



GOVERNMENT POLYTECHNIC , JAJPUR

LECTURE NOTE ON
**“ ENTREPRENEURSHIP MANAGEMENT &
SMART TECHNOLOGY”**

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Th-① ENTREPRENEURSHIP & MANAGEMENT & SMART TECHNOLOGY

|| SYLLABUS ||

① Entrepreneurship :-

- Concept/Meaning of Entrepreneurship
- Need of Entrepreneurship
- Characteristics, Qualities and Types of entrepreneur, functions
- Barriers in entrepreneurship
- Entrepreneurs Vs. Manager
- Forms of Business Ownership: sole proprietorship, partnership forms and others
- Types of Industries
- Concept of startups.
- Entrepreneurial support agencies at National, state, District level (sources): DIC, NSIC, OSIC, SIDBI, NABARD, Commercial Banks, KVDC etc.
- Technology Business Incubators (TBI) and science & Technology Entrepreneur Parks

② Market Survey and opportunity Identification (Business Planning) :-

- Business Planning
- SSU, Ancillary Units, Ring Units, service sector units
- Time schedule plan, Agencies to be contacted for project implementation
- Assessment of Demand and supply and potential areas of growth
- Identifying Business opportunity
- Final product selection

③ Project Report Preparation :-

- Preliminary project report
- Detailed project report, Techno economic Feasibility
- Project Viability

④ Management Principles :-

- Definitions of management
- Principles of management
- Functions of management (planning, organising, staffing, directing and controlling etc.)
- Level of management in an Organisation

⑤ Functional Areas of Management :-

(a) Production Management

- Functions, Activities
- Productivity
- Quality Control
- Production Planning and control

(b) Inventory Management

- Need for Inventory management
- Models/ Techniques of Inventory management

(c) Financial Management

- Functions of financial management
- Management of working capital
- Costing (only concept)
- Break even Analysis
- Brief idea about accounting Terminologies:
Book keeping, Journal entry, Petty cash book, P & L accounts, Balance sheets (only concept)

(d) Marketing Management

- Concept of Marketing and Marketing Management
- Marketing Techniques only (concepts)
- Concept of 4Ps (Price, Place, Product, Promotion)

(e) Human Resource Management

- Functions of Personnel Management
- Manpower Planning; Recruitment, sources of manpower, selection process, Method of Testing, Methods of Training & Development, Payment of wages.

(f) Leadership and Motivation :-

(a) Leadership

- Definition and Need/Importance
- Qualities and functions of a leader
- Manager Vs Leader
- Style of Leadership (Autocratic, Democratic, Participative)

(b) Motivation

- Definition and characteristics
- Importance of motivation
- Factors affecting motivation
- Theories of motivation (Maslow)
- Methods of Improving Motivation
- Importance of communication in Business
- Types and Barriers of communication

⑦ Work, Culture, TQM & Safety:-

- Human relationship and performance in organization.
- Relations with Peers, superiors and sub-ordinates
- TQM concepts: Quality Policy, Quality management, Quality system
- Accidents & safety, Cause, preventive measures, General Safety Rules, Personal Protection Equipment (PPE)

⑧ Legislation:-

- (a) Intellectual Property Rights (IPR), Patents, Trademarks, Copyrights
- (b) Features of ~~payment of factories Act~~ 1948 with Amendment (only salient points)
- (c) Features of Payment of Wages Act 1936 (only salient points)

⑨ Smart Technology:-

- Concept of IOT, How IOT works
- components of IOT, characteristics of IOT, categories of IOT
- Applications of IOT - smart cities, smart transportation, smart home, smart health care, smart industry, smart agriculture, smart Energy Management etc.

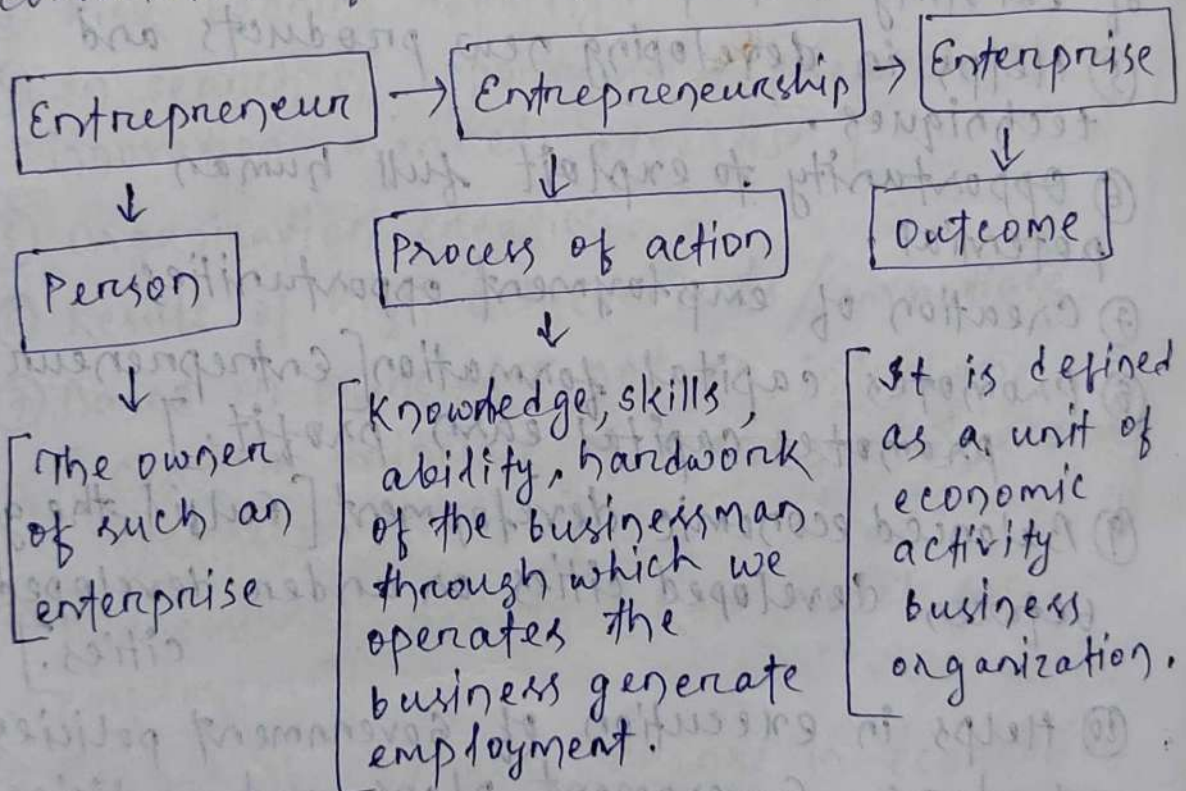
Chapter - (1)

ENTREPRENEURSHIP

* Entrepreneurship - Concept / Meaning of Entrepreneurship:-

⇒ Meaning :- The ability of bear risk of establishing of new enterprises, its direction, controlling being changes and innovations, creativity, taking connective action can be called as Entrepreneurship.

→ Entrepreneurship is consider to be the combination of "Entrepreneur & Enterprise."



⇒ Definition :-

1. Howard Johnson → "Entrepreneurship is the composition of three basic elements - Inventions, Innovation & Adaptations." (change in time to time according to costumers past)

* Need of Entrepreneurship:

2. Prof. Prafulla and Mehta → "Entrepreneurship can be described as creative and innovative response to environment."

* Need of Entrepreneurship:-

- ① Employment generation.
- ② Basic of economic development of nation.
- ③ Employment generation through promotion of small business.
- ④ Helps in establishing new enterprises.
- ⑤ Contribution in development and expansion of existing Enterprises.
- ⑥ Helps in developing new products and techniques.
- ⑦ Opportunity to exploit full human potential.
- ⑧ Creation of employment opportunities.
- ⑨ Promotes capital formation [Entrepreneur promotes capital earn profit.]
- ⑩ Balanced economic development [Fulfil the gap between developed cities or under developed cities.]
- ⑪ Helps in execution of Government policies and plans. Government plans and policies implemented by business.
- ⑫ Helps in social change. (Improve standard of living increase employment within society) (Income level increase infrastructure changes)

⑬ Encourage research and investigation. Before produce entrepreneur research, good analysis of the products.

* Characteristics, Qualities and Types of Entrepreneur:-

⇒ Characteristics:-

- ① Ability to innovate. (Changes in existing product.)
- ② Economic activity (earning profit, manage resources, revenue general)
- ③ Risk bearing capacity.
- ④ In search of opportunities. [Search of innovation, market, advertise]
- ⑤ Organisation creation.
- ⑥ Result of high achievements/ambitions.
- ⑦ Based on principles not on intuition. [Certain principle of management, economy, technique, tools.]
- ⑧ Professional activity. [Role model for employees]
- ⑨ Result of changes. [Change in economic enhancement fashion, trend need desire]
- ⑩ Entrepreneur is a behaviour not a personality trait.
- ⑪ Essential in all types of business.
- ⑫ Essential in all activities.
- ⑬ Different types of entrepreneurship.

(14) It is a global phenomenon.

(15) Independent life style.

⇒ Qualities:-

[A] Physical and mental qualities :-

① Sound health and stamina.

② Handworking

③ Imaginative

④ sharp intelligence

⑤ Self confidence

⑥ Optimist. (Positive thinking)

⑦ Foresightedness (Six sense, durbanshi)
visionary.

⑧ Effective personality.

⑨ Capacity to take decisions.

[Hard situation → also take correct decisions
accuracy of taking right decision]

[B] Social and moral qualities :-

① sociable (Mixing nature, interpersonal relationship between worker/staffs)

② Co-operative

③ Politeness (Get the work done through other people so take politely)

④ Sound character (Positive character)

⑤ Honesty

⑥ Loyal

⑦ Humanity (Not treat as machines)

⑧ Likable disposition (Role model)

① Respectful (First give respect to them
make your workers respect you)

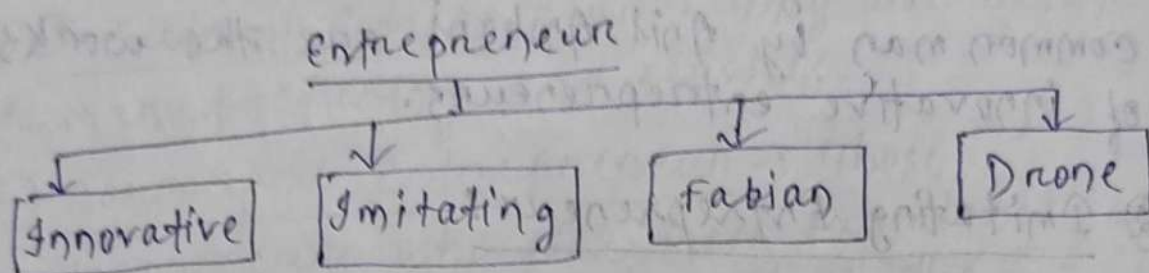
(10) Professional or business qualities

(professionals on the discipline)

(Knowledge about your work)

⇒ Types of Entrepreneur :-

According to "C. Danks", There are four types of entrepreneur. such as:-



① An innovative entrepreneur is a person who creates innovative products and services.

e.g. → World Disney Park.

② Imitating entrepreneur will be finding out products those have been invented earlier in other countries but new in that particular country.

③ They only imitate, if they see fit and have a clear and broad picture of things. They are do not prefer to take risk.

④ Drone Entrepreneurs are those who refuse to adopt and use opportunities to make changes in production.

(Refusal to adopt opportunities to make change in production formula. Even the cost reduces, they are ready to suffer losses but they are not ready to make changes in their existing product)

① Innovative Entrepreneur:-

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

→ They are the business leaders and contributors to the economic development of a country.

→ Ex:- Innovations 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 Imitating Entrepreneur:-

→ These entrepreneurs are people who follow the path shown by innovative entrepreneurs.

→ Ex:- Development of small shopping complexes is the work of imitating entrepreneurs.

- All the small cars manufactures now are the imitating entrepreneurs.

③ Fabian Entrepreneur:-

→ Fabian entrepreneurs are those individuals who do not show initiative in implementing new ideas and innovations.

→ Wait for some development which would motivate them to initiate unless there is an imminent threat to their very existence.

④ Drone Entrepreneur:-

→ 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.

⇒ Types of Entrepreneurs → depending on nature, size and types of business :-

① Business entrepreneur → Implimented their own idea to start small business.

② Trading entrepreneur → (whole sale, Retail)

They undertake trading activities in domestic level as well as overseas.

③ Industrial Entrepreneur → They are related to manufacturing and services.

④ Corporate Entrepreneur → Those entrepreneurs who pick their experience, and skills they manage and control the organization effectively and efficiently.

⑤ Agriculture Entrepreneur:- Agricultural related activities like farming.

⑥ Use of technology → Technical entrepreneurs.
Non-technical entrepreneurs.

(who don't make use of technology)

⑦ Professional Entrepreneurs → (established business for selling purpose)

⑧ Motivational Entrepreneur →

Spontaneous

Induced

Motivated

→ Spontaneous - Those entrepreneurs who are not externally motivated. They are self-motivated. They are creativity.

→ Induced - Forced

→ Motivated - They are the who are motivated by their desire to achieve something.

⇒ Other Categories of Entrepreneurs:-

① First generation entrepreneur:-

First time start the business through innovations.

Ex - Bill Gates, Steve Jobs, Rakesh Agarwal.

② Second generation Entrepreneur:-

Inherited Entrepreneur. Passout from parents like

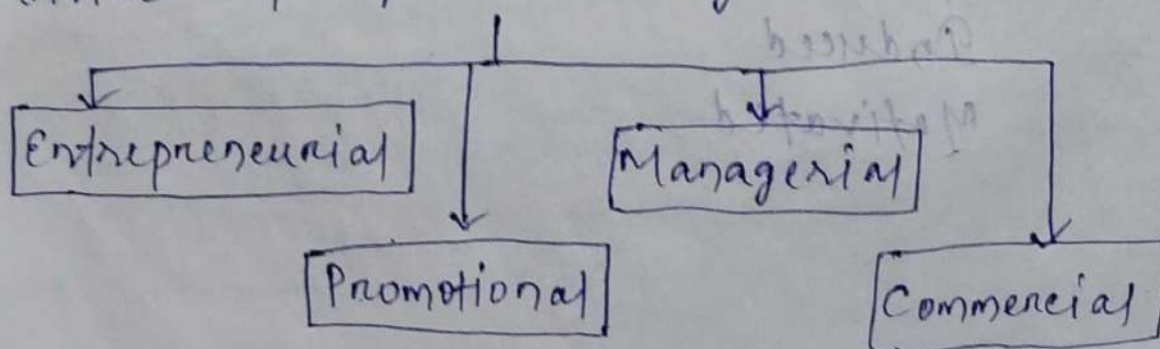
e.g. → Ambani, Tata or Birla

③ Third generation Entrepreneur:-

Grand parents → Parents → Son/Daughter, Successor Entrepreneur.

⇒ Functions of an Entrepreneur:-

→ Basically the functions of an entrepreneurs divided into 4 broad categories.



→ Entrepreneurial function :-

- Innovation
- Organisation Building
- Risk taking

• Innovation :- Basic function, introduce something, new product, new market for a product, new sources of raw material.

Ex :- Mobiles, induction cooker etc.

solar energy.

• Risk taking :- → Reduces uncertainty in

his/her plan of investment.

→ Diversification of production and expansion of the enterprise.

→ Willing to assume the risks involved in innovations.

→ Ventures, and expansions of an existing venture.

(Ex :- Dhirubhai Ambani buy 2000 ~~Acres~~ Acres of land and cultivate mango tree)

• Organisation building :-

→ Organisation and management are main functions.

→ Allocate the productive resources in order to minimize losses and reduce costs in productions.

When start up business there are -

Ex :- Limited manpower \rightarrow Limited funds \rightarrow Limited resources which are available \leftarrow

\downarrow

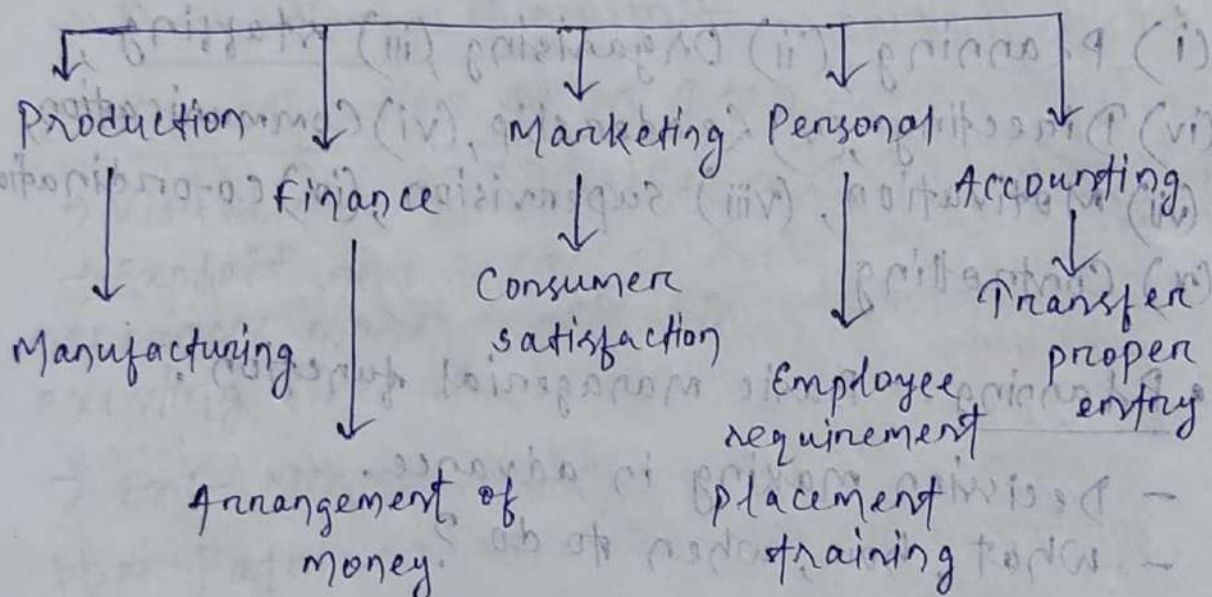
Utilise the resources and get maximum output

- Directing:- carrying out desired plans.
→ Organise, plan ensure effective performances for accomplishment of goal.

- Leadership:- Influence positively with human resources attached to achieve the desired goal.

- Motivation
- Communication
- Controlling
- Supervision
- Co-ordination

→ Commercial functions:-



→ Production:-

- Creation of goods and services.
- Activities of production are independent of the size of the undertaking.

→ Ex:- (Production can be at a large scale or at a small scale depending upon the size of the venture then production activity remains same irrespective of what kind of enterprises small or large).

→ Finance :- Development & expansion of an enterprise rather need more commitment for funds.

→ Marketing :- (Advertise the product)

→ Accounting :- (Commercial function)

- It helps in understanding wheather profitable venture or not then take corrective actions.

* Barriers in Entrepreneurship :-

① Environmental Barrier :-

(a) Raw Material :-

- Non-availability of raw materials required for production during peak seasons. It leads to increase in price of raw materials due to competition.

(b) Labour :-

→ Lack of skilled labour.
→ Lack of committed and loyal employees.
→ Quality & Quantity of labour.

(c) Machinery :-

→ Machines are necessary but they are also costly and due to rapid change in technology they become absolutely and require replacement which requires cash in hand.

→ It becomes very difficult for small business organization to keep updating its production process.

(d) Land and building :-

→ Acquisition of land and construction of building at a prime location require heavy expenditure.

→ If the land is taken on rent, it becomes a fixed cost and a constant concern for entrepreneur.

(e) Infrastructure support :-

Adequacy of power, proper roads, water and drainage facilities etc. There is less support from development authorities due to corruption.

② Financial Barrier :-

Availability of funds is a major concern. A delay in sources of finance results in delay of starting or running business.

③ Personal Barrier :-

They are caused by emotional blocks of an individual. They cause a mental obstruction. They are -

(a) Lack of confidence :-

→ They think they will never find a successful business idea and would be unable to attract necessary resources.

→ Therefore, they dismiss the thought of being self-employed.

(b) Lack of dependability on others :-

They aim to gain their additional expertise through trial and error and experience, rather than seeking further development or personal assistance from others.

(c) Lack of Motivation :-

Lose interest and motivation when ideas don't work.

(d) Lack of patience :-

When desire to achieve success in first attempt or to become rich instantly are confronted with business challenges/problems they lose interest. They give up at during initial losses.

(e) Inability to dream :-

Sometimes they are short of vision or satisfied with what they have achieved and lose interest in further expansion of business.

(f) Sense of pride/embarrassment :-

They are too proud or too embarrassed to take help.

④ Social Barrier :-

- Socio-cultural norms and values.
- Degree of approval or disapproval of entrepreneurial behaviour.
- Financial stability and family background.
- Caste and religious affiliation.

⑤ Political Barrier :-

- Government incentives and concessions.
- Facilitating socio-economic setting.
- Interest in economic development of society.

* Entrepreneurship v/s Manager :-

<u>Entrepreneur</u>	<u>Manager</u>
<u>Motive</u> → To start a venture by setting up an enterprise.	→ To render his services in an enterprise already set by someone else servant in the enterprise.
<u>Status</u> → Owner of the enterprise	→ servant in the enterprise.
<u>Risk</u> → Take all risks in the running enterprise	→ No risk involved in the enterprise
<u>Reward</u> → Unpredictable profit.	→ Fixed salary.
<u>Innovation</u> → Thinks over what to do, how to do. ex - Change agent.	→ Simply execute the plans prepared by entrepreneur.
→ Entrepreneur is an owner	→ Manager is a servant.

⇒ Note :-

An entrepreneur can be a manager also, but a manager can't be an entrepreneur.

* Forms of Business Ownership :-

- ① Sole - proprietorship
- ② Partnership
- ③ Joint Hindu family business
- ④ Co-operative society
- ⑤ Joint stock company (Private limited company, Public limited company and public sector undertaking)

→ There are different forms of business organisation depending on how they have been started and managed.

① Sole - Proprietorship :-

Sole - proprietorship refers to a form of business organisation which is owned, managed and controlled by an individual who is the recipient of all profits and bearer of all risks.

⇒ Features :-

- (a) Formation & closure.
- (b) Liability → (limited liability, unlimited liability)
- (c) sole risk bearer and profit recipient.
- (d) Control (controlled by the owner)
- (e) No separate entity (Business or businessman both are same for law - no separate entity)
- (f) Lack of business continuity (If owner ill, lunatic, death he close his business)

⇒ Merits :-

- (a) Quick decision making.
- (b) Confidentiality of information (Business secrecy).
- (c) Direct incentive (incentive-profit → directly goes to the owner).
- (d) Sense of accomplishment (Goal achieved when self satisfied - successful in business).
- (e) Ease of formation or closure.

⇒ Limitation :-

- (a) Limited resources.
- (b) Limited life of business concern.
- (c) Unlimited liability.
- (d) Limited managerial ability.

② Partnership :-

Meaning → The relation between persons who have agreed to share the profit of the business carried on by all or any one of them acting for all.

⇒ Features :-

- (a) formation → formed according to Indian partnership agreement signed up by between partners.
- (b) Liability → Unlimited liability
- (c) Risk bearing → Distribute among the partners.
- (d) Decision making & control → All partners make decision.

(e) Continuity → No continuity if any partner death in case of two partner.

(f) Membership → Maximum 50 (private form)
Maximum 10 (In case of bearing form)

(g) Mutual agency → Responsibility not goes under one person it is distributed among partners.

⇒ Merits :-

- (a) Ease of formation and closure
- (b) Balanced decision making
- (c) More funds
- (d) Sharing of risks
- (e) Secrecy

⇒ Limitations :-

- (a) Unlimited liability
- (b) Limited resources
- (c) Possibility of conflicts.
- (d) Lack of continuity
- (e) Lack of public confidence

③ Joint Hindu Family Business :-

Meaning → It refers to a form of organisation where in the business is owned and carried on by the members of the ~~Hindu~~ Hindu undivided family (HUF)

→ Business is controlled by the head of the family who is the eldest member and is called "KARTA".

→ Two systems:- (a) Dayabhaga
(b) Mitakshara

Joint Hindu family business operate under Hindu succession Act, 1956 and Amendments.

(a) Dayabhaga:-

There are two divisions of the (HUF) Hindu succession Act, Dayabhaga law and Mitakshara law.

→ According to Dayabhaga law (which is applicable to Bengal)

→ Both male and female will inherit the property of the family only after the death of the father.

(b) Mitakshara:-

→ According to Mitakshara (which is applicable to the rest of India) only male members or three successive male generation can inherit the property of the family ~~from~~ from the moment of their birth.

→ Only male member - co-partners.

⇒ Features:-

(a) Formation → By birth you become the member of the business.

(b) Liability → Karta's liability becomes unlimited members liability limited.

(c) Control → Control handled by head of the family.

- (d) Continuity \rightarrow Continuity runs business
(e) Minor member \rightarrow Below 18 years family member also the members of the business.

\Rightarrow Merits:-

- (a) Effective control.
- (b) Continued business existence.
- (c) Limited liability of members.
- (d) Increased loyalty and co-operation.

\Rightarrow Demerits:-

- (a) Limited resources
- (b) Limited liability of Karta
- (c) Dominance of Karta
- (d) Limited managerial ability

④ Co-operative Society:-

Meaning:- the co-operative society is a voluntary association of persons who join together.

\rightarrow With the motive of welfare of members (minimum 10 members) (Registration under co-operative society act 1912)

\rightarrow It protects the members from the exploitations of the middle men \rightarrow (whole ~~sale~~ on retailer sale)

\Rightarrow Features:-

- (a) Voluntary membership
- (b) Legal status

- (c) Limited liability (members' liability limited)
- (d) Control (Control goes to the elected member of head leader)
- (e) Service (Service motive to social welfare, provide welfare)

⇒ Merits :-

- (a) Equality in voting status.
- (b) Limited
- (c) Stable existence
- (d) Economy in operation
- (e) Support from Government
- (f) Ease of formation

⇒ Demerits :-

- (a) Limited resources.
- (b) Inefficiency in management
- (c) Lack of secrecy
- (d) Govt. Control
- (e) Difference of opinion.

⑤ Joint Stock Company :- (Simply called as company)

Meaning → A company is an association of persons formed for carrying out business activities and has a legal status independent of its members.

→ When many persons start a business it may be a Joint stock company (Main aim to earn profit)

→ Company - It is compulsory for a company to be registered.

→ Separate legal entity for organisations and its members.

⇒ Features :-

- (a) Artificial Person
- (b) Separate legal entity
- (c) Formation
- (d) Perpetual succession.
- (e) Control
- (f) Liability
- (g) Common seal
- (h) Risk bearing

⇒ Merits :-

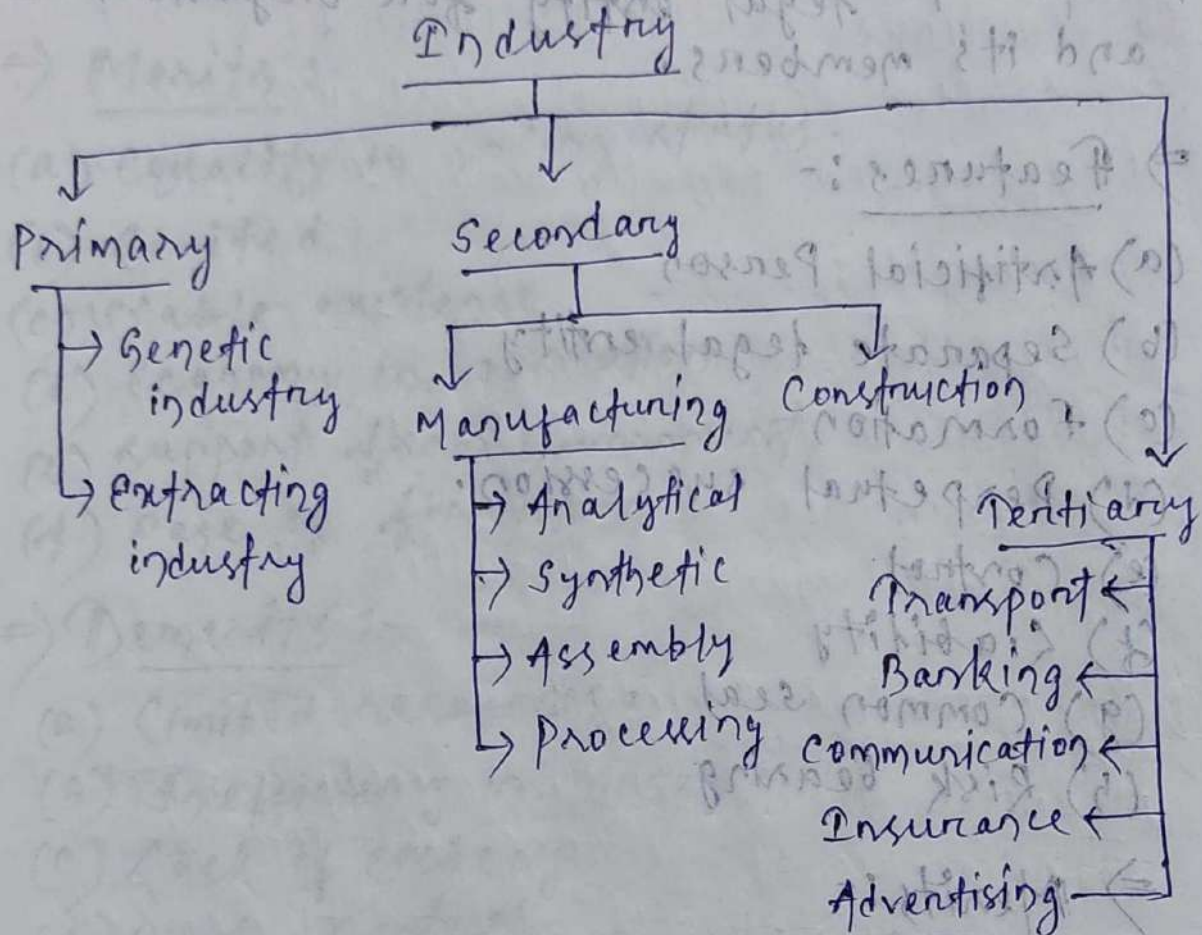
- (a) Limited liability
- (b) Transfer of interest
- (c) Perpetual existence
- (d) Scope of expansion
- (e) Professional management

⇒ Demerits :-

- (a) Complexity in formation.
- (b) Lack of secrecy
- (c) Impersonal work environment.

- (d) Numerous regulation
- (e) Delay in decision making
- (f) Oligarchic management

* Types of Industries :-



⇒ Industry :-

Industry refers to an activity which converts raw material into useful products

⇒ Primary Industry :-

It concerned with extraction of natural resources and reproduction of living species.

(i) Genetic Industry:-

Rearing & breeding of living organisation.

Ex:- Birds, plants, animals.

(ii) Extractive Industries:-

Extraction of something from natural resources such as - minerals from earth

- fish from rivers
- Timber from forests

⇒ Secondary Industry:-

It makes use of products which are extracted and produced by primary industry as their raw-material and produce finished product.

(i) Manufacturing Industries:-

It converts raw material or semi-finished product into finished products.

(a) Analytical Industries:-

→ Basic raw material is broken into different parts to produce finished products.

Ex - Crude oil produces petroleum

diesel

Kerosene etc.

→ Milk product like ghee, cheese, butter, ~~and~~ curd, milk powder, condensed milk etc. come out at different processes.

(b) Synthetic Industries :-

Two or more materials are mixed to manufacture some new products.

Ex - food processing industries.

ex - soap, paints, cosmetics, ayurvedic medicine, pharmaceutical, chemical and fertilizer etc.

(c) Assembling Industries :-

Various finished products are combined to produce a new finished product.

Ex - computer, TV, cars, automobile industry, watch, bicycle.

(d) Processing Industries :-

Raw material is processed through various stages of production and then finished products are manufactured.

ex - Textile industry, sugar industry, paper making, furniture making.

(ii) Construction Industries :-

Involves construction of building, dams, roads, bridge, canal, flyover, tunnel, factory etc.

* Concept of Start ups :-

Q. What is start up?

→ As per the notification dated February 17, 2017 issued by the ministry of commerce and industry.

→ start up means an organisation which is not older than five years (initial phase business).

→ Annual turnover does not exceed 25 crore in any proceeding year.

→ ex :- You established a business organisation → 2 years → 100 crores it is not a start up. start up means small organisation which annual turnover 25 crore.

→ An entity incorporated or registered in India.

→ Working towards innovation, development or commercialisation of products/service/process driven by technology or IPR and Patent.

→ An organisation which is based on creativity, innovations, introducing something new, understand market demand, customers requirements then produce products is called a start up.

→ If a merged company separated and start business is not consider as start up.

Ex → Hero Honda Company → Hero Co.
→ Honda Co.

We don't want job seekers → we want job providers so govt. provide various schemes → start up India → Make in India.

→ Entrepreneurial support agencies at national, state, district level (sources), DIC, NSIC, OSIC, SIDBI, NABARD, commercial banks, RDC etc.

→ Govt. has been providing various kind of assistance to small enterprises, small unit. So this has been provided by selling of these institutions.

such as -

NABARD → National Bank for Agriculture and Rural Development
1982 established by government.

→ Apex institution to provide finance to small units.

Rural Small Business Development Centre (RSBDC) international institution.

→ set up by world association for small and medium enterprise.

→ sponsored by NABARD.

- Managerial and technical support.
- Organised various programmes - Rural entrepreneurship skill up gradation.

Conduct - Workshops.

→ Small industrial development Bank of India (SIDBI)

→ Set up April - 1990 - small industries development bank of India Act, 1990.

→ Promote, finance and develop small scale sector in India.

→ financial assistance.

→ Co-ordinates - functions of other institutions

⇒ District Industries Centre (DICs)

→ Launched 01st May - 1978

→ services and support facilities to entrepreneurs to set up small and village industries at district facility.

→ focal point - economic and industrial growth at the district level.

⇒ Functions Performed :-

→ Identify suitable schemes and implement them.

→ Feasibility Reports

→ Helps in arranging for credit.

→ Access to raw material & machinery.

→ support service to entrepreneurs.

⇒ National Small Industries (NSIC)

- Set up in 1955.
- Supplied indigenous and imported machines and raw materials on Hire-Purchase scheme.
- Help in exports and improves credit worthiness. (so that these small business units get loan if required from the market).
- Upgradation of technology.
- Mentoring and advisory services.
- Technology business incubation (helping the businesses to adopt new technology, understand them and enhance their business).
- Develops software technology parks and transfer centres (so that these small business units can operate their and improve their production facilities).
- OSIC - Odisha Small Industries Corporation Limited. was established on 3rd April 1975 as a wholly owned corporation of govt. of Odisha.
- KVDC - Khadi & Village Industries Commission, a statutory body formed by the govt. of India, under Khadi & Village Industries Commission Act of 1956.

⇒ Commercial Banks:-

- IDBI → Industrial Development Bank of India
- It provide loans, Debit card and credit cards various schemes.
- Merchant services (credit card processing, reconciliation & reporting, check collection).
- Saving accounts.
- Checking accounts.
- Treasury services (payroll services, deposit services etc.)
- Co-operative Banks.
- Urban & Rural Banks
- Regional rural Banks.

⊗ Institutional support to enterprises at state & national level :-

- An entrepreneur interested to start a small enterprise has to face a number of problems and may run from one office to another and spent a lot of time and energy to solve his problems.
- Some new entrepreneurs may be totally ignorant and may not have much knowledge on production, marketing finance etc. Hence, such a person need to consult many experts.

⇒ Support Input :-

→ The government has constituted and established many types of institutions and boards who will extend different types of assistance to the entrepreneurs to solve their problems.

→ Some agencies provide general information about different projects, some provide technical and marketing assistance in specialised areas, some provide technical and financial assistance and also help in the implementation of the projects.

→ The entrepreneur has to consult the appropriate organisations departments or institutions for assistance. In order to help the entrepreneurs, to get information from various sources, the Government has constituted various agencies at both the state and national level. A list of such institutions and their areas of assistance is given at the next page.

⇒ List of Institutions for Financial Support of Small Enterprises :-

⇒ SIDBI → Small Industries Development Bank of India

⇒ IDBI → Industrial Development Bank of India.

⇒ NABARD → National Bank for Agriculture and Rural Development.

⇒ ~~DICGC~~

⇒ DICGC → Deposit Insurance and Credit Guarantee Corporation.

⇒ CGFT → Credit Guarantee Fund Trust for small Industries.

⇒ SFC → State Financial Corporation

⇒ KVDC → Khadi & Village Industries Corporation.

⇒ NSIC → National Small Industries Corporation

⇒ OSIC → Odisha Small Industries Corporation

⇒ OSFC → Odisha state financial Corporation.

⇒ List of Institutions for Non-financial support of small Enterprises :-

⇒ DIC → District Industries Centre

⇒ SIDO → Small Industries Development of Organisation

⇒ NSIC → National Small Industries Corporation

⇒ OIICO → Odisha Industrial Development Corporation.

⇒ KVDC → Khadi & Village Industries Corporation

⇒ EDII → Entrepreneurship Development Institute of India.

⇒ MSME → Micro, Small & Medium Enterprises.

⇒ NIESBUD → National Institute for Entrepreneurship & Small Business Development.

⇒ CED → Centres for Entrepreneurship Development.

⇒ NRDC → National Research Development Corporation

⇒ MSMEDI → Macro, Small and Medium Enterprises Development Institute (Earlier SISI i.e. small industries institute)

⇒ List of National Level Institution:-

Sl. No.	Name of the institutions and organisation	Area of specialisation or activities performed
①	National Aeronautical Laboratory, Bangalore	- Design, construction and operation of aircraft and flight related matters.
②	National Biological Laboratory, New Delhi	- Conducting research on modern biological science.
③	National Building Research Institute, Roorkee	- Research on engineering and structural aspect of buildings.
④	National Chemical Laboratory, Pune.	- Research on fundamental and applied field of chemistry.

⑤ Central Drug research institute, Lucknow. - Research on drugs and related use of drugs.

⑥ Central Design and Engineering Research Institute, New Delhi. - Translation laboratory experiments into industrial practice and design plants.

⑦ Structural Engineering Research Centre, Roorkee - Design & Development of structural matters in buildings bridges etc.

⑧ National Environment Engineering Research Institute, Nagpur. - Research in all matters relating to public health engineering waste utilisation, air pollution control etc.

⑨ Central Electronics Engineering Research Institute, Pilani (Rajasthan) - Design & construction of electronics equipments and their testing.

⑩ Central Electro-chemical Research Institute, Karaikudi, Tamilnadu - Research on different use of electrochemistry, electro-metallurgy etc.

⑪ National Fuel Research Institute, Dhanbad - Research on solid and liquid and gaseous fuels and coal surveys.

- (12) Central food Technological Research Institute, Mysore

- Food processing, Food and vegetable conservation.
- (13) National Geophysical Research Institute, Hyderabad.

- Geology and Geophysics studies.
- (14) Central glass & Ceramic Research Institute, Jadavpur (West Bengal)

- Research on glass, Ceramic, Pottery, Porcelain, refractories etc.
- (15) Indian Institute of Petroleum, Dehradun

- Petroleum refining, processing of natural, petro-chemicals etc.
- (16) Indian Institute of Experimental medicine, Calcutta

- Research on Biochemistry, Bacteriology etc.
- (17) Indian Institute of Oceanography, Panaji, Goa.

- Products & properties relating to ocean, minerals in sea beds.
- (18) Central Indian Medical Plants, Organisation, Lucknow

- Development, cultivation and Utilisation of medical plants
- (19) Central Leather Research Institute, Chennai

- Leather technology Development and research on its application.

- ②① Central Mechanical Engineering Research Institute, Nagpur - Research on all aspects of mechanical engineering.
- ②① Central Mining Research Station, Dhanbad (Bihar) - Research on different methods of mining, safety in mines and mining machinery.
- ②② National Metallurgical Laboratory, Jamshedpur - Metallurgical Research activities.
- ②③ National Physical Laboratory, New Delhi - Research in fundamental and applied physics
- ②④ Central salt and Marine Chemical Research Institute, Bhavnagar, Gujarat - Research on production of salt, marine and other chemicals.

(*) Technology Business Incubators (TBI) and Science and Technology Entrepreneur Parks :-

⇒ Incubators :-

A place, especially with support staff and equipment, made available at low rent to new small business.

TBI is a types of business incubator focused on supporting start ups which use modern technologies as the primary means of innovation. TBI is an organisation that provide arrange of

resources to start ups and early-stage business.

⇒ Business Incubator and Accelerator:-

→ Early stage business business can consider incubator and accelerator programs as a funding option. These programs assist hundreds of startup business every year.

→ These two are generally used interchangeably. However incubator is like a parent who nurtures the business (child), whereas, accelerator helps to run or take a giant leap in business.

→ Incubators and accelerators, ably connect the start ups with mentors, investors and fellow start ups using this platform.

⇒ Science and Technology Entrepreneur Parks:-

→ The science and Technology.

→ Entrepreneur Parks Programme was initiated by the national science and Technology Entrepreneurship development Board (NSTEDB) department of science and technology Govt. of India, in 1984, to provide a reorientation in approach to innovation and entrepreneurship involving education, training, research, finance,

management and government.

Chapter - (2)

Market Survey & Opportunity Identification (Business Planning)

* Business Planning :-

→ Written summary of various elements involved in starting a new enterprise of how the business will organise its resources to meet its goals and how it will measure progress.

⇒ Serves following Process :-

→ Provides a blue print of actions to be taken in future.

→ Guides the entrepreneur in raising the factors of production required.

→ Serves as a guide to organizing and directing the activities of the business venture.

→ Helps in measuring the progress of the venture at successive stages.

→ Communicates to investor, lenders, suppliers etc. initiating the programme of the business.

⇒ Proposed Business Plans :-

→ Executive Summary

→ General introduction - Name of the Promoters
Qualifications

→ Business venture

→ forms of Business organisation

→ Production Plan.

→ Human Resource Plan

→ Marketing Plan

→ Finance Plan

→ Miscellaneous

⇒ Business Plan Execution:-

→ Strategies most often fail because they are not executed well.

→ Key to a successful execution is alignment (alignment of all the resources it would be human resources, financial resources, other resources)

→ Specific Quantifiable goals to support the strategies must be formulated.
(the movement you on April to need to plan the sales and achieve the target).

→ Regular Evaluation → Right skills, Right people.

→ Make every employee understand his role and responsibilities. (so that everyone can work towards to achieving the target.)

→ Develop budget to support plan.

→ Communicate well.

→ Establish review process (where in HR and other resources one evaluated) and ensuring that they work or give the performance which is required to achieve the organisation goal that is earning profit by selling the product.

→ SSI, Ancillary units, Tiny units, service sector units.

SSI - Small Scale Industries.

→ Industries were classified into six categories such as - cottage industry, tiny industry, small scale industry, medium scale industry, ancillary industry and large scale industry.

→ Industry was usually meant for manufacturing industry but a part from that there are many other types of organisations which provide services to those industries as well as to the society.

→ So a new term to replace industry was thought and that is enterprise, which is broad and induces all types of organisation.

• ex:- Manufacturing as well as non-manufacturing units.

→ Based on the new theory, all the enterprises are now classified by the govt. into 4 categories such as - Macro, small, Medium & Large enterprises.

⇒ SSI → Small Industries Include:-

→ All these undertaking having an investment is fixed in plant and machinery ownership is in few (one) hand and do tiny investment.

→ Small scale industries are labour intensive (focus on labour) yet require little capital. Small scale industries or service providers.

→ Small scale industries comprise of small enterprises that manufacture goods or provide services with the help of smaller machines and a few workers and employment (employees).

⇒ e.g.:- Khadi & Village Industries, Hand craft Industries, Handloom Industries etc.

⇒ Ancillary Unit:-

→ Ancillary Industry is an industry which has fixed investment in plant and machines that do not exceed 1 crore rupees.

→ It manufactures components, sub-assemblies, tools, intermediates, machines etc.

⇒ Mini Unit:-

→ Mini scale industry is one in which the investment in plant and machinery is less than Rs. 25 lakhs irrespective of the location of the unit.

⇒ Service sector Units:-

→ The service sector, also called tertiary sector, activities in the service sector include retail, banks, hotels, real estate, education, health, social work services etc.

⇒ Micro, Small, Medium & Large enterprises:-

All these types of enterprises are classified depending on the amount of investment made but the limits are different for manufacturing enterprises and service enterprises.

⇒ Manufacturing sector:-

<u>Enterprises</u>	<u>Investment in Plant & Machinery</u>
Micro E	- Doesn't exceed 25 lakh rupees
Small E	- More than 25 lakh rupees but doesn't exceed 5 crore rupees.
Medium E	- More than 5 crore rupees but doesn't exceed 10 crore rupees.
Large E	- More than 10 crore rupees.

⇒ Service Sector:-

<u>Enterprises</u>	<u>Investment in Equipments</u>
Micro E	- Doesn't exceed 10 lakh rupees
Small E	- More than 10 lakh rupees but doesn't exceed 2 crore rupees.
Medium E	- More than 2 crore rupees but doesn't exceed 5 crore rupees
Large E	- More than 5 crore rupees

* Time schedule Plan:-

→ A schedule or time table as a basic time management tool, consists of a list of times at which possible tasks, events or actions are intended to take place, or of a sequence of events in the chronological order in which such things are intended to take place.

* Agencies to be contacted for Project Implementation:-

→ There are two basic types of organizational units engaged in and supporting public projects: Management Office (PPMO) and advisory bodies.

→ PPMOs have been established in many countries. Their objective is always to improve public project delivery. This organisation gives all types of help to implementation of a new project.

* Assessment of Demand and Supply and Potential areas of Growth:-

→ Market demand assessment are often undertaken to determine the market appetite for a new product/commodity (individually or as part of a feasibility study) or to determine the effective demand for the development of property (Industrial, commercial or residential)

→ Market supply is measured in relation to the market demand, and the effective demand can be provided as an indication of the type, volume, and price of a particular product/development as well as the perceptions of the market.

→ e.g:- such an assessment can inform a potential investor about the demand that exists for a specific new product that they are interested in manufacturing.

→ Based on the broader economic position, local market characteristics, and demand factors within the industry.

* Identifying Business Opportunities:-

→ Opportunity - A set of circumstances that makes it possible to do something. A set of circumstances that give a chance so that we can create a favourable conditions.

→ Finding business opportunities and acting on them.

→ Business should know its goals [set goals according to economic trend, market trend, govt. rules and regulations etc.]

→ Differentiate from competitors.

⇒ Steps in business opportunity identification:-

- Idea generation
- Transformation of Idea into opportunities
- Opportunities Assessment or analysis
- Opportunity selection.

* Final Product Selection :-

→ He has to examine the business environment, present scene and trend in a business impact of change in technology and the composition and behaviour of the target group for whom the product is going to be made.

→ He should see if he can make a product best suited to the market, consumers, dealers and environment.

⇒ Selection of Enterprise :-

→ While deciding the industries, he has to think for diversification modernisation and flexibility of the industry in future.

→ While deciding the industry, the entrepreneur may take into account his preferences, technical capabilities, familiarities, and support from others in the same line.

→ Government policies for the industry; the present position of such industry in the country as well as abroad and forecast the future.

⇒ Selection of Product/Service :-

→ Producing a product is less ~~than~~ important than marketing the product. select a product keeping an eye on the makers. Market survey plays an important role in the selection of a product.

→ A new entrepreneur is always better to enter the market with an essential commodity of daily use. Before making a selection the entrepreneur has to study the behaviour of competition and consumers for a new entrant. He has to analyse the market scope of the product and the rate of return on the investment before finally selecting a product.

⇒ Selection of Project :-

→ The selection of a project depends upon the personal preference of the entrepreneur, earnings of the entrepreneur, return on investment, and the future prospects of the product.

→ The entrepreneur should ensure management of his unit successfully for a long period with profit. He should not go much beyond his capacity from the beginning.

→ The entrepreneur has also to see if any restriction or control is there for the raw materials, finished products, the prices of raw materials and finished products, their movements etc.

⇒ Amount of Investment :-

→ After the selection of the Industry, product and project, the next problem for the entrepreneur is to decide the amount of investment required in the project.

→ The amount of investment usually depends on the nature of technology and the size of the project.

⇒ Nature of Technology :-

→ The next problem for the entrepreneur is to decide the nature of technology. We all know that the nature of technology depends on the amount of investment.

→ So the amount of money to be invested determines the nature of technology for the project.

→ The entrepreneur should ensure management of his unit successfully for a long period with profit. He should not go much beyond his capacity from the beginning.

→ The entrepreneur has also to see if any restriction or control is there for the raw materials, finished products, the price of raw materials and finished products, their movements etc.

⇒ Amount of Investment :-

→ After the selection of the technology, product and project, the next problem for the entrepreneur is to decide the amount of investment required in the project.

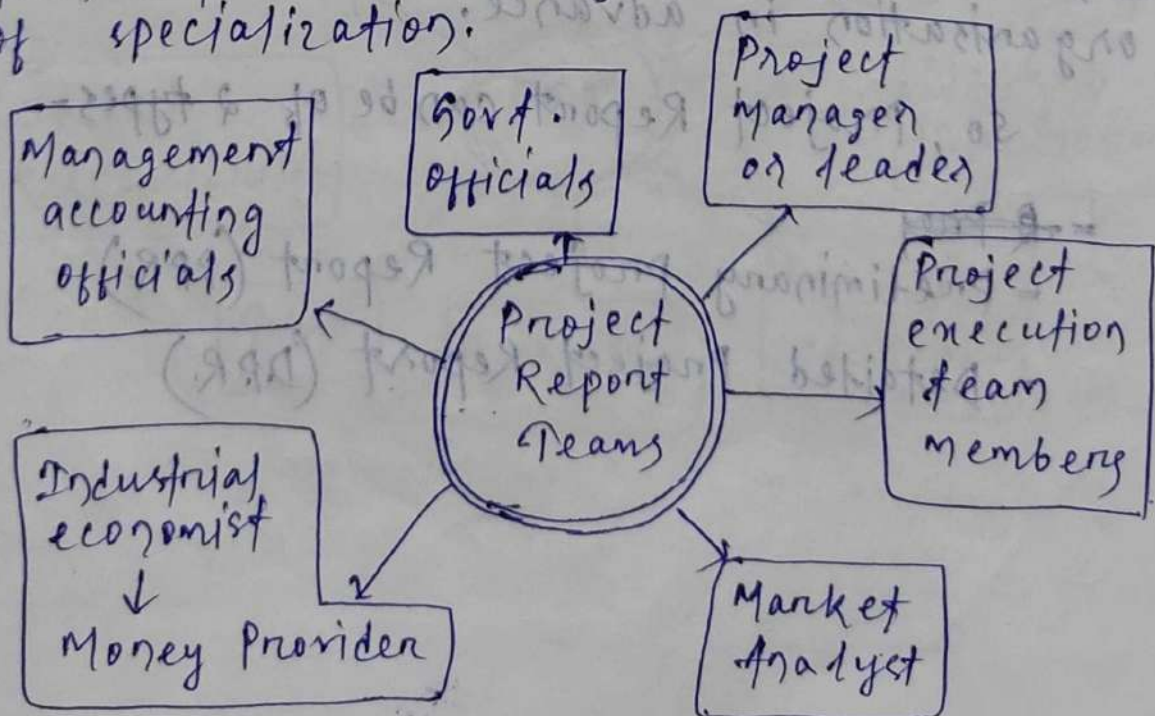
Chapter - (3)

PROJECT REPORT PREPARATION

- A project report is a record of any sort of project, wheather it is a school project, business project or research project.
- A project report can be written about almost any topic in the field's such as science, marketing, education and engineering.
- The document which contains the required details, like personal details of entrepreneur, the product to be manufactured, raw materials, machines and equipments required, the source of finance, cost of goods, market demands of the product and the profits etc. is called a project report.

Ex:- Brick making

- Project is a process involving efforts of a team experts belonging to different area of specialization.



* Project Report :-

⇒ Definition - ①

As per world bank defines "An approval for a capital investment to develop facilities to provide goods and services."

⇒ Definition - ②

A project is an appraisal for investment with the definite aim of producing a flow of output over a specified period of time.

⇒ Meaning :-

→ The very foundation of an enterprise is the Project.

→ Hence, the success or failure an enterprise largely depends upon the project.

→ In simple words, a project is an idea or a plan that is intended to be carried out.

→ Project report is the mirror through which one can see the entire picture of an organisation in advance.

So, Project Report can be of 2 types--

~~- Preliminary~~

- Preliminary Project Report (PPR)

- Detailed Project Report (DPR)

* Preliminary Project Report (PPR) :-

→ It is a formula formal type of document which includes the events and activities related to project.

→ Ex:- Title of project, financial outlay, project duration, Detail action plan.

→ Mostly it should have numbers between 2000 to 4000 (words)

Project Information

→ Location

→ Raw material

→ Power consumption

→ Water

→ Man-power

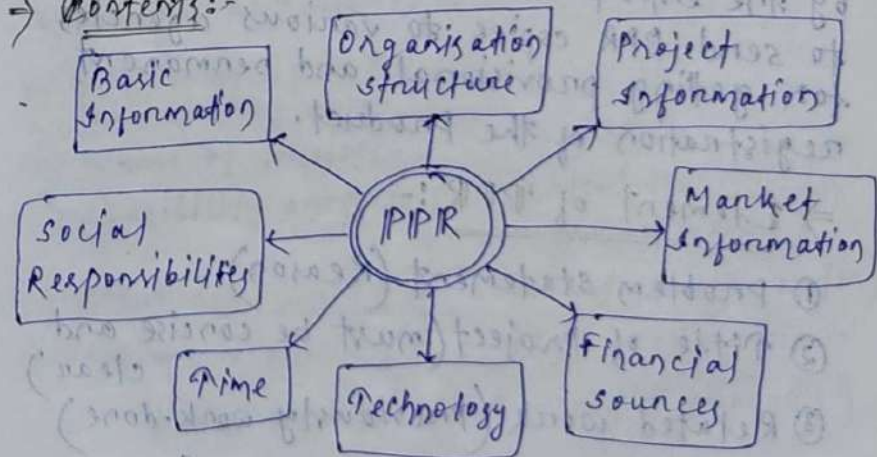
Market Information

→ Demand quality required price needed.

Financial Sources

→ The amount of finance money

⇒ Contents :-



Technology

Time

Social Responsibilities

→ Use latest technology

→ Estimate, how much time period required to complete the project.

→ Reduce Pollution
→ Avoid vibration, noise pollution
consider social issues and take initiative to solve it.

→ It is a brief outline of the project the quickly tells about the expected inputs and outputs of a project like finance, machinery, manpower, technology, materials, sales and profits etc.

→ A preliminary project report is a rough estimate of the project.

→ It is short description of the project by the entrepreneur which is used by him to send PPR copies to various agencies for getting provisional and permanent registration of the product.

⇒ Element of PPR :-

- ① Problem statement (Reason)
- ② Title of Project (must be concise and clear)
- ③ Related work (Previously work-done)
- ④ Proposed solution to problem (Raw material, power, water, manpower, machinery etc.)

- ⑤ Research and evaluation plan (technology and financial sources)
- ⑥ schedule and division of labour (organisation structure)

* Detailed Project Report :-

- ① Detailed Project Report preparation is a post investment decision.
- ② Detailed information of each element of the product is necessary in DPR.
- ③ For preparing DPR the entrepreneur needs to take help of consultants to represent the proper and detailed fact in project report.
- ④ Detailed project report is a complete document for investment decision-making, approval and planning.

⇒ Elements of DPR :-

- (i) Name of Project.
- (ii) Feasibility analysis (technical, economical and optional)
- (iii) Input analysis (Raw material, power, water)
- (iv) "Techno-economic" (Technology used)
- (v) Financial analysis (cost benefit analysis)

[Ex:- 5Rs Raw material, 2Rs power, 1Rs water, 5Rs Labour marks
 $5 + 2 + 1 + 5 = 13 \rightarrow \text{cost} = 13 + 2 = 15$
 benefit analysis]

- (vi) Project Design and network analysis.
- (vii) Managerial Analysis.
- (viii) Market analysis [Demand analysis]
[Supply analysis]

* Techno Economic Feasibility:-

⇒ Feasibility Analysis:-

- The project idea is examined wheather to go for detailed investment proposal or not.
- A market analysis is done.
- If the project idea is feasible, we go for second step or else abandon the idea.

* Techno Economic Feasibility:-

⇒ Feasibility Analysis:-

- The project idea is examined wheather to go for detailed investment proposal or not.

⇒ Techno Economic Analysis:-

- Estimation of project demand potential and choice of optimal technology are made.
- Market analysis is in built in this step.
- This stage gives the project a unique individuality and sets the stage for detailed design development.

⇒ Feasibility Studies:-

→ A feasibility study can be defined as a controlled process for identifying problems and opportunities, determining objects, describing situations, defining successful outcomes, and assessing the range of costs and benefits associated with several alternatives for solving a problem.

→ In simple terms the business idea is viable enough to be taken further or not.

→ If I am using my resources for the projects so, how much money I am going to earn, because resources are less.

Ex:- If you have 10 product you want to develop them but it is not feasible possible to develop all 10 products because you would be having limited funds or money. So you need to find out the best one, on which you can invest money or other resources. So, feasibility studies help in identifying which one is the best out of the 10 ideas or products.

⇒ Feasibility study helps in:-

- List in detailed all the things they need to make the business work.
- Identify logistical and other business related problems and solutions.

→ Develop marketing strategies to convince a bank or investor that their business is worth considering as an investment and serve as a solid foundation for developing their business plans.

→ Find cost-effective way to do business.

⇒ Market Feasibility :-

→ Study of anticipated future market potential, competition, sales projections, potential buyers.

Ex:- You want to sell a pen, which has a market in terms of students cost-effective pen or very low cost/price pen, when doing market feasibility.

→ After analysing all the concepts related to the idea disowned, the promoter starts doing.

→ Detailed investigation to give practical shape to the idea does detailed investigation.

→ Regarding cost, profitability, production process, demand of the products etc.

⊛ Project Viability :-

→ A viability study is an in depth study that tries to determine how profitable a business idea is.

→ The investigation also tries to determine wheather it is possible to convert the idea into a business enterprise.

Viability → Ability to work successfully.

Ability to survive or live successfully.

→ Study so, consider about or will see who will be your consumers as such potential buyers.

→ Sales protection.

→ See about who are the competitions who are the other sellers of the similar kind of product.

→ Then see the potential in terms of giving you profits.

⇒ Technical Feasibility :-

How to deliver a product or service (It is feasible technically to produce that product feasibility and it to the market or not).

⇒ Financial Feasibility :-

Here study how much capital needed, sources of funds etc.

⇒ Organisation Feasibility :-

Defines the legal and corporate structure of the business (need to see what kind of business you are doing)

(checking/ensuring/analysis)

Feasibility Studies

Technical
Feasibility

Financial
Feasibility

Economic
Feasibility

→ At the time of establishing new company you need to analysis various things.

Technical Feasibility -
How to deliver a product or service
(It is feasible technically to produce
that product feasibility and it to the
market or not).

Financial Feasibility -
How much capital needed, sources
of funds etc.

Organization Feasibility -
Defines the legal and corporate
structure of the business (need to see what
kind of business you are doing)

Chapter - (1)

MANAGEMENT PRINCIPLES

* Management :-

The word "management" has been used in different ways. Sometimes it is used to mean "a group of managerial personnel", it also refers to the process of planning, organising, staffing, directing, co-ordinating & controlling. It is also referred to as a body of knowledge, a practice, a discipline and an activity.

* Principles of Management :-

It is a theory of management that analyzes and synthesizes work flows. Its main objectives is improving economic efficiency, labour and productivity.

Principles of scientific management propounded by Taylor are:-

1. Science, not rule of thumb
2. Harmony, not discord
3. Mental revolution
4. Co-operation not individualism
5. Development of each and every person to his or her greatest efficiency & prosperity.

1. Science not rule of thumb :-

→ Rule of thumb means decisions taken by manager as per their personal judgements.

→ According to Taylor, even a small production activity like loading iron sheets into box cars can be scientifically planned.

→ This will help in saving time as well as human energy. Decisions should be based on scientific enquiry with cause and effect relationships.

→ This principle is concerned with selecting the best way of performing a job through the application of scientific analysis and not by intuition or hit and trial methods.

→ The work assigned to any employee should be observed and analyzed w.r.t. each element.

2. Harmony, not discord :-

→ Taylor emphasized that there should be complete harmony between the workers and the management since if there is any conflict between two.

→ It means that there should be a complete change in the attitude and outlook of workers and management towards each other.

3. Mental Revolution :-

→ This technique involves a change in the attitude of workers and management towards each other.

→ Both should realize the importance of each other and should work with full co-operation.

→ Management as well as the workers should aim to increase the profits of the organisations.

→ So mental revolution requires a complete change in the outlook of both management and workers.

→ There should be a spirit of togetherness between workers and management.

4. Co-operation, not individualism :-

→ This principle is an extension of "Harmony" not "Discord" and lays stress on mutual co-operation between workers and the management.

→ Co-operation, mutual confidence, sense of goodwill should prevail among both managers as well as workers.

→ The intention is to replace internal competition with co-operation.

→ Taylor has suggested that there should be proper division of work and responsibility between management and the workmen.

⑤ Development of each & every person to his or her greatest efficiency and prosperity :-

→ Efficiency of any organisation also depends on the skills and capabilities of employees.

→ So providing training to the workmen was considered essential in order to learn the best method.

→ To attain the efficiency, steps should be taken right from the process of selection of employees.

→ Employees should be scientifically selected.

→ The work assigned to each employee should suit his/her physical, mental and intellectual capabilities.

→ Efficient employees produce more & earn more.

→ This ultimately helps to attain efficiency and prosperity for both organisation and the employees.

* Functions of Management :-

G.R. Terry classified managerial functions under four heads; Planning, Organising, Actuating & Controlling. It can be seen that there is no agreement about specific functions to be formed by the management. However, the following comprehensive classification can be given of various managerial functions:-

1. Planning
2. Organising
3. Staffing
4. Directing
 - (a) Leadership
 - (b) Communication
 - (c) Motivation
 - (d) Supervision
5. Co-ordinating
6. Controlling

1. Planning :-

→ Planning is a basic managerial function. Planning helps in determining the course of action to be followed for achieving various organisational objectives, it is a decision in advance. what to do, when to do, how to do & who will do a particular task.

→ Planning is a process which involves "thinking before doing". Planning is concerned with the mental state of a manager.

→ He thinks before undertaking a work. Other functions of management such as organising, staffing, directing, co-ordinating and controlling are also undertaken after planning.

→ Hart defines Planning as "the determination in advance of a line of action by which certain results are to be achieved."

— According to Terry, "Planning is the selecting & relating of fact and the making and using of assumptions regarding the future in the visualisation & formulations of proposed activities believed necessary to achieve desired results."

2. Organizing:-

→ Every business enterprise needs the services of persons to look after its different aspects, the management sets up the objectives or goals to be achieved by its personnel.

→ The energy of every individual is channelized to achieve the enterprise objectives. The function of organizing is to arrange, guide, co-ordinate, direct and

control the activities of other factors of production.

→ viz. Men, Material, Money & machines so as to accomplish the objectives of the enterprise. In the words Koontz & O'donnel, "Organizing is the part of managing that involves establishing and international structure of roles for people in an enterprise to fill organisation provides the necessary framework within which people associate for the attainment of business objectives."

3. Staffing:-

→ Staffing is filling of the position created in the organisation structure. It is the duty of the management to fill up the vacancy by appointing qualified efficiency and appropriate person for this job.

→ The main purpose is put the right man on the right job.

→ It entirely a man power planning it includes selection placement transport and promotion.

4. Directing:-

→ Simply appointing a person in a different position is not enough to get good result. They need some Direction.

→ Directing is a human function which involves managing the manager and worker by means of proper and co-ordination.

(a) Motivation :-

→ Motivation is creating an internal desired of a person to do something new in management. It is a powerful tool to achieve better result of an organisation.

(b) Communication :-

→ It is the transmission of new or message from one person to other oral and verbal communication is the best form of communication.

→ Manager should be a good communicator and ensure that there is no communication gap.

→ It is the duty of manager to see that message are properly communicated to the opposite person.

5. Co-ordination :-

→ It concern with inter relating various work of the organisation to achieve that objective of an enterprise in means of proper co-ordination.

→ It is the orderly arrangement of group effort to provide unit of action.

6. Controlling :-

→ The purpose of controlling is to ensure that everything is occurs in right standard.

→ It is the process of checking wheather on not proper is done to getting organisation.

⊗ Management Levels : A Hienarchical View :-

An organisation can have many different managers, across many different titles, authority levels, and levels of the management hierarchy.

⇒ Top-level managers :-

→ The board of directors, president, vice-president, and CEO are examples of top-level managers.

→ These managers are responsible for controlling and overseeing the entire organization. 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.

⇒ Management Levels: An Overview:-

Most organizations have three management levels:-

- Low-level managers;
- Middle-level managers; and
- Top-level managers.

→ These managers are classified in a hierarchy of authority, and perform different tasks. In many organizations, the number of managers in every level resembles a pyramid.

⇒ Middle-Level Managers:-

→ General managers, branch managers, and department managers are all examples of middle-level managers. They are accountable to the top management for their department function.

→ Middle-level managers devote more time to organizational and directional functions than top-level managers. Their roles can be emphasized as:

- Executing organizational plans in conformance with the company's policies

and the objectives of the top management;

- Defining and discussing information and policies from top management to lower management; and most importantly.

- Inspiring and providing guidance to low-level managers towards better performance.

Some of their functions are as follows:-

→ Designing and implementing effective group and intergroup work and information systems.

→ Defining and monitoring group-level performance indicators.

→ Diagnosing and resolving problems within and among work groups.

→ Designing & implementing reward systems supporting co-operative behaviour

Chapter - 6

Leadership & Motivation

* Leadership :-

→ Leadership is a process whereby an individual influences a group of individuals to achieve a common goal. Leadership is defined as the process of influencing others to get the job done more effectively over a sustained period of time. Leaders play a critical role in influencing the work behaviour of others in the system.

→ According to Pearce & Robinson, "Leadership is the process of influencing others to work towards the attainment of specific goals."

⇒ Importance of Leadership :-

- Task support
- Psychological support
- Development of individuals
- Building the team spirit
- Motivation
- Provides feedback
- Facilitates change
- Maintains discipline

* Styles of Leadership :-

⇒ Autocratic Leadership :-

It is also known as authoritarian leadership, is a leadership style characterized by individual control over all decisions and little input from group members. Autocratic leaders

typically make choices based on their own ideas and judgements & rarely accept ~~their~~ advice from followers. Autocratic leadership involves absolute, authoritative control over a group.

⇒ Characteristics of Autocratic Leadership:-

Some of the primary characteristics of autocratic leadership include:

- Little or no input from group members.
- Leaders make the decision.
- Group leaders dictate all the work methods & processes.
- Group members are rarely trusted with or important tasks.

⇒ Benefits of Autocratic Leadership:-

Autocratic leadership can be beneficial in some instances, such as when decision need to be made quickly without consulting with a large group of people. Some projects require strong leadership in order to get things accomplished quickly & efficiently. In situations that are particularly successful, such as during military conflicts, group members may actually prefer an autocratic style. It allows members of group to focus on performing specific tasks without worrying about making complex decisions.

⇒ Downsides of Autocratic Leadership:-

While autocratic leadership can be beneficial at times, there are also many instances where this leadership style can be problematic. People who abuse an autocratic leadership style are often viewed as bossy, controlling & dictatorial, which can lead to resentment among group members.

Because autocratic leaders make decisions without consulting the group, people in the group may dislike that they are unable to contribute ideas.

⇒ Democratic Leadership:-

It is also known as participative leadership, is a type of leadership style in which members of the group take a more participative role in the decision-making process. Researchers have found that this leading style is usually one of the most effective and lead to higher productivity, better contributions from group members, and increased group morale.

⇒ Characteristics of Democratic Leadership:-

- Group members are encouraged to share ideas and opinion, even though the leader retains the final say over decisions.
- Members of the group feel more engaged in the process.
- Creativity is encouraged & rewarded.

⇒ Benefits of Democratic Leadership:

Because group members are encouraged to share their thoughts, democratic leadership can lead to better ideas & more creative solution to problems. Group members also feel more involved & committed to projects, making them more likely to care about the end results. Research on leadership styles has also shown that democratic leadership leads to higher productivity among group members.

⇒ Downsides of Democratic Leadership:

While democratic leadership has been described as the most effective leadership style, it does have some potential downsides.

In situations where roles are unclear or time is of the essence, democratic leadership can lead to communication failures & uncompleted projects. In some cases, group members may not have the necessary knowledge or expertise to make quality contributions to the decision making process. Democratic leadership works best in situations where group members are skilled & eager to share their knowledge. It is also important to have plenty of time to allow people to contribute, develop a plan & then vote on the best course of action.

* Leadership Functions :-

1. Setting Goals :-

A leader is expected to perform creative function of laying out goals & policies to persuade the subordinates to work with zeal & confidence.

2. Organizing :-

The second function of a leader is to create & 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. Initiating Actions :-

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 & judgement. He should float new ideas & his decisions should reflect original thinking.

4. Co-ordination :-

A leader has to reconcile the interests of the individual members of the group with that of the group with that of the organization. He has to ensure voluntary co-operation from the group in realizing the common objectives.

5. Direction & Motivation :-

It is the primary function of a leader to guide and direct his group & motivate people to do their best in the achievement of desired goals, he should build up confidence & zeal in the work group.

6. Link between management workers :-

A leader work as a necessary link between the management & the workers. He interrupts the policies & the programmes of the management to his subordinates & represents the subordinate interest before the management. He can prove effective only when they can act as the true guardian of the interests of his subordinates.

* Quality of a good leader :-

A successful leader secures desired behaviour from his followers. It depends upon the quality of leadership he is able to provide. A leader to be effective must posses certain basic qualities. A number of authors have mentioned different qualities which a person should possess to be a good leader.

⇒ Some of the qualities of a good leader are as follows :-

1. Good personality
2. Emotional stability
3. Sound education & professional competence.
4. Initiatives & creative thinking.
5. Sense of purpose & responsibility.
6. Ability to guide & teach.
7. Good understanding & sound judgement.
8. Communicating skill.
9. Sociable
10. Objective & flexible approach
11. Honesty & integrity of character.

12. Self confidence, diligence & industry
13. Courage to accept responsibility.

* Manager vs. Leader :-

The main difference between leaders & managers is that leaders have people follow them while managers have people who work for them.

* Motivation :-

Motivation originally comes from the latin root word "movere" which means to move. It is derived from the word motive. Motive may be defined as an inner state of our mind that activates & directs our behaviour. Motivation may be defined as the process that motivates a person & induces him to continue the course of action for the achievement of goal. According to Steen & Porter "Motivation is the force that energizes behaviour, gives direction to behaviour & underlies the tendency to persist."

⇒ Nature of Motivation :-

Motivation is internal to man. A single motive can cause different behaviour. Different motives may result in single behaviour. Motives come & go. Motives interact with the environment motivation is an ongoing process. Motivation is a complicated.

* Importance of Motivation :-

To keep employees happy. To instill human treatment. To increase work efficiency. To improve communication in between managers & workers. To combine ability with willingness. To reduce the rate of labour turnover. To develop the leadership quality.

* Factors Affecting Motivation :-

1. Reward & Recognition :-

Reward & recognition come hand in hand. Recognition for good work has a limited shelf life; praise begins to lose its impact if not accompanied by reward. Exceptional work deserves reward & while recognition is sufficient in certain cases, employees begin to lose motivation if they are not rewarded for extra effort.

2. Development :-

Development is very important for motivating employees studies have shown that 90% of employees prefer development opportunities & training to monetary reward. Development makes an employee self-dependent and allows them to contribute more effectively in the work place, it also helps employees to enhance their input to your business.

3. Leadership :-

A study by Gallup found that, only 2 in 10 employees strongly agree that their

performance is managed in a way that motivates them to do outstanding work - this clearly displays how much a good leader motivates employees.

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

4. Work life balance :-

Providing a good life balance, nurtures employees. Motivated employees are less likely to take sick days, leave the organisation & will be more prepared to work longer hours. Equally these same employees are more likely to 'burn out' and will feel less motivated if there is not healthy work life balance.

5. Work Environment :-

Motivated employees thrive in a positive work environment. This refers to the physical & non-physical environment - the physical environment is the office space & surrounding areas.

* Theories of Motivation :-

⇒ Maslow's Hierarchy of Needs :-

→ Abraham Maslow formulated one of the most popular theories of human motivation. Maslow's theory is based on the following propositions.

→ The need are arranged in a hierarchy of importance, ranging from the lowest need to highest need level.

→ All need are never fully satisfied.

→ Once a need is fairly well satisfied, it no longer motivates behaviour.

→ The need are interdependent & overlapping.

→ Maslow's theory of motivation explain five levels of needs :-

(i) Physiological needs:-

The need for sunlight, sex, food, water & others, which are basic to human survival, are called physiological needs. At work level, this need can be met through by providing good working conditions, attractive wage or salary, subsidized housing, free catering etc.

(ii) Safety needs:-

The safety needs include the need for freedom from threat caused by the environment, animals & people. It also includes the need for shelter, security & peace. At work level, this need can be met by providing private health insurance cover, attractive pension provisions, safe working conditions etc.

(iii) Love & belonging Needs:-

These needs cover the need of relationships, affection, giving & receiving love & sense of belonging. The manager can provide the following facilities to take

care of these needs: company sports & social clubs, office parties, barbeques, outings permission for informal activities, & encouraging open communication.

(iv) Esteem needs:-

It is also known as ego needs, esteem needs, are of two types - esteem factors which include self respect, autonomy, achievement etc. & external esteem factors which include status, recognition, attention etc.

(v) Self actualization needs:-

These are the need for full development of one's potential. Challenging job assignments, direction over work activities, promotion opportunities & encouraging creativity can fulfill these needs. In terms of motivation, Maslow argued that each level in the hierarchy must be substantially satisfied before the next level is activated and that once a need is fully satisfied, it may not motivate people.

⇒ Implications of Maslow's Hierarchy of Needs Theory

This model helps the managers to understand and deal with issues of employees motivation at the workplace. This model can be applied to motivate people at all levels in the organization. Managers who understand the need patterns of their staff can help the employee to engage in the kinds of work activities & provide the types of work environment that will satisfy their needs at work.

* Methods of Improving Motivation:-

⇒ Create a positive work environment:-

The state of your workplace really matters. Most people aren't happy sitting in tiny cubicles under fluorescent lights, so consider ways to make the office more appealing - and actually, consult people before you make changes. Here are a few pointers on how to create a positive office space.

⇒ Communicate effectively:-

Good communication sets managers apart. Don't fall into an email culture; set aside time to talk to your employees face to face. Let them know you see them as a person, encourage them to share their thoughts & impressions, check in to see how they are doing & ask how you can support them better. Being part of the same team means actually knowing & enabling each other.

⇒ Recognize good performance:-

Rewarding the behaviour you want to see among your company's goals & boosts engagement. Employees are proud to see how their individual efforts impact the organization, and this strengthens the notion their contribution is valued.

⇒ Prioritise employee wellbeing :-

Happy, healthy employees are more motivated - an obvious point, yet one that's often overlooked. Even when you are in the middle of a big project, try to ensure your employees are getting enough sleep & taking time for themselves.

⇒ Lead with trust & respect :-

Employees want to have autonomy and independence at work. It feels good to be the master of your specialism, respected to plan and structure work according to how you work best. So the most important thing managers can do is actually trust their employees and never micromanage.

⊛ Importance of communication in Business :-

→ Communication is the flow of accurate information which people want and are entitled to have for successful completion of the job.

→ Communication is one of the most important function of management. It may cement an organization or disrupt.

1. Efficient & smooth running of an enterprise.
2. Basis of decision making.
3. Proper planning & co-ordination.
4. For higher productivity at minimum cost.
5. Morale building
6. Democratic management.

7. Binds people together.
8. Creates mutual trust & confidence.
9. An aid to managerial performance.
10. Helps in smooth working.
11. Increase managerial efficiency.
12. Maintaining industrial peace.
13. Aid to leadership.
14. Aid to job satisfaction.
15. Saving of time.
16. Aid to public relation & a few others.

* Barriers to Effective Communication :-

⇒ Semantic Problems :-

The use of inappropriate language, symbols, and words may affect the understanding capacity of the receiver. The sender must ensure that the proper words & language are chosen to communicate the intended message so that there is no room for disinterpretation or confusion as the receiver decoded the message exactly as it was encoded.

(i) Some words and phrases are so general or abstract that they invite varying interpretation.

(ii) Semantic problem arise when different groups develop their own technical language.

⇒ Status Effects :-

Status effect also hinder communication in as much as people occupying higher positions in the organization have a tendency to tell a lot to the subordinates but not to listen when people do not listen, they do not understand each other and thus effective communication is blocked. Thus, the superior subordinate status comes in the way of effective communication taking place.

⇒ Physical Distraction :-

When people communicate with each other, noise may also enter in the form of various types of distraction. Distraction may occur because of situational factors such as constant telephone interruptions. People walking in and out of the room, or loud noises in background.

⇒ Information Overload :-

This refers to too much volume of information which is beyond the level of a person to comprehend. Communication may be ineffective when too much information is transmitted at one time or when complex information is presented within a short time frame.

⇒ Time Pressure :-

Time is always short, and this fact often leads to distortion in communication. A major temptation when pressed for time to short-circuit formal communication channels.

Chapter - (7)

Work Culture, TQM and Safety

* Human relationships and performance in organization :-

→ A human relation is the relationship between human resources of the organization, it incorporates management employees, employees - employees relationship.

→ It also consists of relationship between the organization's human resources and out soils, (such as clients, suppliers)

→ Hence healthy human relations to increased productivity and efficiently.

→ It also plays artificial role in growth & success of the organizations.

→ The approach of human relation deals with the psychology variable of organisation functioning in order to increase the efficiency.

→ Efficiency of organisation. It is the process of integration of man to man and man to organization.

PPE :- A clothing or equipments which give protection to our body from external hazardous condition is known as PPE.

* Work culture, TQM and safety:-

→ TQM are beneficial to any organization because it reduces cost increases staff morale, reduce error & increases customer satisfaction.

→ Here management, customer, suppliers and employees play a vital role in providing quality product & services.

→ TQM helps organisation to put strategise approaches in place to ensure the quality of product & services.

→ This also means making sure their suppliers offer quality product.

* Quality Policy:-

① Customer Satisfaction:-

→ According to it organization should understand it's customers.

→ What they need and when they need it while trying to meet their requirement.

② People involvement:-

→ It bridges the gap of communication from management to employee.

→ When people understand the importance of their contribution and role in an organisation, they become innovatives, eager to participate and easily achieve objective of an organization.

③ Process approach:-

→ An organisation achieves its desired result when related resources and activities are managed as a process.

→ It results efficiency, effectiveness, consistency, reducing cost, promotes continuous improvement.

④ Continuous improvement:-

→ Continual change should be an active business objective.

→ It increases organizational flexibility, ability of an employees and improved performed.

⑤ Factual approach to decision making:-

→ It involves effective decision and action based on available data.

→ It allow decisions to be made with more clarity and objective.

⑥ Leadership:-

Leaders are fundamental in setting near goals and objectives and ensuring that employees are actively involved in achieving these objective.

⑦ Communication:-

→ Establish an officials line of communication so that an employees know about updates, policy changes & new process.

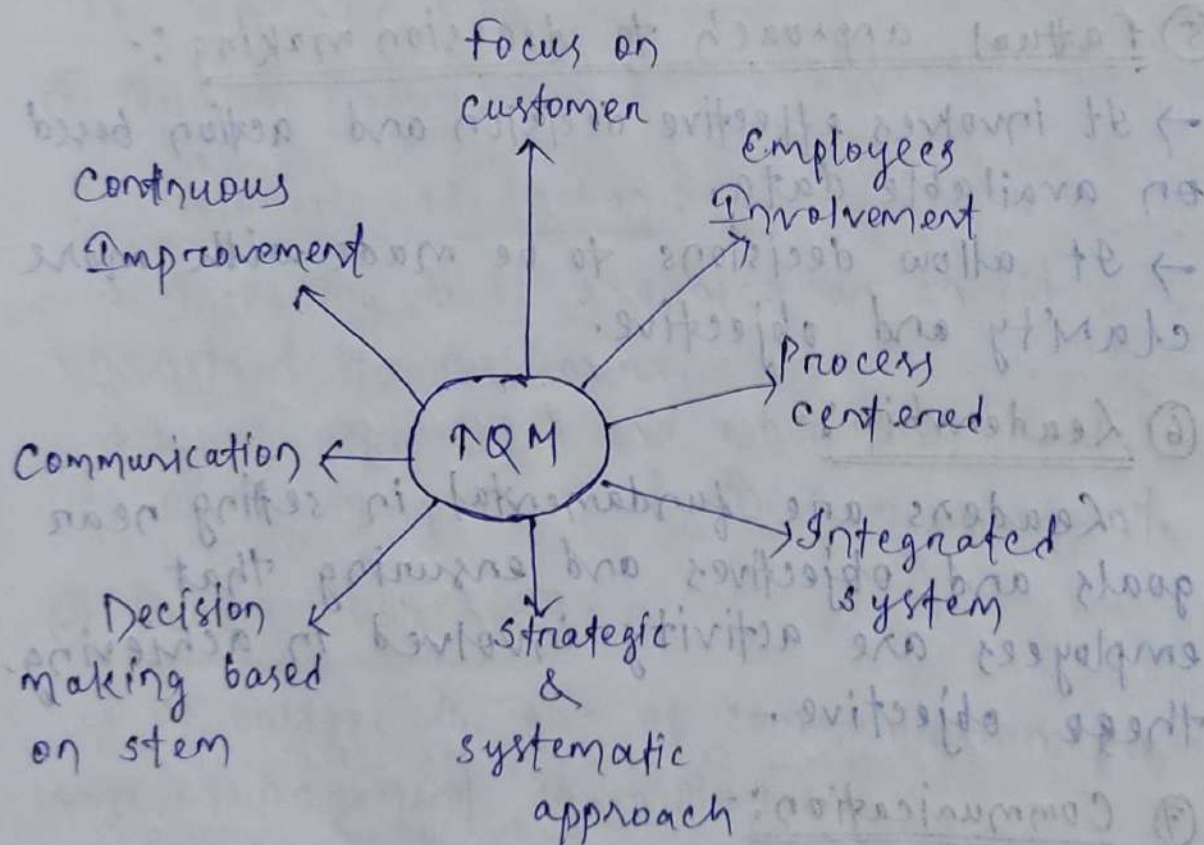
→ Boost in morale and motivation when employees understand how their contributions help the company achieve its goals.

⑧ Integrated :-

→ Promote a work culture.

→ Use as is process analysis & to see where improvements can be made.

→ Make training available for employees who need to learn new processes and who want to explore opportunities for advancement.



Chapter - 8

REGULATION

* Intellectual Property Right (IPR) :-

- IPR refers to the general terms for the assignment of property rights on some assets.
- Intellectual property refers to the creation of the human mind, like inventions, literacy and artistic work symbol (logo), images etc. 3 design used in business.
- Intellectual property right allow innovative entrepreneur to protect their innovation. It also give an edge over your competitor.
- Intellectual property is a product of human intellect and the rights granted on its owner to benefits to monopoly over it.
- Such benefits is not always a natural right but requires recognition.
- There are different IPR act.
 - * The patents act 1970.
 - * The trademark act 1999.
 - * The copyright act 1957.
 - * Geographical indication of goods act 1999.

* World Trade Organisation (WTO) :-

⇒ Patents :-

- It is an intellectual property right for technical inventions.

→ It allows you to prevent others from using your invention for commercial purposes for upto 20 years.

→ Patent gives you monopoly on selling, using, making or improving on invention.

→ Invention should be unique or useful.

→ It may be method, process or techniques etc.

→ Copyright :-

→ Copyright of author of novels, musical work, films, computers program etc.

→ When someone creates a product that is viewed as original and that required mental activity and that required means intellect power to create the product becomes an intellectual property that must be protected than from un-authorised duplication.

→ Ex:- artistic work like art, poetry, graphical design, musical lyrics & composition.

→ In original owners are protected by copyright laws all of their lives until 70 years after their death.

→ Trademark :-

→ This law protect materials i.e., used to distinguish an individuals creativity. It includes symbols, like logos, slogan & brand name.

→ It used to identify the particular product from similar product.

→ The owner has the right on trademarks of any product all products are there.

→ There are different types of trademark like word marks, device mark, certification mark like musical tone etc. shape mark, smell mark like perfume etc.

* Features of Factories Act 1948 :-

① Working hours :-

According to the provision of working hours of adult, no adult worker shall be required or allowed to working factory for more than 48 hours in a week. This should be a weekly holiday.

② Health :-

→ For protecting the health of worker, the factories should have proper drainage system, adequate lighting, ventilation, temperature etc.

→ Adequate arrangement for drinking water.

③ Safety :-

According to act, the machinery should be fenced, no young person shall work at any dangerous machine.

④ Welfare :-

Facilities for storing and drying clothing, facilities for sitting, first aid appliances, shelters, rest rooms, lunch rooms, canteens etc. should be there.

⑤ Penalties:-

If factories act is violated the factory penalties can be imposed like * both fine & imprisonment * fine may extend to one lakh, * imprisonment term may extend 1 year.

⑥ Features of Payment of wages act 1936:-

⇒ Responsibility for payment of wages.

* An employer shall be responsible for the payment of wages to all his employees.

* An employer shall fix wage period by which he shall pay wages to his employees.

* Wages shall be paid on a working day.

⇒ Deduction from wages:-

⇒ Only those deductions as authorized by the payment of wages act will be made from the wages of an employee such as

* Those for absence from duty.

* for house accommodation supplied by employer.

* for recovery of advance and loan given to the employee.

* Provident fund.

* for income tax.

⑦ Payment of Wages:-

⇒ Wages:- A wage is monetary compensation paid by an employer to an employee in standard units of working time, or wages defined as for the use of labour.

* Nominal wages :-

When wages are paid in term of money, they are called nominal wages.

* Real Wages :-

The real wages consists of the amount of necessary comfort, luxuries which can be bought by nominal wages and other advantages which are offered by an occupation.

* Types of Wages :-

① Minimum Wages :-

- Minimum wages covers the basic necessities of life such as provision for shelter, food & clothing.
- Minimum wages provided by only cash.
- Minimum wages level is fixed by the govt. for different categories of worker.

② Living Wages :-

- Living wages not only provides for basic necessities of life such as food, shelter, clothing but also make provision for other comfort such as education protection against ill, health recreation etc.

③ Fair Wages :-

- Fair wages is more than minimum wages but is usually less than living wages.

→ fair wages is that wages which is paid to smaller worker in similar jobs in similar industries.

→ fair wages are minimum wages rated for specific occupation.



Wage

- Wages are payment for manual work.
- Wages are paid weekly or daily or at short interval.
- Wages are a variable cost, varying with output.

Salaries

- Salaries are payment for non-manual work.
- Salaries are paid at long interval i.e. a month.
- Salaries are a fixed cost & so don't vary with output.

Chapter-(9)

SMART TECHNOLOGY

* Concept of IOT :-

IOT or the Internet of things is a system of interrelated computing devices, mechanical & digital machine, object, animals or people that are provided with unique identifiers (UIDs) & the ability to transfer data over a network without requesting human to human or human to computer integration.

OR

→ The internet of things is the network of physical devices, vehicle, home, appliances and other items embedded with electronics, sensors, actual and connectivity, which enables these objects to connect & exchange data.

→ Each thing is uniquely identifiable through its embedded computing system but is able to inter operate with the existing internet infrastructure.

* How IOT works :-

→ An IOT ecosystem consists of web enabled smart technology devices that use embedded system, such as processor, sensors & communication hardwares to collect/sent & act on data they acquire from their environment.

→ IoT devices share the sensor data they collect by connecting to IoT gateway or other edge devices where data is then sent to the cloud to be analyzed finally.

→ Sometimes these devices communicate with other related devices and act on the information they get from one another.

→ The devices do most of the work without human intervention, although people can interact between with the devices for instance to sit them up, give them instruction or access the data.

→ It can use artificial intelligence (AI) & machine learning to aid in making data collecting process easier & more dynamic.

⊛ Components of IoT :-

→ There are 4 fundamental components of IoT.

(i) Sensors/Devices:-

→ First sensors or devices help in collecting very minute data from surrounding environment.

→ All of this collected data can have various degrees of complexities ranging from a simple temperature monitoring sensor or a complex full video feed.

→ Ex:- Our phone is a device that has multiple sensors such as GPS, camera but our phone doesn't simply sense things, it is a stand alone sensor.

(ii) Connectivity:-

→ Next that collected data is sent to a cloud infrastructure but needs a medium for transport.

→ The sensor can be connected to the cloud through various medium of communication and transports such as cellular networks, satellite network, bluetooth, wide area network etc.

(iii) Data Processing:-

→ Once the data is collected and it get to the cloud the S/W perform processing on the required data.

→ This can range from something now simple, such as checking that the temperature reading on devices such as AC or heater is within any acceptable range.

→ It can sometimes also very complex such as identifying objects (ex- an intruder in young house).

(iv) User Interface:-

→ Next the information made available to the end-user in same way.

→ This can achieve by triggering alarms on their phones by text, emails.

→ Ex:- A user has a camera installed in his house, he might want to check the video recordings all time through a web server.

* Characteristics of IoT:-

① Intelligence:-

Together algorithm & complete (i.e., s/w & h/w) provide the intelligent spark that makes a product expertised smart or intelligent.

② Connectivity:-

→ Connectivity enables network accessibility and compatibility.

→ Accessibility is getting on a network compatibility provides the common ability to consume and produces data.

③ Sensing:-

sensing technologies provide us with the means to create experiences that reflect a true awareness of the physical world and the people in it.

④ Expressing:-

→ Expressing enables interactivity with people & the physical world.

→ wheather it is a smart name or a 'form' with agriculture technology, expressing provides as with a means to create products that interact intelligently with the real world.

⑤ Safety:-

→ It is the most important. It includes the safety of our personal data & network etc.

→ There is a high level of transparency and privacy issue with IOT, so it is important to secure end point, network & data that is transferred.

→ IOT describes the networks of physical objects things that are embedded with sensor, s/w & other technology for the purpose of connecting & exchanging data with other devices & system over this internet.

* Categories of IOT :-

⇒ There are 3- types of IOT like Consumer IOT, Enterprise IOT, and Industrial IOT.

⇒ Consumer IOT :-

→ It needs an interface via an app website, screen on the device. They should move over provides a service as opposed to ~~se~~ simply remote access consumer IOT needs to be built securely with network redundancy and at low cost or automated room. Here home owner their household, such as lights, heat & security system.

→ Consumer can use their mobile devices in order to control the stereo the stove, the vacuum cleaner the toaster or any other device with an IOT system.

⇒ Enterprise IOT :-

→ It enables physical things with embedded computing devices to participate in business processes for reducing manual work and

increasing overall business efficiently. Taking advantages of a combination of technologies ranging from embedded devices with sensors and actuators to internet based communication & cloud platforms, the enterprises IOT application can now automate business process.

⇒ Industrial IOT :-

→ The industrial internet of things refers to the extension and use of the Internet of things in industrial sectors and appliances.

→ It includes robotics, medical devices & s/w defined production processes.

→ The consistent capturing and transmitting of data among smart devices and machine provide industries and enterprises with many growth opportunities.

* Application of IOT :-

Smart cities :- There are different application of IOT in smart cities.

① Efficient water supply :-

Smart water can facilitate leakage detection and reduce wastage.

② Smart traffic management :-

→ By using IOT it is easier to handle traffic congestion conjunction with smart traffic signals, that helps in better management of traffic control.

→ When routes are blocked, drivers can get an alert message about the incidents and reduce losses to different route.

→ They collect data from their mobile phone.

③ Energy efficient building :-

→ IOT innovations is making it simpler for constructing energy efficient building structures.

→ With the use of IOT, the devices can be connected to a management application that controls non-standard heating, cooling, lighting and fire safety system.

④ Smart Parking :-

GPS data from smart phones and video monitoring can assist a car drivers to find an apply parking spot. The drivers will receive a notification of their phone to find the parking spot.

⑤ Smart street lighting :-

→ sensors with the help of a cloud management solution can help in controlling and scheduling the smoothing appearance.

→ With the help of this data the street lamps can adjust the lighting to either dim, brighter or switch off on automatically.

⑥ Smart Transportation :-

- The transport plays a crucial role in the development process.
- Transportation needs depends upon on many factors such as goods availability movement of travelers.
- IoT creating a centrally controlled network which can optimize the distance covered by the vehicles find better & safe situations.
- It was always a challenge to track the vehicles to know when the vehicle will arrive at a stop.
- Such problem eradicated by IoT.

⑦ Health care :-

- Remote medical assistance - In an emergency patients can contact a doctor who is many kilometers away with a smart mobile apps.
- It can distribute always on the basis of patients prescriptions.

⑧ Research :-

- It also used in research purposes. Because IoT enables us to collect massive amount of data about the patients illness which would have taken many years if we collected it manually.
- This collected data can be used for statistical study that would support the medical research.

→ IoT- is used in a variety of devices that enhance the quality of the health care services.

→ Reducing emergency room wait time.

→ Tracking patients, staff and inventory.

→ Enhancing drug management.

⑨ Smart Agriculture:-

The solution combines the data from the sensors on the field with live satellite weather forecasting to efficiently for suggestion to the farmer for harvesting schedules for his crops.

⑩ Animal Plant :-

By GPS tracking a farmer will have real time access to the exact location of every animal stay but the farm.

⑪ Smart Irrigation:-

Using data like soil moisture plant health etc. from sensor, the system will react any deviation from optimal finding parameters.