.
→ So journal is a book of primary entry, where all the transactions are recorded according to the rules of debit and credit.

Example:

→ Rent paid Rs.500/-. Here, in this transaction the two accounts involved are the rent A/C and cash A/C.
→ (a) Rent is a nominal account and all the expenses here is to be debited. So it would be written on the debit side.
(b) Cash is a real account and it is going out. So it would be also written on the credit side of the cash Alc.
→ So the journal entry shall be:

Rent A/c..Rs.500/-

To Cash A/c Rs.500/-

(Being rent paid Rs 500/- to Mr. X)

Specimen of a journal

DATE	PARTICULARS	L.F.	DEBIT AMOUNT (Rs)	CREDIT AMOUNT (Rs)
1/09/17	Cash A/c To Goods A/c (Being goods sold for cash)	01 24	10,000/-	 10,000/-

2/09/17	Rent A/c To Bank A/c (Being rent paid by cheque)	20 02	5,000/-	 5,000/-

Petty Cash book:

→ Usually, petty cash records are maintained in a register called the petty cash book. The person maintaining the petty cash transactions and the petty cash book is known as petty cashier.
→ In a business there may be a small transaction as well as a big transaction so far value is

concerned. That means, there may be a transaction of Rs.1,00,00,000 at the same time there my another transaction of Rs.1.50p.
→ So to avoid the inconvenience, it is better to separate small transactions from big transactions. So petty cash book is in addition to the main cash book which records all small transactions less than Rs.100.

Profit & Loss acoount:

→ The gross profits or the gross loss of the trading account of the manufacturing account is transferred to the profit and loss A/c.
→ Like the Trading A/C, Profit and Loss A/c has two sides, the left side is the debit side and the right side is the credit side.
→ The gross profit and the grass loss of the Trading A/c is transferred to the profits and loss A/c.
→ (a) If there is a gross profit, it is written in the credit side of the profits and loss A/c.
(b) On the other hand, if there is a gross loss, it is written on the debit side of the Profits and loss A/c.

Balance Sheet:

→ Balance sheet is prepared from the information provided by the Trial Balance and the Profits and Loss A/c.
→ Balance sheet is a statement and not an account and is prepared for a day and can also be prepared quarterly or half-yearly.
→ It has two sides, the left side is the liabilities side and the right side is the assets side.
→ All the assets are classified into 3 categories: current assets, fixed assets and fictious assets.
(a) Current assets includes: cash in hand, cash at bank etc.
(b) Fixed assets includes: land, buildings, plant, machinery etc.
(c) Fictions assets includes: preliminary expenses, extraordinary losses etc.
→ The items recorded on the capital, reserves and surplus, long term loans, short term loans etc.

(D) Marketing Management

Market may be described as a designated or specified place or area where business activities such as buying and selling are carried on.

Marketing management facilitates the directions of activities and functions which are involved in the distribution of goods and services.

Marketing techniques:

The selection of an appropriate marketing technique depends upon the type of product, policy of an organisation, number of customers, location of customers etc.

An organisation select may any one of the following technique for selling its products.

(a) For small business organisations:

The marketing techniques used are:

1. Flyers (brief description about business sent via mailboxes)
2. Posters (near shopping malls, public places)
3. Value Additions (coupons, free appraisals)
4. Referral Networks (discounts, rewards)
5. Follow-ups (taking Sources of feedback)
6. Cold calls (through phone or door to door)
7. The Internet (through social media)
8. Bottom Line (Give presentations)

(b) Business to Business (B2B) marketing techniques:

Some of the B2B marketing techniques are

(1) **Content marketing:** This emphasizes education over selling to influence buying behaviour. The strategic marketing approach focuses on creating and distributing information relevant to prospects' needs in order to attract the product or service.

(2) **Inbound marketing:** It is most effective B2B strategy, because it works for businesses of any size or type. It shows strengths to attract, engage customers.

(3) **Social media marketing:** It focusses on providing users with content they find valuable and want to share across their social networks, resulting in increased visibility and traffic.

(4) **Search engine optimization:** It automatically increases your customers in a relevant, targeted way. It is the process of increasing awareness about a particular website.

(5) **Industry events:** In these events, one can demonstrate latest products and services. It is rarely open to the public.

(c) Business to Customer (B2C) marketing techniques:

Some of the B2C marketing techniques are

(1) **Social networks and viral marketing:** It focusses on providing users with content they find valuable and want to share across their social networks, resulting in increased visibility and traffic.

(2) **Paid media advertising:** Paid media is a tool that companies use to grow their website traffic through paid advertising.

(3) **Internet marketing:** It combines web and email to advertise and drive e-commerce sales.

(4) **Email marketing**: It is highly effective way to nurture and convert leads. It targets specific prospects and customers with the goal of influencing their purchasing decisions.

(5) **Direct selling:** It suggests marketing and selling products directly to the customers.

(6) **Pont-to-purchase marketing(POP):** It sells to a captive audience, those shopkeepers already in-store and ready to purchase.

4 p's of marketing:

These are the key factors of marketing of goods or service. They are product, price, place, promotion.

(1) **Product:** Product refers to a good or service that a company offers to customers. To be successful, marketers need to understand the life cycle of a product.

(2) **Price:** Price is the cost customers pay for a product. Price can be modified as per the demand and seasonal effect to maximize the business.

(3) **Place**: When a company makes decisions regarding place, they are trying to determine where they should sell a product and how to deliver the product to the market.

(4) **Promotions:** Promotion includes advertising, public relations and promotional strategy. The goal of promoting is to reveal to customers why they need it and why they should pay a certain price for it.

(E) Human Resource Management

Functions of personnel management:

There are two categories of functions performed by personnel department.

1. Managerial Function.
2. Operative Function.

1. Managerial functions:

The following are the managerial functions (planning, organising, directing and controlling) performed by a personnel department.

(a) Planning:

→ Planning lays down a predetermined course to do something such as what to do, how to do, where to do, who to do etc.
→ Through planning, most of the future problems can be anticipated.

(b) Organising:

→ It is a process by which a co-operative group of human being allocates its tasks among its members, identifies relationships and integrates its activities towards common objectives.
→ The personnel manager has to design the structure of relationships among jobs, personnel and physical factors so that the objectives of the enterprise are achieved.

(c) Directing:

→ This function relates to guidance and stimulation of the subordinates at all levels.
→ The personnel manager directs and motivates the employees of his department so that they work willingly and effectively for the achievement of organisational goals.

(d) Controlling:

→ It refers to continuous monitoring of the personnel policies relating to training, labour turnover, wage payments, interviewing new and separated employees etc.
→ If deviations are unavoidable, corrective actions can be planned in advance.

2. Operative Function:

These functions are relating to the procuring, developing, compensating, integrating and maintaining a work-force for attaining organizational goals.

(a) Procurement:

→ This function relates to the procuring of sufficient and appropriate number of persons for carrying out business work.

→ Besides number, the procurement of suitable persons is also essential.

(b) Development:

→ The development function in concerned with the development of employees by increasing their skill and proficiency in work.

→ Training programmes are made suitable to cover up deficiencies in worker's performance.

(c) Compensation:

→ It is concerned with securing adequate and equitable remuneration to persons working in the organisation.

→ Compensation should be fixed in such a way that it is able to attract and retain suitable persons in the organisation.

(d) Integration:

→ Integration is concerned with the attempt to effect reconciliation of individual, organisation and social interest.

→ There should be proper communication channel at all levels.

(e) Maintenance:

→ This function deals with sustaining and improving conditions that have been established.

→ These conditions include establishment of health, Sanitation and safety standards.

Manpower planning:

→ Manpower planning in the process of estimating the optimum number of people required for completing project, task or a goal within time.

→ Manpower planning includes parameters like number of personnel, different types of skills, time period etc.

→ It is also called as human resource planning.

Recruitment:

→ Recruitment is a process of searching for prospective employees and stimulating them for applying job in the organisation and choosing recruiting better persons out of them.

Sources of manpower or recruitment:

The sources of manpower may be broadly divided into two categories:

(a) Internal Sources

(b) External sources

(a) Internal Sources:

Internal sources include:

(1) Transfer

(2) Promotion

(3) Own training centres

(1) Transfer:

→ Under this system, recruitment is made by transferring employees from one job or another.

→Transfer usually doesn't involve any extra financial benefits to an employee. The post or job is usually similar.

(2) Promotions:

→ Under this system, positions or posts are filled up by individuals from lower grade to higher grade by offering them promotions of higher posts within the organisation.

(3) Own training centres:

→ Under this system, fresh students are selected and are given training in various skills in their own training centres.

(b) External sources:

External sources include:

(1) Advertisement
(2) Campus interview
(3) walk-in interview
(4) Employment fair or job mela
(5) Consultancy organizations
(6) Employment exchanges
(7) Direct recruitment
(8) Unsolicited applications
(9) Recommendations
(10) Labour contractors
(11) Placement cell/ employment beaureu
(12) Other similar organisations.

Selection Process:

→ Selection is a process which is used as the identification of the tool for procuring human resources based on skill, knowledge, qualification, experience, abilities, talent etc.

Method of testing:

The methods of tasting include:

(1) Inviting applications:

→ The first step in the selection process is to invite applications from the eligible candidates depending on the post and the information required.

(2) Screening the applications:

→ At this stage, the unsuitable or unfavourable applications may be rejected to make the selection process easy and effective.

(3) Conducting tests and interviews:

→ It may include written examination, interview, group-discussion etc. to test the skill, intelligence, knowledge, aptitude, personality etc.

→ Such tests may be designed depending on the type of person required for specific post.

(4) Conducting physical and medical tests:

→ The physical test may include running, swimming, jumping, diving, cycling etc.

→ The medical tests may include eye tests, ears, heart, kidney etc. to ensure that there is no organic disease or invalidity in the candidate.

(5) Collecting references and checking the antecedents:

→ There is a need of collection of information of a candidate from the list of references.
→ There is also a need of checking the past records of the applicant including the report of the local police station where he had been staying in the past.

(6) Verifying the certificates:
→ After all the above processes are over, the applicant may be called once again with his original certificates for the purpose of verification to see that the certificates furnished are authentic.

(7) Issuing of selection letter after final selection:
→ All the successful candidates are to be ranked in order of their merit and final selection may be made depending on the number of posts lying vacant.

Methods of training and development:
Training given to the employees can be classified into 2 categories:
(1) On-the-job training
(2) off-the-job training

(1) On-the-job-training:
(a) Under-studies:
→ This process will enable the trainee to develop himself as a capable person to handle the jobs independently.
→ Under this method, the trainee is placed under an experienced person as an assistant who is to acquire skill, knowledge, experience.

(b) Coaching by experts on the jobs:
→ Under this method the trainees are taken to the spots where the works are being performed.

(c) Job rotation:
→ Under this system, the trainees get the opportunities of learning different jobs during their employment.
→ The trainers are periodically rotated from one job to another which is known as job rotation.

(2) Off-the-job training:
(a) Classroom training:
→ Under this type of training, lectures or instructors act as trainers, teach the topics and give adequate technical and the theoretical knowledge about the activities to be performed.
→ For such training, there may be use of models, slides, overhead projectors, video, audio, films, computers etc. to train the employees.

(b) Conferences:
→ Under this method a small group of trainees are selected and work together to train themselves. They make open discussion, exchange ideas and experience, share the knowledge.

(c) Written Instruction Method:

→ Under this method, written or printed training materials are supplied to the trainees. The trainees go through the texts and learn the techniques, process, skill etc. for performing jobs.

(d) <u>Institutional training:</u>
→ There are some specific organisations who have the permanent infrastructure, up to date trainers for the purpose of training.
→ So trainers have to go those specific centres for training. It is difficult, costly as well as ineffective.
<u>Ex:</u> Training pilots for aeroplanes etc.

(e) <u>On-line training:</u>
→ Under this method, one can acquire knowledge, skill, talent etc. or train himself with the use of computer and internet facilities staying at his home.

<u>Payment of wages:</u> The organisation and its financial manager is responsible for payment of wages to each worker employed by him as an employee and payment shall be paid before the expiry of such period as may be prescribed.

6th Chapter
Leadership and motivation
(A) Leadership

Leadership is the art of motivating a group of people to act towards achieving of common goal.

Need /Importance of leadership:

The following points justify the importance of leadership in a concern.

(1) <u>Initiates action:</u> Leader is a person who starts the work by communicating the policies and plans to the subordinates from where the work actually starts.

(2) <u>Motivation:</u> A leader motivates the employees with economic and non-economic rewards and thereby gets the work from the sub-ordinates.

(3) <u>Providing guidance:</u> Guidance means instructing the subordinates the way they have to perform their work effectively and efficiently.

(4) <u>Creating confidence:</u> It can be achieved through expressing the work efforts to the sub-ordinates, explaining them clearly their role and giving them guidelines to achieve the goals effectively.

(5) <u>Building morale:</u> Morale denotes willing cooperation of the employers towards their work and getting them into confidence and winning their trust.

(6) <u>Building work environment:</u> Human relations shall be kept in mind by a leader. He should have personal contacts with employees and should listen their problems and solve them.

(7) <u>Co-ordination:</u> Coordination can be achieved through reconciling personal interests with organisational goals.

Qualities of a good leader:

The following are the requisites to be present in a good leader:

(1) <u>Physical appearance:</u> A leader must have a pleasing appearance. Physique and health are very important for a good leader.

(2) <u>Vision and foresight:</u> A leader cannot maintain influence when he exhibits that he is forward looking. He has to visualize situations and thereby has to frame logical programmes.

(3) <u>Intelligence</u>: Leader should be intelligent enough examine problems and difficult situations. He should be analytical who weighs pros and cons and then summarizes the situation.

(4) <u>Communicative skills:</u> A leader must be able to communicate the policies and procedures clearly, precisely and effectively. This can be helpful in persuation and stimulation.

(5) <u>Objective:</u> A leader has to be having a fair outlook which is free from bias and which doesn't reflect his willingness towards a particular individual. He should develop his own opinion and should base his judgement on facts and logic.

(6) <u>Knowledge of work:</u> A leader should be very precisely knowing the nature of work of his subordinates because it is then he can win the thrust and confidence of his subordinates.

(7) <u>Sense of responsibility:</u> A leader must have a sense of responsibility towards organisational goals because only then he can get maximum of capabilities exploited in a real sense.

(8) <u>Self-confidence and willpower:</u> Confidence in himself is important to earn the confidence of the subordinates. He should be trustworthy and should handle the situations with full will power.

(9) <u>Humanist:</u> He has to handle the personal problems of his sub-ordinates with great care and attention.

(10) <u>Empathy</u>: A leader should understand the problems and complaints of employees and should also have a complete view of the needs and aspirations of the employees.

<u>Functions of leadership:</u>

Following are the important functions of a leader:

(1) <u>Setting Goals:</u> A leader is expected to perform creative function of laying out goals and policies to persuade the subordinates to work with real and confidence.

(2) <u>Organizing:</u> The second function of a leader is to create and shape the organization on scientific lines by assigning roles appropriate to individual abilities with the view to make its various components to operate sensitively towards the achievement of enterprise goals.

(3) <u>Initiating action:</u> The next function of a leader is to take the initiative in all matters of interest to the group. He should not depend upon others for decision and judgement. He should float new ideas and his decisions should reflect original thinking.

(4) <u>Coordination:</u> A leader has to reconcile the interests of the individual members of the group with that of the organisation. He has to ensure voluntary cooperation from group in realizing the common objectives.

(5) <u>Direction and motivation:</u> It is the primary function of a leader to guide and direct motivate people to do their best in the achievement of desired goals, he should build up confidence and zeal in the work group.

(6) <u>Link between management and workers:</u> A leader works as necessary link between the management and the workers. He interprets the policies and programmes of the management to his subordinates and represents the subordinates interest before the management. He can prove effective only when he can act as the true guardian of the interests of his subordinates.

<u>Manager Versus Leader:</u>

BASIS	MANAGER	LEADER
Origin	A person becomes a manager by virtue of his position.	A person becomes a leader on basis of his personal qualities.
Formal rights	Manager has got formal rights in an organisation because of his status.	Rights are not available to a leader.
Followers	The subordinates are the followers of managers.	The group of employees whom the leaders leads are his followers.
Functions	A manager performs all the functions of management.	Leader influences people to work willingly for group objectives.
Necessity	A manager is very essential to a concern.	A leader is required to create cordial relation between person working in and for organisation.
Stability	It is more stable.	Leadership is temporary.
Mutual relationship	All managers are leaders.	All leaders are not managers.
Accountability	Manager is accountable for self and subordinates behaviour and performance.	Leaders have no well-defined accountability.

Concern	A manager's concern is organizational goals.	A leader's concern is group goals and member's satisfaction.
Follow	People follow manager by virtue of job description.	People follow them on voluntary basis.
Role continuation	A manager can continue in office till he performs his duties satisfactorily in congruence with organizational goals.	A leader can maintain his position only through day to day wishes of followers.
Sanctions	Manager has command over allocation and distribution of sanctions.	A leader has command over different sanctions and related task records. These sanctions are essentially of informal nature.

Style of leadership:

Leadership style is a leader's approach to providing direction, implementing plans, and motivating people.

There are three basic leadership styles:

(1) Authoritarian (Autocratic) leaderships:

A leader who adopts the authoritarian style dictates policy and procedure, and directs the work done by the group without looking for any meaningful input from them.

(2) Participative (Democratic) leadership:

These leaders practicing the participative leadership style offer guidance to the group, as for their group input in decision making but retain final say.

(3) Delegative leadership:

They offer little or no guidance to the group and leave decision making up to the group. They will only provide necessary tools and resources to complete a project.

(B) Motivation

Motivation can be defined as the driving force behind our actions, fuelled by our desire for something. It is that internal strength that gets us to move, give 100% to whatever goal or end we desire of plan to achieve.

Characteristics of motivation:

The motivation holds the following characteristics:

(1) Motivation is personal and psychological concept:

Motivation is a personal as well as psychological concept, hence the managers have to study the mental and psychological aspects of individual.

(2) Motivation is a process:

Motivation is a process of inspiring, energizing, reducing and activating the employees for higher level of performance. This process starts with unsatisfied needs, moves through tension, drives and goal achievement, finally it ends with the reduction of tension aroused by unsatisfied needs.

(3) Motivation is a continuous process:

Motivation is a continuous ongoing process rather than one shot affair, because an individual has unlimited wants and needs. As soon as the existing need is fulfilled, another will appear. Hence motivation should go continuously.

(4) Motivation is a complex subject:

Motivation is a complex subject in the sense that the individual's needs and wants may be unpredictable. The level of need of a person depends upon his/her psychological aspects.

(5) Motivation is goal oriented:

Motivation should be directed towards the achievement of stated goals and objectives. From the view point of organisation, the goal is to achieve high productivity through better job performance.

(6) Intrinsic and Extrinsic motivation:

An individual can be motivated either by intrinsic factors or extrinsic factors. The intrinsic factors include recognition, social status, self-esteem, and self-actualization needs which are related to inner aspects of individual. On the other hand, the extrinsic factors are physiological and social needs such as food, shelter, health, education, salary and benefits etc.

(7) Positive and negative motivation:

By the term motivation we mean positive motivation which is related to the process of stimulating employees for good performance. The negative motivation is also known as punishment which is not desired by the employees

(8) Motivation is behaviour-oriented:

As motivation is person specific, it is related with the personal behaviour of an employee.

Behaviour is a series of activities undertaken by an individual in the organizational workplace. The behaviour is directed towards the attainment of goals and objectives.

Importance of motivation:

Motivation is a very important for any organisation because of the following benefits. It provides:

(1) Puts human resource into action:

Every concern requires physical, financial and human resources to accomplish the goal. It is through motivation that the human resources can be utilised by making full use of it. This can be done by building willingness in employees to work.

(2) Improves level of efficiency of employees:

The level of a subordinate or employee does not depend upon his qualifications and abilities only. For getting best of his work performance, the gap between ability and willingness has to be filled which helps in improving the level of performance of subordinates. This will result to

a. Increase in productivity

b. Reducing cost of operations

c. Improving overall efficiency

(3) Leads to achievement of organisational goals:

The goals of an enterprise can be achieved only when the following factors take place.
a. There is best possible utilization of resources.
b. There is cooperative work environment.
c. The employees are goal-directed and they act in purposive manner.

(4) Builds friendly relationship:

In order to build a coordinal, friendly atmosphere in a concern, the above steps should be taken by a manager. This would help in
a. Effective cooperation which brings stability.
b. Industrial dispute and unrest in employees will reduce.
c. The employees will be adaptable to the changes and there will be no resistance to the change.

(5) Leads to Stability of workforce:

Stability of work force is very important from the point of view of reputation and goodwill of a concern. The employees can remain loyal to the enterprise only when they have a feeling of participation in the management. This will lead to good public image in the market which will attract competent and qualified people into a concern.

Factors affecting motivation:

Motivation require a balance of a few factors. Here are the 5 factors we feel are key to creating motivated employees.

(1) Reward and recognition:

Recognition for good work has a limited shelf life; praise begins to lose if not accompanied by reward. Exceptional work deserves reward and while recognition is sufficient in certain cases, employees begin to lose motivation if they are not rewarded for extra effort. The aim of rewarding and recognising employees is to encourage and motivate them to exceed within their roles and promote positive behaviours.

(2) Development:

Development is very important for motivating employees; studies have shown that 20% of employers prefer career development opportunities and. Training to monetary reward.
Development makes an employee self-dependent and allows them to contribute more effectively in the workplace, it also helps employees to enhance their input to your business.

(3) Leadership:

A good leader has the knowledge of what truly inspires loyal and motivated humans to perform at a high level. It is important that a good leader has reasonable expectations gives credit where credit is due and appreciates their staff.

(4) Work life balance:

Providing a good work life balance nurtures employees. Motivated employees are less likely to take sick days, leave the organisation and will be more prepared to work longer hours.

(5) Work Environment:

Motivated employees thrive in a positive work environment. Effective communication is created through a continuous open dialogue, dependent on trust. Honest and open communication throughout the business is the foundation of creating a workplace. where all employees can thrive.

Theories of motivation:

One of the most important theories of motivation is Maslow's need hierarchy theory. It is based on human needs. Drawing chiefly on his clinical experience, he classified all human needs into a hierarchical manner from the lower to the higher order.

(1) Physiological needs:

These needs are basic to human life and hence, include food, clothing, shelter, air, water and necessities of life. These needs relate to the survival and maintenance of human life.

(2) Safety Needs:

After satisfying the physiological needs, the next needs felt are called safety and severity needs. These needs find expression in such desires as economic security and protection from physical dangers.

(3) Social Needs:

Man is a social being. He is, therefore, interested in social interaction, companionship, belongingness etc. It is this socialising and belongingness, why individuals prefer to work in groups and especially older people go to work.

(4) Esteem Needs:

These needs refer to self-esteem and self-respect. They include such needs which indicate self-confidence, achievement, competence, knowledge and independence.

(5) Self-Actualisation Needs:

The term self-actualisation means to become actualized in what one is potentially good at. In effect, self-actualisation is the person's motivation to transform perception of self into reality.

Methods of Improving motivation:

There are two techniques to increase motivation among the employees.

(A) Financial motivators

(B) Non-financial motivators

(A) Financial motivators:

The economists and most managers consider money and financial incentives as important motivators. These may be provided in the form of more wages and salaries, bonuses, profit sharing, leave with pay, medical reimbursements, and company paid insurance or any kind of other things that may be given to employees for performance.

(B) Non-financial motivators:

These motivators are in the nature of better status, recognition, participation, job security etc.

(i) Recognition:

Every person wants his work to be recognized by his superiors. When he knows that his performance is known to his boss then he will try to improve it more and more. The recognition may be in the form of word of praise, a pat on the back, a letter of appreciation, entry in annual confidential report etc.

(ii) Participation:

It implies physical and mental involvement of people in decision making process. Participation gives a sense of affiliation and accomplishment.

(iii) Status:

This can be done by way of giving various facilities to the persons. These may be superior furniture, carpets on the flood, attachment of peons, personal assistant etc.

(iv) <u>Competition:</u>

In some organisations competitors are used as a motivator. The competitors encourage persons to improve their performance.

(v) <u>Job Enrichment:</u>

Here the job is made more important and challenging for the workers. It brings more satisfaction and high morale.

Communication:

Communication is simply the art of transferring information from one place, person or to group to another.

Importance of Communication:

(1) <u>The basis of coordination:</u>

The manager explains to the employees the organisational goals, modes of their achievement and also the interpersonal relationship amongst them. This provides coordination between various employees and also departments. Thus, communication acts as a basis for coordination in the organisation.

(2) <u>Fluent working:</u>

A manager coordinates the human and physical elements of an organization to run it smoothly and efficiently. This coordination is not possible without proper communication.

(3) <u>The basis of decision making:</u>

Proper communication provides information to the manager that is useful for decision making. No decisions could be taken in the absence of information. Thus, communication is the basis for taking the right decisions.

(4) <u>Increases managerial efficiency:</u>

The manager conveys targets and issues instructions and allocates jobs to the subordinates. All of these aspects involve communication. Thus, communication is essential for the quick and effective performance of the managers and the entire organisation.

(5) <u>Increases cooperation and organizational peace:</u>

The two-way communicate process promotes cooperation and mutual understanding amongst the workers and also between them and the management. This leads to less friction and thus leads to industrial peace in the factory and efficient operations.

(6) <u>Boosts morale of the employees:</u>

An efficient system of communication enables the management to motivate, influence and satisfy the subordinates which in turn boosts their morale and keeps them motivated.

Types of Communication:

It is of two types:

(1) <u>Formal communication:</u>

Formal communications are the one which flows through the official channels designed in the organisational chart. It may take place between a superior and a subordinate, a subordinate and a superior or among the same cadre employees or managers.

These communications can be oral or in writing and are generally recorded and filed in the office.

It is again of two types:

(a) <u>Vertical communication:</u>

Vertical communication as the name suggests flows vertically upwards or downwards through formal channels. Upward communication refers to the flow of communication from a subordinate to a superior whereas downward communication flows from a superior to subordinate.

Application for grant of leave, submission of a progress report, request for loans etc. are some of the examples of upward communication.

Sending notice to employees to attend a meeting, delegating work to the subordinates, informing them about the company policies, etc. are some of the examples of downward communication.

(b) <u>Horizontal Communication:</u>

Horizontal or lateral communication takes place between one division and another. For example, a production manager may contact the finance manager to discuss the delivery of raw material or its purchase.

(2) <u>Informal communication:</u>

Any Communication that takes place without following the formal channels of communication is said to be informal communication.

The informal communication spreads rapidly, often get distorted and it is very difficult to detect the source of such communication. It also leads to rumours which are not true. People's behaviour is often affected by the rumours and informal discussions which sometimes may hamper the work environment.

<u>Barriers to communication:</u>

The barriers to communication in organisation in organizations can be broadly grouped as follows:

(1) <u>Semantic barriers:</u> Such barriers result due to use of wrong words, faulty translations, different interpretations etc. Language problem is also included in this type of barrier.

(2) <u>Psychological barriers:</u> The state of mind of both sender and receiver of communication reflects in effective communication.

A worried person cannot communicate properly and an angry recipient cannot understand the message properly.

(3) <u>Organizational barriers:</u> The factors related to organisational structure, rigid rules and regulations, authority relationships etc. may sometimes act as barriers to effective communication.

(4) <u>Personal barriers:</u> The personal factors of both sender and receiver may art as a barrier to effective communication. If someone suppress some communication or not ask for any advice due to lack of confidence in the system, then barrier occurs.

<u>7th Chapter</u>
<u>Work Culture, TQM & Safety</u>

<u>Human relationship and performance in organization:</u>

→ A human relation is the relationship between the human resources of the organization. It incorporates management-employees, employees-employees relationship. It also consists of relationship between the organization's human resource and outsiders (such as clients, suppliers).

→ Human resource is one of the important assets of an organization. Hence, healthy human relation's leads to increased productivity and efficiency. It also plays crucial role in growth and success of the organization.

→ Four factors influencing human relations in an organizations are:

(1) Work Environment:

Human relationists advocated the creation of a positive work environment where organizational goals are achieved through satisfaction of employees. Positive work environments are characterizing by such factors like: goals a clearly stated, incentives are properly used to improve performance; feedback is available on performance decisions, the work is interesting and growth oriented.

(2) Work-group:

Work is a social experience and most workers find satisfaction in membership in social groups. Unless managers recognize the human relations, at work the productivity will not improve.

(3) Individual:

The human being is an important segment of the organization. Behaviour of an individual is affected by his feelings, segments sentiments and attitudes.

(4) Leader:

The leader must ensure full and effective utilization of all organizational resources to achieve organizational goals. He must be able to adjust to various personalities and situations.

Relationship with peers, superiors & subordinates:

It is always an experience to interact with the peer, superior and subordinate groups. All the three groups of people give a different feel and learning when we interact with them.

Peers:

(1) With these category of people, you can respond and reciprocate to them very easily and very firstly.

(2) They are typically either in the same level as us in intelligent quotient or status or family structure. They very have similar problems and emphasize well with each other.

Ex: Colleagues in office, friends, cousins, acquaintances, social circles etc.

Superiors:

(1) They are the ones who are higher than us as far as the knowledge or experience or intellect quotient relationship goes.

(2) They expect a certain kind of respectful treatment from us, while we deal with them.

Ex: Uncles, aunts, bosses of bosses, mentors, aged consultants, senior positions in any way.

Subordinates:

(1) This category opens up the scope of being a mentor to others, as well as taking work from them or helping them to cope up.

(2) They are less either by age, experience, knowledge or relationship and that's why we feel good dealing with them and sometimes even show them off our seniority.

TQM (Total Quality Management):

Total quality management (TQM) is the continual process of detecting and reducing eliminating errors in manufacturing, streamlining supply chain management, improving the customer experience, and ensuring that employees are up to speed with training.

Quality Policy:

→ A quality policy is a brief statement that aligns with your organization's purpose and strategic direction, provides a framework for quality objectives, and includes a commitment to meet applicable requirements as well as to continually improve.

→ Quality policy incorporates an organization's vision our mission statement or core values.
→ Top management is responsible for establishing, documenting as well as and communicating the quality policy, as well as making it available to relevant interested parties.
→ When you are working on document control, make sure that you include your quality policy and quality objectives. They must be controlled
(1) Making them part of a procedure.
(2) Making them part of the quality manual
(3) Making them their own numbered, controlled document.

Quality Management:

Quality Management is similar with the term Total Quality Management (TQM).
Here are the 8 principles of TQM.

(1) Customer focused:
No matter which the organization does, the customer ultimately determines the level of quality.

(2) Total-employee involvement:
All employees should participate in working towards common goals.

(3) Process-centered:
A process is a series of steps that take inputs from suppliers (internal or external) and transforms them into outputs that are delivered into customers:

(4) Integrated system:
An integrated system connects business improvement elements in an attempt to continuously improve and exceed the expectations of customers, employees and other stakeholders.

(5) Strategic and systematic approach:
It includes the formulation of a strategic plan that integrates quality as a core component.

(6) Continual improvement:
It drives and organization to be competitive and more effective.

(7) Fact-based decision making:
An organization continually collect and analyse data in order to improve decision making accuracy achieve consensus and allow to be prediction based.

(8) Communications:
It plays a large part in maintaining morale and in motivating employees at all levels. It involves strategies, method and timeliness.

Quality System:

→ It stands quality management system (QMS) defined a formalized system documents processes, procedures and responsibilities for achieving quality policies and objective.
→A QMS helps coordinate and direct organization activities meet customer and regulatory requirements and improve its effectiveness efficiency on continuous basis.

Accidents safety:

Causes:

(1) Environmental Causes accidents:
Accidents which occur from environmental causes refer to those workplace accidents happen because of working environment.
Common environmental causes of accidents include-
→ **Poor lighting**: Low visibility is common cause of slips, trips and falls.
→ **Ambient temperature:** If workplace is too hot, overheating can occur. If the workplace is too cold, hypothermic can occur.

→ **Air pollution:** Breathing issues can develop if a workplace has poor ventilation and or air pollution
→ **Sound pollution:** The sound in a workplace can cause injury to worker's hearing.

(2) Mechanical Causes of accidents:

These are the factors that refer to machine equipment failure or breakdown.
→ **Broken or damaged machine:** Parts can be easily broken or damaged if made of poor-quality metal.
→ **Power failure**: Total or partial Failure power can lead to serious injury.
→ **Fire or Explosion:** Cooling failure or a small spark can lead to a mechanical fire or explosion.
→ **Fair wear and tear:** The older machine, the more wear and tear on the parts which can lead to a higher risk of mechanical accident.

(3) Human factors that causes accidents:

Accidents caused by human factors reefers to incidents in which the accident is directly attributed to the worker involved in the accident.
→ **Poor housekeeping:** An unkempt work -space can lead to slips, trips and falls.
→ **Fatigue:** When a body is tired, injury is, more likely to occur.
→ **Overexertion:** Overexertion injuries are the most common type of workplace injury.
→ **Stress:** Workers who are stressed are often more distracted and of greater risk of injury.
→ **Dehydration:** It is important to consume enough water to ensure your body functions properly.

Prevention:

→ Developing an employee safety plan with feedback from all level employees.
→ Requiring monthly employee training and promote safety awareness with an internal safety committee.
→ Focusing on skill development and education of all employees.
→ Ensuring supervisors are monitoring and reporting measures on the progress of all safety measures.
→ Providing avenue for employees to share safely concerns and ideas for improving safety.
→ Establishing a planned maintenance schedule for all machines - daily, weekly, monthly based on manufacturer suggestion.
→ Quickly repairing and addressing all defective or broken machine parts.
→ Testing all equipment before use.
→ Creating a regular inspection schedule and put mechanisms in place to ensure it is adhered to.

General Safety Rules

1) Keep work areas clean: Proper housekeeping alone can go a long way in preventing injuries. Injuries such as ships, trips, falls, sprains, strains etc can be reduced from keeping work areas organized and clean.

2) Use the proper tool for the job: Avoid the first impulse to use whatever tool (or object) is around to you get a work task done. Using the wrong tool for the job can result in an injury or damage to the tool which can lead to an injury in the future.

3) Always wear the proper PPE for the work task: The lack of PPE, or the use of improper PPE, leads to many injuries workplace.

4) Never work on live equipment: Working on energized equipment is an unsafe out that can result in serious injuries or fatalities.

5) Make sure chemicals are properly labelled or stored: Improper labelling and storage can lead to injuries property loss due to fires, Corrosion, etc.

6) Communicate hazards to other personnel: Never assume that a co-worker understands the hazards of a task especially if they are new or new to the task.

Personal Protective Equipment: (PPE)

→ Personal Protective Equipment is protective clothing, helmets, goggles or other garments or equipment designed to protect the wearer's body from injury or infection.

→ The hazards addressed by protective equipment include physical, electrical, heat, chemicals, biohazards and airborne particulate matter.

8th Chapter
Legislation

Intellection Property Rights (IPR):

Intellectual Property Rights are the rights given to the persons over the creations of their minds. They usually give the creator an exclusive right use of his/her creation for a certain period of time.

Patent:

A patent is a right granted to an inventor by the federal government that permits the inventor to exclude others from making, selling or using the invention for a period of time. The patent system is designed to encourage inventions that are unique and useful to society.

Trademark:

A trademark is a type of intellectual property consisting of a recognizable sign, design, or expression which identifies products or services of a particular source from these to others, although trademarks used to identify services are usually called service marks.

Copyrights:

A copyright is a collection of right that reproduce the work, song, movie or software, to prepare derivative works, to distribute copies to perform and display the work publicly.

Factories act, 1948:

The main objectives of the Indian Factories Act, 1948 are to regulate the working coalitions in factoring to regulate health, safely welfare, and annual leave and enact special provision in respect to young person women and children who work in the factories.

Features:

(1) Working Hours:

→ According to the provision of working hours of adults, no adult worker shall be required or allowed to work in a factory for more than 48 hours in a week.

→ There should be a weekly holiday.

(2) Health:

→ For protecting the health of workers, the cut keys down that every factor shall be kept clean and all necessary precautions shall be taken in this regard.

→The factories should have proper drainage system, adequate lighting, ventilation, temperature etc.

→ Adequate arrangements for drinking water should be made.

→ Sufficient latrine and urinals should be provided at convenient places. These should be easily accessible to workers and must be kept cleaned.

(3) Safety:

→No young person machine shall work at any dangerous machine.

→ There should be provision of manholes of adequate size 50 that in case of emergency the workers can escape.

(4) Welfare:

→ Adequate and suitable facilities for wasting should be provided and maintained for the use of workers.

→ Facilities of storing and drying, clothing, facilities for sitting, first-aid appliances, shelters, restroom and lunch rooms should be there.

(5) Penalties:

If any rules made under the act is violated, it is treated an offence.

The following penalties can be imposed-

(a) Imprisonment for a term which may extend to one years.

(b) Fine which may extend to one lakh rupees, or

(c) Both fine and imprisonment.

→If a worker misuses an appliance related to welfare, safety and health of workers, or in relation to discharge of his duties, he can be imposed a penalty of Rs.500/-.

Payment of Wages Act, 1936:

→ This out is applicable to all persons employed, whether directly or through contractors, in a factory or certain specified industrial or other establishment.

→ The central government is responsible for enforcement of the act in Railways, mines oilfields and air transport services.

→The state government are responsible for it all other establishment (factories and other establishments).

→ The Act does not cover those whose wage is Rs. 24,000/- or more per month.

Features of the Act:

(1) Obligations of Employees:

Every employer is responsible for the payment wages to all the employees that be employs. Additionally, apart from the employer, all the person so named / person so responsible to the employer / the person so nominated shall also be responsible for such payment.

(2) Wage period:

Every person responsible for wage payment shall for periods in respect of which such wages shall be payable. No wage period shall exceed one month.

(3) Time and made of payment of wages:

→Every establishment having employees in excess of 1000 person shall pay the wages before the expiry of the 10th day

→All other employers shall make the wage payment by the expiry of 7th day.

→ Employers shall make the payment of wages in current currency notes is cash or via bank transfer.

(4) Deductions from Wages:

→Employers shall ensure that wages are paid to all employees without deduction of any kind except those authorized by on under this Act.

→ Deduction includes the reduction of wages for the following: Fine, Absence from duty, adjustment of over payments of wages, etc...

9th Chapter
Smart Technology

Internet of Things(IOT):

→ Internet of Things (IOT) is defined as a dynamic global network infrastructure with self-configuring capabilities based on standard and interoperable, communication protocol where physical and virtual things have identities, physical attributes and virtual personalities, use intelligent interface and seamlessly integrated into the information network.
→ Internet of things (IOT) describes the network of physical objects- "things" - that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet.

How IOT works:

→An IOT system consists of sensors / devices which talk to the cloud through same kind of connectivity.
→Once the data gets to the cloud, software processes it and then might decide to perform an action such as sending on alert or automatically adjusting the sensors / devices without the need of for the user.

Components of IOT:

The 4 fundamental components of IOT system, which tells us how IOT works.

(1) Sensors/Devices:

→ Sensor help in collecting, very minute data from the surrounding environment, All of this collected data can have various degrees of complexities.
→A device can have multiple sensors that can bundle together to do more than just, sense things. → For example, our phone, is a device that has multiple sensors such as GPS, accelerometer, camera but our phone does not simply sense things.

(2) Connectivity:

→ That collected data is sent to a cloud infrastructure but it needs, a medium for transport.
→ The sensors can be connected to the cloud thorough various mediums of communication and transports such as 'cellular networks, satellite networks, Wi-Fi, Bluetooth, wide-area networks (WAN) alc.

(3) Data Processing:

→Once the data is collected and it gets, the cloud, the software performs processing on the acquired data
→This can range from something very simple, so as checking that the temperature reading on devices such as AC heaters within an acceptable range.

(4) User Interface:

→A user sometimes might have interface through which they can actively check in their IOT system.
→For example, user has camera installed his house, might want check the video recordings and all feeds through a web server.

Characteristics of IOT:

There are 7 crucial 10T characteristics:

(1) Connectivity: With everything going on in IOT devices and hardware, with sensors and other electronics and connected hardware and control systems there needs to be a connection between various levels.

(2) <u>Things:</u> Anything that can be tagged or connected as such as its designed to be connected. From Sensors and household appliances to tagged livestock. Devices can contain sensor or sensing materials can be attached to devices and items.

(3) <u>Data:</u> Data is the glue of the Internet of Things, the first step towards action and intelligence.

(4) <u>Communication</u>: Devices get connected so they communicate data and this data can be analysed. Communication can occur over short distances or over a long range to very long range.

Ex- Wi Fi, LPWA network technologies such as Lo Ra on NB-IoT.

(5) <u>Intelligence:</u> The aspect of intelligence as in the Sensing capabilities in IOT devices and the intelligence gathered from big data analytics.

(6) <u>Action:</u> This can be manual action, action based upon debates regarding phenomena (for instance in smart factory decisions) and automation, often the most important piece.

(7) <u>Eco system:</u> The place of the Internet of Things from a perspective of other technologies, communicative, goals and the picture in which the Internet of Things fits. The internet of everything dimension and the platform dimension and the need for solid partnerships.

Categories of IOT:

IOT can be divided into 3 categories:

(1) <u>Consumer IOT</u>: It includes the connected devices such as smart cares, phones, watches, laptops, connected appliances and entertainment systems.

(2) <u>Commercial IOT</u>: It includes things like inventory controls, device trackers, and connected medical devices.

(3) <u>Industrial IOT:</u> It covers such things, as connected electric meters, waste water systems, flow gauges, pipeline monitors, manufacturing robots and other types of connected industrial devices and systems.

Applications of IOT:

Smart Cities:

Smart city is a city that uses technology to provide services and solve city problems. Smart city does things like improve transportation and accessibility, improve social services, promote sustainability, and give its citizens a voice.

<u>Applications of Smart Cities:</u>

Smart Parking: Monitoring of parking spaces availability the city.

Structural health: Monitoring of vibrations and material conditions in buildings, bridges and historical monuments.

Noise urban Maps: Sound monitoring in bar areas and centric zones in real time.

Smartphone Detection: Detect I phone and Android devices in general any device which works and wifi or Bluetooth interfaces.

Electromagnetic Field levels: Measurement of the energy radiated by cell stations and wi-fi routers.

Traffic Congestion: Monitoring of vehicles and pedestrian levels to optimize driving and walking routes.

Lighting: Intelligent and weather adaptive lighting in street lights.

Waste Management: Detection of rubbish levels in containers to optimize the trash collection routes.

Smart Roads: Intelligent Highways with warning messages and diversions according to climatic conditions and unexpected events like accidents or traffic jams.

Smart Transportation:

These technologies aim to provide innovative services relating to different modes of transport and traffic management and enable users to be better informed and make safer and smarter use of transport networks.

Applications of Smart transportation:

Wireless technology: Smart mobile devices are used in route planning, navigation Carpooling and parking information cellular phone systems such as Wi-Fi, and Bluetooth, create a field of data connectivity.

Sensing technology: With sensor, RFID, and other connected technologies, it is feasible to connect everything (traffic lights, road signs etc.). These sensors are used, in sensor-enabled consumer devices.

GPS: A navigation system such as global picturing system (GPS) allows the user to find the best route based on real-time conditions.

Smart Vehicles: Transportation Infrastructure (consisting of traffic lights and camera network) can help autonomous vehicles find their way. Vehicle-to-Vehicle Communications will enable autonomous vehicles to Communicate in real time it

Electric vehicles: Electric vehicles need power charging infrastructure which will compose of charging stations and diverse vehicles. Drivers can charge their vehicles at homes, office rooms, changing stations, public places etc.

Smart Home:

A smart home refers to a convenient home setup where appliances and devices can be automatically connected controlled remotely from anywhere with an internet connection using a mobile or those networked.

Applications of Smart Home:

Heating, ventilation and air conditioning (HVAC): It is possible to have remote control of all home energy monitors over the internet incorporating a simple and friendly user interface.

Lighting control system: A smart network that incorporates communication between various lighting system inputs and out puts, using one or more control computing devices.

Occupancy aware control system: It is possible to sense the occupancy of the home using smart meters and environmental sensors like CO_2 sensors, which can be integrated into the building automation system to trigger automatic responses for energy efficiency and building comfort applications.

Appliance control: Use of solar panels to electricity.

Home robots and security: A household security system integrated with a home automation can provide additional services such as remote surveillance of security camera over the internet access control and central locking of all perimeter doors and windows.

→Leak detection, smoke and Co detectors.
→ Indoor positioning systems (IPS)
→ Home automation for the elderly and disabled.
→ Smart connected cooking.
→ Voice Control devices like Amazon Alexa or Home used to control home appliances or systems.

Smart Healthcare:

Smart healthcare is defined by the technology that leads to better diagnostic tools, better treatment, for patients and devices that improve the quality of life for everyone.

Applications of Smart healthcare:

The service targets of smart healthcare can be roughly divided into three categories: Clinical / scientific research institutions, regional health decision-making institutions and individual family users. The application of smart healthcare can be divided as follows:

Assisting diagnosis and treatment: With the application of technologies such as artificial intelligence, surgical robots and mixed reality, the diagnosis and treatment of diseases has become more intelligent.

Health management: It emphasizes real-time self-monitoring of patients, immediate feedback of health data, and timely intervention of medical behaviour. The emergence of wearable smart devices, smart homes and smart health information platforms connected by IOT technology provides a solution to this situation.

Disease perseverations and risk monitoring: Here the new disease risk prediction modal collects data through wearable device and smart apps, uploads them to the cloud through a network and analyses the results based on big data based algorithms to feed back the predicted results to users in real time via short massage.

Virtual Assistants: Virtual assistants communicate with users through techniques such as speech recognition, rely on big data to obtain information sources, and respond according to user's preferences on needs after calculations - Microsoft Crotona, Google Assistant, Apple Siri are all virtual assistants.

Smart hospitals: In hospital management, the information platform that integrates multiple digital systems based on the IOT connects digital devices, intelligent buildings and personnel.

Assisting drug research: Clinical trials of drugs involves the combined use of the IOT, big data, and artificial intelligence.

Smart Industry:

Smart Industry stands for radical digitalization, connecting products, machines and people, and the use of new production technology.

Applications of Smart Industry:

→Automated and remote equipment management & monitoring.
→Predictive maintenance
→Faster implementation of improvements.
→ Pinpointing inventories.
→ Quality Control.
→ Supply chain optimization
→ Plant safely improvement (monitoring of equipment & damages, plant air quality, frequency of illness)

Smart Agriculture:

It refers to the usage of technologies like internet of things, sensor, location systems, robots and artificial intelligences on your farm.

Applications of Smart Agriculture:

Climatic conditions: Sensors are placed inside outside the agricultural fields. They collect data from the environment which is used to choose the right climatic conditions.

Precision farming: It refers to smart farming applications such as livestock monitoring, vehicle tracking, field observation and inventory monitoring.

Smart greenhouse: Using solar-powered IOT sensors build modern and inexpensive greenhouses.

Data Analytics: This helps in analysis of weather conditions, livestock conditions and coop conditions.

Agricultural Drones: This is used for crop health crop monitoring, planting, crop spraying and field analysis.

Smart Energy Management System:

It allows the coordination among sensors and lights to automatically keep lights off when not required. The systems alert users in real-time when the light bulbs go out.

Application:

Smart lighting: Smart LEDS can send information as well as receive command.
Smart Energy meters: It allows to detect any faulty bills charged by utility providers.
Office device monitors: Large office building use these for saving energy.