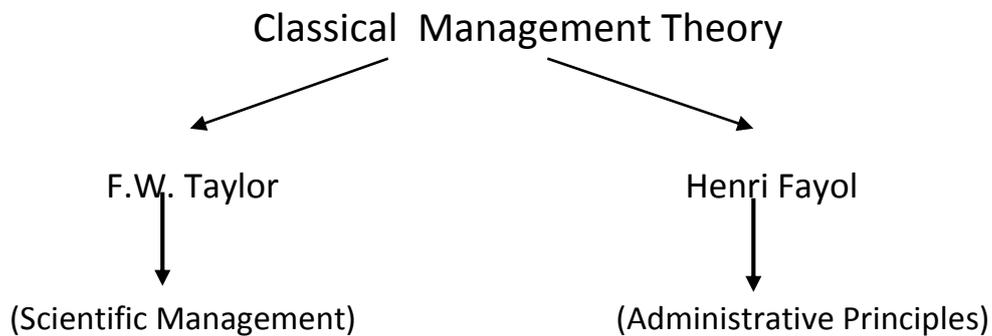


Chapter2 : Principles of Management



- A managerial principle is a **broad and general guideline for decision-making and behaviour**. For example while deciding about promotion of an employee one manager may consider seniority whereas the other may follow the principle of merit.
- Human behaviour is **never static and so also technology**, which affects business. Hence all the principles **have to keep pace with these changes**.

For example, in the absence of Information and Communications Technology (ICT), a manager could oversee only a small work force that too within a narrow geographical space. The advent of ICT has expanded the capability of the managers to preside over large business empires spread across the globe. **Infosys headquarters in Bangalore boast of the Asia's largest flat screen in their conference room from where their managers can interact with their employees and customers in all parts of the world.** **Information and communications technology (ICT) is often used as an extended synonym for information technology (IT), but is a more specific term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless**

signals), computers as well as necessary enterprise . NOTE
just read these yellow lines



Basis of differences	Management Principles	Pure Science
Meaning	Not rigid as principle of pure science	Rigid in nature
Application	They deal with human behaviour and are to be applied creatively given to demands of situation	Applied in static manner

Basis of difference	Management Principles	Values
Meaning	Principle are basic truths or guidelines for behaviour	Values have moral connotation They are something which are acceptable or desirable
Formation	Formed after research in work situation which are technical in nature	Formed through common practice

NOTE: - While practicing MP values cannot neglected as business have to fulfil social and ethical responsibilities towards society

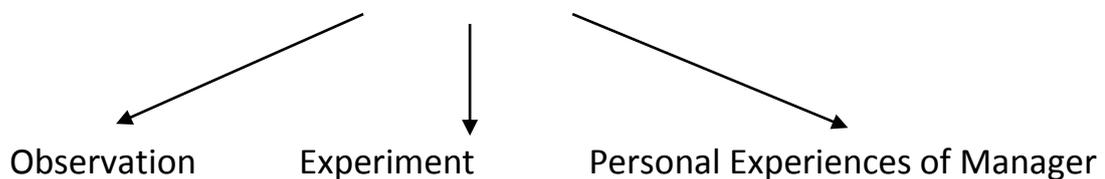
Basis of difference	Management Principle	Management techniques
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Meaning	They are guidelines to take decisions or actions while practising technique	They are procedures which involve a series of steps to achieve desired goals
Flexibility	Flexible	Not so flexible

Nature of Management Principle (MP)

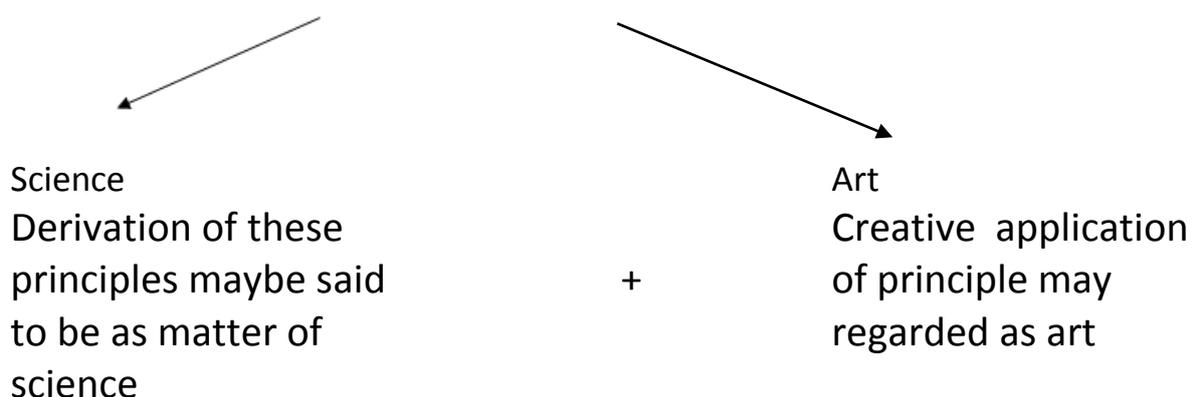
- Principles are general propositions which are applicable when certain conditions are present.

They have been developed on the basis on:



For eg. It is observed that receiving orders from one boss (principle of unity of command) avoids confusion among subordinates.

- Depending upon how the management principles are derived and how effective they are explaining and predicting managerial behaviour they contribute towards the development of Management both as science and art.



- MP is gaining importance with increasing professionalization of management.
- MP are guidelines to action.
- MP denotes a cause and effect relationship.
- MP help managers to take decisions while performing POSDC.

NATURE OF MANAGEMENT (FFCCMUG)

1. UNIVERSAL APPLICABILITY

MP are applicable to all types of organisations

- Business
- Non business
- Large public sector
- Private sector
- Service sector
- Manufacturing sector

The nature of applicability would vary with

- Nature of organisation
- Business activity
- Scale of operations

For eg. For increased productivity work should be divided into small tasks and each employee should be trained to perform his specialised job.

Application of this principle varies from case to case

In Government Office

- Peon
- Officer
- Data Entry Operator
- Diary / Dispatch clerk

In Limited Company - there are Seperate Deptts for

- Finance
- Marketing
- Production
- HR

CBSE 2008,11

Q. WHY IS IT SAID THAT PRINCIPLES OF MGT ARE UNIVERSAL?

BECAUSE MP are applicable to all types of organisations

- Business
- Non business
- Large public sector
- Private sector
- Service sector
- Manufacturing sector

AT ALL LEVELS AND AT ALL TIMES.

2. General guidelines to action

MP are guidelines to action but do not provide **ready made straitjacket solutions to all managerial problems.**

This is so because real business situations are

- Very complex

- Dynamic
- And are a result of many factors

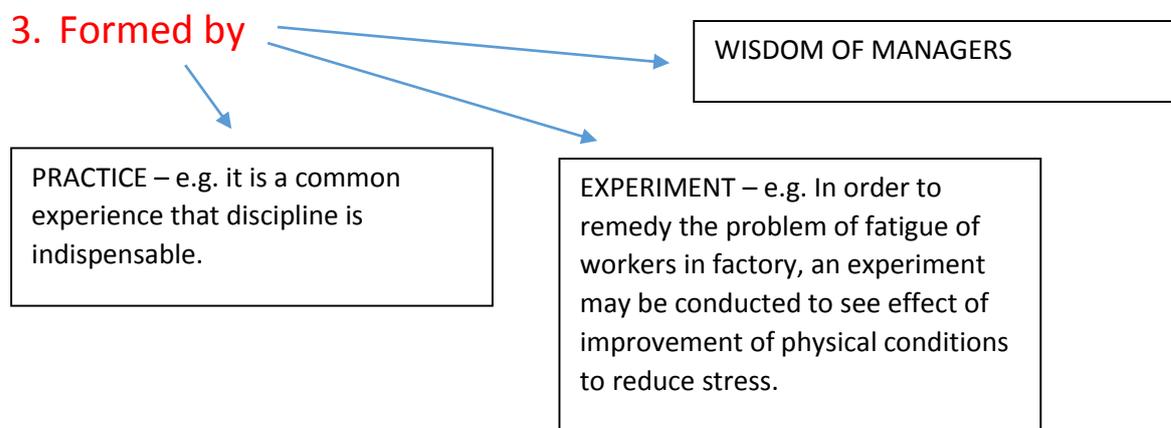
MP help to solve problems. For eg. In dealing with a situation a conflict between two departments, a manager may emphasise the **primacy of overall goals of organisation**

CBSE 2009,10

Q. MP are guidelines to action but do not provide **ready made straitjacket solutions to all managerial problems**. Why?

A. This is so because real business situations are

- Very complex
- Dynamic
- And are a result of many factors



4. Flexible

- MP are not rigid prescriptions which have to be followed absolutely.
- They are modified by manager when the situation so demands.
- They give managers enough discretion.

- Eg. The degree of concentration of control or authority at top level (**centralisation**) and its evenly distribution / dispersal to lowest levels (**decentralisation**) will depend on situation and circumstances.

BOARD QUESTIONS

CBSE 2010

Q1. THE PRINCIPLES OF MANAGEMENT ARE NOT RIGID PRESCRIPTIONS. WHAT DOES THIS HIGHLIGHT ABOUT THE NATURE OF MP?

ANSWER --- PRINCIPLES OF MGT ARE FLEXIBLE

CBSE 2008,09,11

Q2. WHY IS IT SAID THAT MP ARE FLEXIBLE?

- BECAUSE they are modified by manager when the situation so demands.

5. MAINLY BEHAVIOURAL

- Management principles aim at influencing behaviour of human beings.
- Moreover, principles enable a better understanding of the relationship between human and material resources in accomplishing organisational purposes.
- For example, while planning the layout of a factory, the principle of order requires that workflows are matched by flow of materials and movement of men.

6. CAUSE AND EFFECT RELATIONSHIP

- The principles of management are intended to establish relationship between cause and effect so that they can be used in similar situations **in a large number of cases**. As such, they tell us if a particular principle was applied in a particular situation, what would be its likely effect.
- FOR EG. According to the principle of division of work, if work is divided between people based on their knowledge and experience, then it will lead to increase in efficiency. In this case division of work is cause and increase in efficiency is the effect.
- The principles of management **are less than perfect** since they mainly apply to human behaviour. In real life, situations are not identical. So, accurate cause and effect relationships may be difficult to establish.
- However, principles of management assist managers in establishing these relationships to some extent and are therefore useful. In situations of emergencies, it is desirable that someone takes charge and others just follow. But in situations requiring cross-functional expertise, such as setting up of a new factory, more participative approach to decision-making would be advisable.

7. CONTINGENT

- The application of principles of management is contingent or dependent upon the prevailing situation at a **particular point of time**.
- The application of principles has to be changed **as per requirements**.
- For example, employees deserve **fair and just remuneration**. But what is just and fair is determined by multiple factors. They include contribution of the employee, paying capacity of the employer and also prevailing wage rate for the occupation under consideration.

CBSE 2010,2011, 2012

Q. Why is it said that MP are contingent?

A. The application of principles of management is contingent or dependent upon the prevailing situation at a particular point of time

CONCLUSION--- READ THE case study of '**Kiran Mazumdar Shaw**' a highly successful Indian businesswoman and CEO of '**Biocon**' to see how she was able to transform a little known sector of biotechnology into a very profitable company and earn titles which any one would dream of BY SUCCESSFULLY APPLYING MANAGEMENT PRINCIPLES.

KIRAN SHAW – ONE OF THE RICHEST WOMAN OF INDIA



SIGNIFICANCE OF MP (FMMOPS)

- MP derive their significance from their utility.
- The quest of management theorists has been and should be to unearth the underlying principles with a view to using these under repetitive circumstances as a matter of management habit.

1. Providing managers with useful insights into reality/ real world situations

Adherence to MP will add to manager's

- Knowledge
- Ability
- Understanding of managerial situations and circumstances

It will also enable the managers to learn from their past mistakes and conserve time by solving recurring problems quickly.

For example, a manager can leave routine decision-making to his subordinates and deal with exceptional situations which require her/his expertise by following **the principles of delegation.**

(ii) Optimum utilisation of resources and effective administration:

- Resources both human and material available with the company are limited. They have to be put to optimum use. By optimum use we mean that the resources should be put to use in such a manner that they should give **maximum benefit with minimum cost.**
- Principles equip the managers to foresee the cause and effect relationships of their decisions and actions.
- As such the wastages associated with a trial-and-error approach can be overcome.
- Effective administration necessitates impersonalisation of managerial conduct so that managerial power is used with due discretion. Principles of management limit the boundary of managerial discretion so that their decisions may be **free from personal prejudices and biases.**
- For example, in deciding the **annual budgets for different departments, rather than personal preferences managerial discretion is bounded by the principle of contribution to organisational objectives.**

(iii) Scientific decisions

- Decisions must be based on facts, thoughtful and justifiable in terms of the intended purposes. They must be timely, realistic and subject to measurement and evaluation.
- Management principles help in thoughtful decision-making. They emphasise **logic rather than blind faith**.
- Management decisions taken on the basis of principles **are free from bias and prejudice**. They are based on the objective assessment of the situation.

(iv) Meeting changing environment requirements

- Although the principles are in the nature of general guidelines but they are modified and as such help managers to meet changing requirements of the environment.
- For example, management principles emphasise **division of work and specialisation**. In modern times this principle has been extended to the entire business whereby companies are specialising in their core competency and divesting non-core businesses. In this context, one may cite the decision of **Hindustan Lever Limited in divesting non-core businesses of chemicals and seeds**.

Hindustan Unilever Limited



**Small actions
big difference**

*As the bee searches
for nectar, flowers are pollinated,
crops grow....
Every small action makes a big difference.*

Facilitators :
Ketan Garg
MBA 20019-11



- Some companies are outsourcing their non-core activities like share-transfer management and advertising to outside agencies. So much so, that even core processes such as R&D, manufacturing and marketing are being outsourced today. i.e. 'Knowledge Process Outsourcing' (KPO)

(v) Fulfilling social responsibility:

- The increased awareness of the public, forces businesses especially limited companies to fulfil their social responsibilities. Management theory and management principles have also evolved in response to these demands.

- Moreover, the interpretation of the principles also assumes newer and contemporary meanings with the change in time. So, if one were to talk of 'equity' today, it does not apply to wages alone. Value to the customer, care for the environment, dealings with business associates would all come under the purview of this principle.
- As an application of this principle, we find that Public Sector Undertakings have developed entire townships as, for example, BHEL has developed Ranipur in Hardwar as shown below in the image.



STORY OF Shri Mahila Griha Udyog Lijjat Papad



(vi) Management training, education and research:

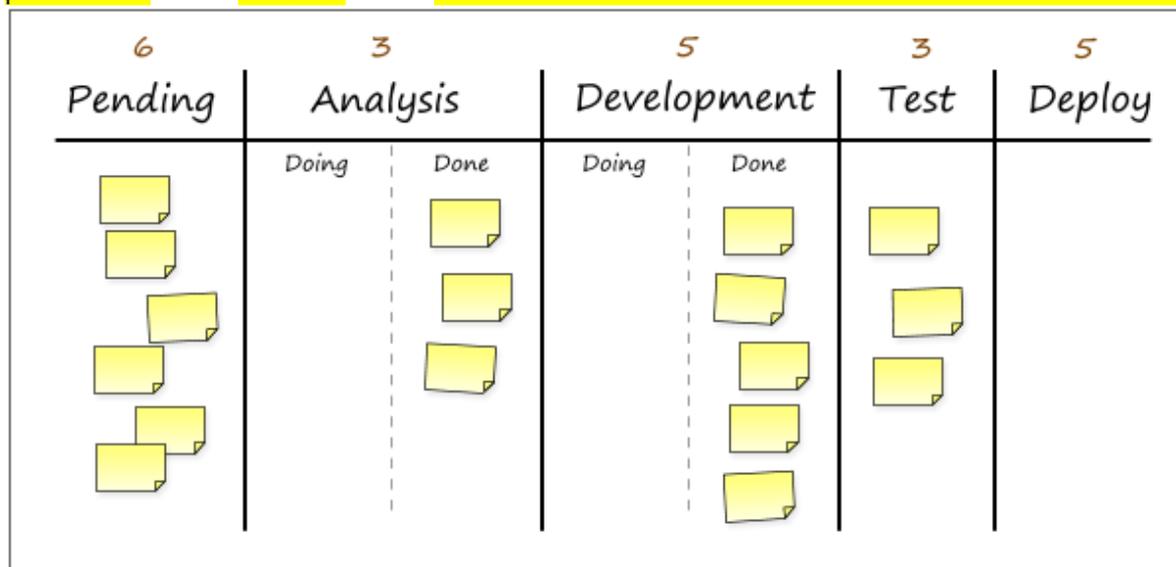
Principles of management are at the core of management theory and are used as a basis for management training, education and research. Entrance to management institutes is preceded by **management aptitude tests**

These principles provide basic groundwork for the development of management as a discipline. Professional courses such as MBA (Master of Business Administration), BBA (Bachelor of Business Administration) also teach these principles as part of their curriculum at the beginner's level.

These principles enable refinement of management practices as well by facilitating the development of **new management techniques**. Thus, we see that techniques like **Operations Research (OR)**, cost accounting, 'Just in Time', 'Kanban' and 'Kaizen' have developed due to further research on these principles. **Operations research, or operational research is a discipline that deals with the application of advanced analytical methods to help make better decisions.**^[1] It is often considered to be a sub-field of mathematics



Kanban was developed at Toyota, as a system to improve and maintain a high level of production. **Kanban** is one method to achieve JIT.



Just in time (JIT) is a production strategy that strives to improve a business' [return on investment](#) by reducing in-process inventory and associated [carrying costs](#). Just in time is a type of operations management approach which originated in Japan in the 1950s. [citation needed] It was adopted by Toyota and other Japanese manufacturing firms, with excellent results



改善

Kaizen is the practice of continuous improvement.

Kai = Change Zen = Good

In conclusion it can be said that understanding the meaning, nature and significance of principles of management will help us to appreciate their applicability in real life situations.

CBSE 2009

Q.1 EXPLAIN HOW THE MANAGEMENT PRINCIPLES PROVIDE (a) useful insight into reality (b) thoughtful decision making.

3 mks

CBSE 2009

Q2. EXPLAIN HOW THE MP help in (a) meeting changing environment requirements and (b) making scientific decisions.
4 mks

CBSE 2010 (5/6 marks , 125-150 words/ about 200 words)

Q1. Explain any five characteristics which reflect the nature of management principles.

Q2. Explain by giving any five reasons, why a proper understanding of MANAGEMENT PRINCIPLES is necessary.

The other two streams belonging to the classical school are **Fayol's Administrative Theory and Max Weber's Bureaucracy**. We will not be describing bureaucracy here. A discussion of Fayol's principles, however, will follow the discussion of scientific management. Fredrick Winslow Taylor (March 20,1856 – March 21, 1915) was **an American mechanical engineer** who sought to improve industrial efficiency. In 1874, he became an apprentice mechanist, learning factory conditions at the grass roots level. He earned a degree in mechanical engineering. He was one of the intellectual leaders of the efficiency movement and was highly influential in reshaping the **factory system of production**. You must appreciate that he belonged to **the era of the industrial revolution characterised by mass production**.



F.W.TAYLOR---- FATHER OF SCIENTIFIC MANAGEMENT

Application of his theory is by MC DONALDS, TOYOTA AND FORD

Principles of scientific Management

- In the earlier days of the Industrial Revolution, in the absence of an established theory of factory organisation, factory owners or managers **relied on personal judgment** in attending to the problems they confronted in the course of managing their work. This is what is referred to as **'rule of thumb'**.

- Managing factories by rule of thumb enabled them to handle the situations as they arose but suffered from the limitation of a **trial and error approach**. For their experiences to be emulated, it was important to know what works and why does it work a need to follow an approach that was based on the method of science-**defining a problem, developing alternative solutions, anticipating consequences, measuring progress and drawing conclusions**. In this scenario, Taylor emerged as the **'Father of Scientific Management'**. **He proposed scientific management as opposed to rule of thumb**.
- He broke up human activity into small parts and found out how it could be done effectively, in less time and with increased productivity. It implies conducting business activities according to standardised tools, methods and trained personnel in order to increase the output, improve its quality and reduce costs and wastes.
- In the words of Taylor, **"Scientific management means knowing exactly what you want men to do and seeing that they do it in the best and cheapest way."**
- The Bethlehem Steel company where Taylor himself worked achieved **three-fold increase in productivity** by application of scientific management principles. Therefore, it would be in order to discuss these principles.

(i) Science not Rule of Thumb:

- Factory owners or managers **relied on personal judgment** in attending to the problems they confronted in the course of managing their work. This is what is referred to as **'rule of thumb'**.

Managing factories by rule of thumb enabled them to handle the situations as they arose but suffered from the limitation of a **trial and error approach**

- Taylor pioneered the introduction of the method of **scientific inquiry** into the domain of management practice.
- Taylor believed that there was only **one best method to maximise efficiency**.
- This method can be developed through **study and analysis**.
- The method so developed should substitute 'Rule of Thumb' throughout the organisation.
- Scientific method involved **investigation of traditional methods through work-study, unifying the best practices and developing a standard method**, which would be followed throughout the organisation.
- According to Taylor, **even a small production activity like loading pigs of iron into boxcars can be scientifically planned and managed**.
- This can result in tremendous saving of human energy as well as **wastage of time and materials**. The more sophisticated the processes, greater would be the **savings**.

- In the present context, the **use of internet** has brought about dramatic improvements in internal efficiencies and customer satisfaction.

CBSE 2011

Q.1 WHICH PRINCIPLE OF SCIENTIFIC MANAGEMENT SUGGESTS THE INTRODUCTION OF SCIENTIFIC INVESTIGATION AND ANALYSIS OF MANAGEMENT PRACTICES?

SCIENCE NOT RULE OF THUMB

(ii) Harmony, Not Discord:

- Factory system of production implied that **managers served as a link between the owners and the workers**. Since as managers they had the mandate to 'get work done' from the workers, there can be a possibility of a kind of class conflict between the managers and workers.
- He emphasised that there should be **complete harmony between management and workers**.
- To achieve this state, Taylor called for **complete mental revolution on the part of both management and workers**. It means that management and workers should transform their thinking.
- In such a situation even **trade unions will not think of going on strike etc.**

- Management should share the gains of the company, if any, with the workers. At the same time workers should work hard and be willing to change for the good of the company. Both should **be part of the family**.
- According to Taylor, 'Scientific management has for its foundation the firm conviction that the **true interests of the two are one and the same; that prosperity for the employer cannot exist for a long time** unless it is accompanied by prosperity for the employees and vice versa'.
- **Japanese work culture** is a classic example of such a situation. In Japanese companies, **paternalistic style** of management is in practice. There is complete openness between the management and workers. If at all workers go to strike they wear a **black badge** but work more than normal working hours to gain the sympathy of the management.

(iii) Cooperation, Not Individualism:

- There should be complete cooperation between the labour and the management instead of individualism.
- This principle is an **extension of principle** of 'Harmony not discord'.
- **Competition should be replaced by cooperation**. Both should realise that they need each other.
- For this, management should **not close its ears to any constructive suggestions made by the employees**.
- They should be rewarded for their suggestions which **results in substantial reduction in costs**. They should be

part of management and, if any important decisions are taken, workers should be taken into confidence.

- At the same time **workers should desist from going on strike and making unreasonable demands on the management.**
- In fact when there will be **open communication system** and goodwill there will be no need for even a trade union. Paternalistic style of management, whereby the employer takes care of the needs of employees, would prevail as in the case of Japanese companies.
- According to Taylor, **there should be an almost equal division of work and responsibility between workers and management.** All the day long the management should work almost side by side with the workers helping, encouraging and smoothing the way for them.

(iv) **Development of Each and Every Person to His or Her Greatest Efficiency and Prosperity:**

- Industrial efficiency depends to a **large extent on personnel competencies.**
- As such, scientific management also stood for **worker development.**
- Worker training was essential also to learn the **'best method'** developed as a consequence of the scientific approach.

- Taylor was of the view that the concern for efficiency could be built in right from the **process of employee selection**.
- Each person should be **scientifically selected**. Then work assigned should suit her/his physical, mental and intellectual capabilities.
- To increase efficiency, they should be given the required **training**.
- Efficient employees would produce more and earn more. This will ensure their greatest efficiency and **prosperity for both company and workers**.

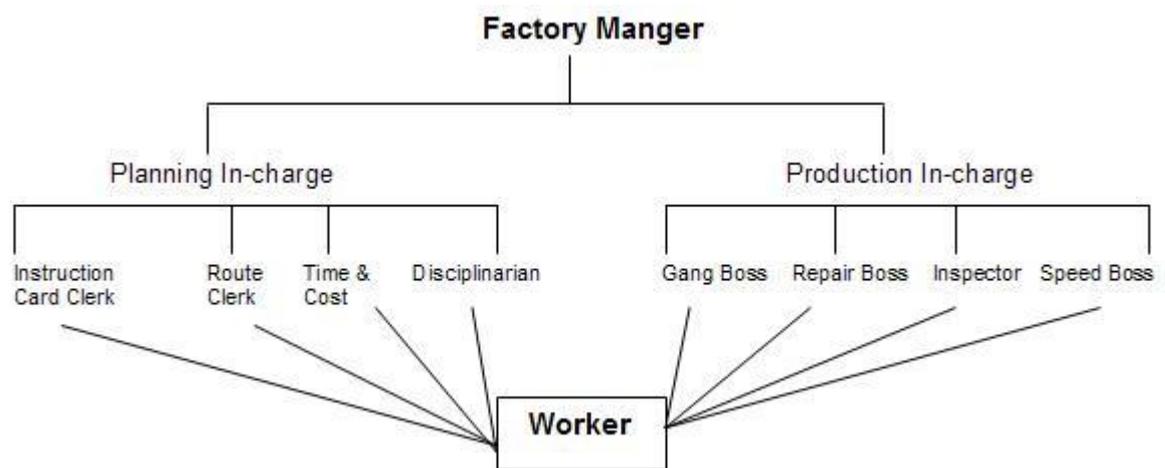
From the foregoing discussion it is clear that Taylor was an ardent supporter of use of scientific method of production in business. techniques of scientific techniques of scientific Management Let us now discuss techniques as specified by him. These are based on the various experiments he conducted during his career.

1. Functional ForeManshiP

- In the factory system, the foreman represents the managerial figure with whom the workers are in face-to-face contact on a daily basis.
- In the first chapter of the book, you have seen that the **foreman is the lowest ranking manager and the highest ranking worker**. He is the pivot around whom revolves the **entire production planning, implementation and**

control. Thus, Taylor concentrated on improving the performance of this role in the factory set-up.

- In fact, he identified a list of qualities of a good foreman/supervisor and found that **no single person could fit them all.** This prompted him to suggest functional foremanship **through eight persons.**
- Taylor advocated **separation of planning and execution functions.** This concept was extended to the lowest level of the shop floor. It was known as functional foremanship.



- Under the factory manager there was a planning incharge and a production incharge.
- Under **planning incharge four personnel worked** namely
 1. Instruction card clerk- draft instructions for the workers
 2. Route clerk--- specify the route of production
 3. Time clerk and cost clerk--- prepare time and cost sheet
 4. Disciplinarian --- ensures discipline

PLANNING PERSONNEL REQUIRES technical mastery, intelligence and grit

Under Production incharge, personnel who would work were

1.Speed boss-- responsible for timely and accurate completion of job

2.Gang boss-- keeping machines and tools etc., ready for operation by workers

3.Repair boss-- ensure proper working condition of machines and tools

4.Inspector-- check the quality of work.

NOTE:energy and good health may be assigned execution work.

- Functional foremanship is an extension of the principle of division of work and specialisation to the shop floor
- Each worker will have to take orders from these eight foremen in the related process or function of production. Foremen should have intelligence, education, tact, grit, judgment, special knowledge, manual dexterity, and energy, honesty and good health. Since all these qualities could not be found in a single person so Taylor proposed eight specialists.
- Each specialist is to be assigned work according to her/his qualities. For example, those with technical mastery, intelligence and grit may be given planning work.

- Those with energy and good health may be assigned execution work.



2. Standardisation and Simplification of Work

Taylor was an ardent supporter of standardisation. According to him scientific method should be used to analyse methods of production prevalent under the rule of thumb.

- The best practices can be kept and further refined to **develop a standard** which should be followed throughout the organisation.

This can be done through **work-study techniques** which include

1. time study

2. motion study

3. fatigue study

4. method study (FMMT)

- It may be pointed out that even the contemporary techniques of business process including

1. reengineering

2. kaizen (continuous improvement) and

3. benchmarking

are aimed at standardising the work.

- Standardisation refers to the process of setting standards for every business activity; **it can be standardisation of process, raw material, time, product, machinery, methods or working conditions.** These

standards are the benchmarks, which must be adhered to during production.

- The objectives of standardisation are:
 - (i) To reduce a given line or product to fixed types, sizes and characteristics.
 - (ii) To establish interchange ability of manufactured parts and products.
 - (iii) To establish standards of excellence and quality in materials.
 - (iv) To establish standards of performance of men and machines.
- Simplification aims at eliminating superfluous varieties, sizes and dimensions while standardisation implies devising new varieties instead of the existing ones.
- Simplification aims at eliminating unnecessary diversity of products. It results in savings of cost of labour, machines and tools. It implies reduced inventories, fuller utilisation of equipment and increasing turnover.
- Most large companies like Nokia, Toyota and Microsoft etc. have successfully implemented standardisation and simplification. This is evident from their large share in their respective markets.

3. WORK STUDY---- fatigue study, motion study, method study and time study (fmmt)

A. Method study

The objective of method study is to **find out one best way of doing the job**. There are various methods of doing the job.

To determine the best way there are several parameters. Right from **procurement of raw materials till the final product is delivered to the customer every activity is part of method study**.

Taylor devised the concept of **assembly line** by using method study. For designing a car, the assembly line production would entail deciding the sequence of operations, place for men, machines and raw materials etc. All this is part of method study. **Ford Motor Company** used this concept very successfully.

Even now auto companies are using it. The objective of the whole exercise **is to minimise the cost of production and maximise the quality and satisfaction** of the customer.

For this purpose many techniques **like process charts and operations research etc are used**.

B. Motion study refers to the study of movements **like lifting, putting objects, sitting and changing positions** etc., which are undertaken while doing a typical job.

Unnecessary movements are sought to be eliminated so that it takes less time to complete the job efficiently.

For example, Taylor and his associate Frank Gailberth were able to reduce **motions in brick layering from 18 to just 5**. Taylor demonstrated that productivity increased to about four times by this process.

On close examination of body motions, for example, it is possible to find out:

- (i) Motions which **are productive**
- (ii) Motions which are **incidental** (e.g., going to stores)
- (iii) Motions which are **unproductive**. Taylor used **stopwatches and various symbols and colours** to identify different motions. Through motionstudies, Taylor was able to design suitable equipment and tools to educate workers on their use.

In recent times, videography can be used to identify different motions – productive, incidental, unproductive.

C. Time study

- It determines the **standard time taken to perform a well-defined job**.
- **Time measuring devices are** used for each element of task. The standard time is fixed for the whole of the task by taking **several readings**.

- The method of time study will depend upon
 - volume and frequency of the task,
 - the cycle time of the operation and
 - time measurement costs.
- The objective of time study is
 - to determine the number of workers to be employed;
 - frame suitable incentive schemes and
 - determine labour costs.
 - For example, on the basis of several observations it is determined that standard time taken by the worker to make one cardboard box is 20 minutes. So in one hour she/he will make 3 boxes. Assuming that a worker has to put in 8 hours of work in a shift and deducting one hour for rest and lunch, it is determined that in 7 hours a worker makes 21 boxes @ 3 boxes per hour. Now this is the standard task a worker has to do. Wages can be decided accordingly.

- CBSE 2008,10

What is the objective of time study?

D. Fatigue study

A person is bound to feel tired physically and mentally if she/he does not rest while working.

The rest intervals will help one to regain stamina and work again with the same capacity. This will result in increased productivity.

Fatigue study seeks to

- a. determine the amount and
- b. frequency of rest intervals in completing a task

. For example, normally in a plant, work takes place in three shifts of eight hours each. Even in a single shift a worker has to be given some rest interval to take her/his lunch etc.

If the work involves heavy manual labour then small pauses have to be frequently given to the worker so that she/he can recharge her/his energy level for optimum contribution.

There can be many causes for fatigue like

long working hours,

doing unsuitable work,

having uncordial relations with the boss or bad working conditions etc. Such hindrances in good performance should be removed.

CBSE 2008,10

Q. Different techniques were developed by Taylor to facilitate principles of scientific mgt. One of them is fatigue study. What is the objective of this study?

4. Differential Piece Wage

Taylor was a strong advocate of piece wage system.

1. He wanted to differentiate between efficient and inefficient workers.

The standard time and other parameters should be determined on the basis of the workstudy discussed above. The workers can then be classified as efficient or inefficient on the basis of these standards.

2. He wanted to **reward efficient workers**.

So he introduced different rate of wage payment for those who performed above standard and for those who performed below standard.

For example, it is determined that standard output per worker per day is 10 units and those who made standard or more than standard will get Rs. 50 per unit and those below will get Rs. 40 per unit. Now an efficient worker making 11 units will get $11 \times 50 = \text{Rs. } 550$ per day whereas a worker who makes 9 units will get $9 \times 40 = \text{Rs. } 360$ per day. According to Taylor, the difference of Rs. 190 should be enough for the inefficient worker to be motivated to perform better. From his own experience, Taylor gives the example of a worker named Schmidt who was able to earn 60% more wages from \$1.15 to \$1.85 on increasing pig iron loading from 12.5 tons per man per day to 47 tons per man per day in box cars at Bethlehem Steel works by following scientific management techniques.

STANDARD OUTPUT = 10 UNITS

STANDARD WAGE RATE---- IF OUTPUT \geq 10, THEN Rs. 50

IF OUTPUT $<$ 10, THEN Rs. 40

Worker A

Worker B

ACTUAL OUTPUT	11 UNITS	9 UNITS
TOTAL WAGES	$11 * 50 = \text{Rs.}550$	$9 * 40 = \text{Rs.}360$
Difference in wages = Rs. 550- Rs.360 = Rs. 190		

CBSE 2010

Q.Name the technique of scientific mgt which differentiates between efficient and inefficient workers.

DIFFERENTIAL PIECE WAGE SYSTEM

CBSE 2009

Q. Why did Taylor introduce DIFFERENTIAL PIECE RATE SYSTEM?

CBSE 2012

Q. Explain the technique of scientific mgt which is the strongest motivator for a worker to reach standard performance. (3/4 marks)

Explain differential piece wage system

It is important to have a relook at the techniques of scientific management as comprising a unified whole of Taylor's prescription of efficiency.

Search for efficiency requires the search for one best method and the chosen method must lead to the determination of a fair day's work.

There must be a compensation system that differentiates those who are able to accomplish/exceed the fair day's work.

This differential system must be based on the premise that efficiency is the result of the joint efforts of the managers and the workers.

Thus, rather than quarrelling over the share in the resultant surplus, the workers and managers should work in harmony for maximising the output rather than restricting it.

Clearly the sum and substance of Taylor's ideas lies not in the disjointed description of principles and techniques of scientific management, but in the **change of the mindset, which he referred to as mental revolution.**

Mental revolution involves a change in the attitude of workers and management towards one another from competition to cooperation. Both should realise that they require one another.

Both should aim to **increase the size of surplus.** This would eliminate the need for any **agitation.** Management should share a part **of surplus with workers.** Workers should also contribute their might so that the company makes profits.

This attitude will be good for both of them and also for the company. In the long run only worker's well-being will ensure **prosperity** of the business.

CBSE 2009

Q. What is meant by mental revolution according to Taylor?

Today, many new techniques have been developed as a sequel to scientific management.

Operations research was developed in the second World War to optimise the deployment of war material

2. Similarly assembly line was also discovered by F.W. Taylor, which was used very successfully by Ford motor company for manufacturing 'Model T' car for the masses. This concept is much used now.
3. The latest development in scientific management is 'LEAN MANUFACTURING'. Now a days robotics and computers are being used in production and other business activities. This is part of scientific management of these activities. It has increased productivity levels. The techniques of operation research have also been developed and are being used as a result of scientific management.

Fayol's Principles of Management

- Henri Fayol (1841-1925) was a French management theorist
- Fayol was the first to identify four functions of management – Planning, Organising, Directing and Controlling although his version was a bit different – Plan, Organise, Command, Coordinate and Control.

According to Fayol, all activities of an industrial undertaking could be divided into: Technical; Commercial; Financial; Security; Accounting and Managerial. He also suggested that qualities a manager must possess should be — Physical, Moral, Education, Knowledge and experience. He believed that the number of management principles that might help to improve an organisation's operation is potentially limitless. Based largely on his own experience, he developed his concept of administration. The 14 principles of management propounded by him

For his contribution he is also known as the 'Father of General Management'

The 14 principles of management given by him are:

1. Division of Work:

- Work is divided into small tasks/jobs.
- A trained specialist who is competent is required to perform each job.
- Thus, division of work leads to specialisation.
- According to Fayol, "The intent of division of work is to produce more and better work for the same effort. Specialisation is the most efficient way to use human effort."
- In business work can be performed more efficiently if it is divided into specialised tasks; each performed by a specialist or trained employee. This results in efficient and effective output.

- Thus, in a company we have **separate departments** for **finance, marketing, production and human resource development etc.**
- All of them have specialised persons. Collectively they achieve production and sales targets of the company. Fayol applies this principle of division of work to all kinds of work – **technical as well as managerial.**
- You can observe this principle at work in any organisation like **hospital or even a government office.**

CBSE 2013

Q. In a company there are separate departments for finance, marketing, production and human resource development. Identify the principle of management.

A. Division of work because all of the departments have specialised persons who collectively achieve production and sales targets of the company

2. Authority and Responsibility:

According to Fayol, **“Authority is the right to give orders and obtain obedience, and responsibility is the corollary of authority. The two types of authority are**

- **official authority, which is the authority to command, and**
- **personal authority which is the authority of the individual manager.”**

- Responsibility means obligation to perform the job assigned on time.

Authority is both formal and informal.

Managers require authority commensurate with their responsibility. A manager should have the right to punish a subordinate for wilfully not obeying a legitimate order but only after sufficient opportunity has been given to a subordinate for presenting her/his case.

There should be a balance between authority and responsibility.

a. Giving authority without fixing responsibility may lead to irresponsible use of authority

So, An organisation should build safeguards against abuse of managerial power.

For example, a sales manager has to negotiate a deal with a buyer. She finds that if she can offer credit period of 60 days she is likely to clinch the deal which is supposed to fetch the company net margin of say Rs. 50 crores gives power to the manager to offer a credit period of only 40 days. This shows that there is an imbalance in authority and responsibility. In this case the manager should be granted authority of offering credit period of 60 days in the interest of the company. Similarly, in this example this manager should not be given a power to offer a credit period of say 100 days because it is not required.

b. At the same time responsibility without authority will make the subordinate ineffective. For eg. if a production manager asks his foremen to produce 250 cars per day but does not give him authority to get tools and materials from stores department then the foremen will not be able to achieve the desired target.

Authority and responsibility must go hand in hand.

(3) Discipline:

- Discipline is the obedience to organisational rules and employment agreement which are necessary for the working of the organisation.
- According to Fayol, discipline requires
 - (i) good superiors at all levels,
 - (ii) clear and fair agreements and
 - (iii) judicious application of penalties.
- For eg. Suppose management and labour union have entered into an agreement whereby workers have agreed to put in extra hours without any additional payment to revive the company out of loss.
- In return the management has promised to increase wages of the workers when this mission is accomplished. Here discipline when applied would mean that the workers and management both honour their commitments without any prejudice towards one another.

4. Unity of Command:

- According to Fayol there should be **one and only one boss for every individual employee.**
- If an employee gets **orders from two superiors at the same time the principle of unity of command is violated.**
- The principle of unity of command states that each **participant in a formal organisation should receive orders from and be responsible to only one superior.** Fayol gave a lot of importance to this principle.
- He felt that if this principle is violated **“authority is undermined, discipline is in jeopardy, order disturbed and stability threatened”.**
- The principle **resembles military organisation.**
- **Dual subordination should be avoided. This is to prevent confusion** regarding tasks to be done.
- Suppose a sales person is asked to clinch a deal with a buyer and is allowed to give 10% discount by the marketing manager. But finance department tells her/him not to offer more than 5% discount. Now there is no unity of command. This can be avoided if there is coordination between various departments.

CBSE 2008, 2010

Q. Which principle of management is violated if an employee is asked to receive order from two superiors ?

Unity of command

(5) Unity of Direction:

All the units of an organisation should be moving towards the **same objectives through coordinated and focussed efforts.**

Each group of activities having the same objective must have **one head and one plan.**

This ensures **unity of action and coordination.**

For example, if a company is manufacturing motorcycles as well as cars then it should have two separate divisions for both of them. Each division should have its own incharge, plans and execution resources. On no account should the working of two divisions overlap.

CBSE 2010

Q. Which principle of management envisages that each group of activities having same objectives must have one head and one plan?

Unity of Direction

BASIS OF DIFFERENCE	Unity of Command	Unity of Direction
1. Meaning	One subordinate should receive orders from and should be responsible to only one superior.	Each group of activities having same objective must have one head and one plan.

2. Aim	It prevents dual subordination	It prevents overlapping of activities
3. Implications	It affects an individual employee	It affects the entire organisation.

CBSE 2013

Q. Give the difference between principles of unity of command and unity of direction on the basis of aim?

CBSE 2012

Q. Give the difference between principles of unity of command and unity of direction on the basis of implications ?

6. Subordination of Individual Interest to General Interest:

- The interests of an organisation should take priority over the interests of any one individual employee according to Fayol.
- Every worker has some individual interest for working in a company. The company has got its own objectives.
- For example, the company would want to get maximum output from its employees at a competitive cost (salary). On the other hand, an employee may want to get maximum salary while working the least. In another situation an individual employee may demand some

concession, which is not admissible to any other employee like working for less time.

- In all the situations the interests of the group/company will *supersede the interest of any one individual*.
- This is so because **larger interests of the workers and stakeholders are more important than the interest of any one person**.
- For example, **interests of various stakeholders i.e., owners, shareholders, creditors, debtors, financiers, tax authorities, customers and the society at large** cannot be sacrificed for one individual or a small group of individuals who want to exert pressure on the company. A manager can ensure this by her/his exemplary behaviour.
- **How can a manager ensure this principle?** She/he should not fall into temptation of misusing her/his powers for individual/ family benefit at the cost of larger general interest of the workers/ company. This will raise her/his stature in the eyes of the workers and at the same time ensure same behaviour by them.

(7) **Remuneration of Employees:**

- The overall pay and compensation should be **fair to both employees and the organisation**.
- The employees should be paid fair wages, which should give them at **least a reasonable standard of living**.

- At the same time it should be **within the paying capacity** of the company. In other words, remuneration should be **just and equitable**.
- This will ensure **congenial atmosphere and good relations between workers and management**.
- Consequently, the working of the company would be smooth.

Remuneration of employees

The overall pay and compensation should be fair to employees and workers to give them at least a reasonable standard of living. Remuneration paid to employees must be fair because if employees are unpaid they will not be satisfied and an unsatisfied person can never contribute his maximum. Dissatisfaction will lead to increase in employees turnover .

This ensures congenial atmosphere b/w the management and workers. In healthy atmosphere , workers put there best efforts to contribute maximum. it ensures smooth functioning and motivates them.



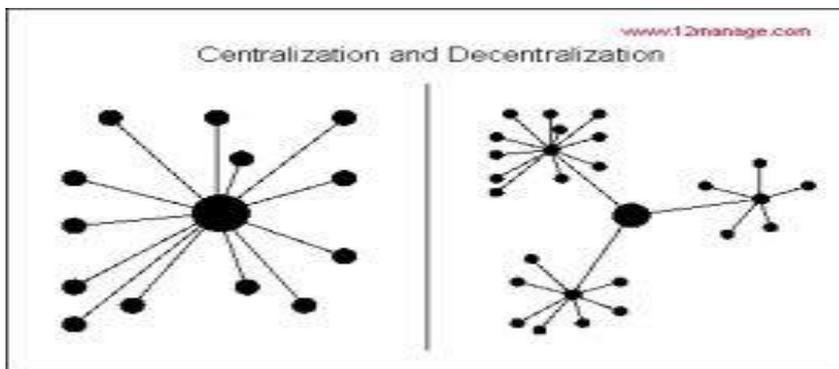
(8) Centralisation and Decentralisation:

- The **concentration** of decision-making authority is called centralisation whereas its **dispersal** among more than one person is known as decentralisation.
- According to Fayol, “There is a **need to balance subordinate involvement** through decentralisation with managers’ retention of **final authority** through

centralisation.” The degree of centralisation will depend upon the circumstances in which the company is working.

- In general large organisations have more decentralisation than small organisations.
- For example, panchayats in our country have been given more powers to decide and spend funds granted to them by the government for the welfare of villages. This is decentralisation at the national level.

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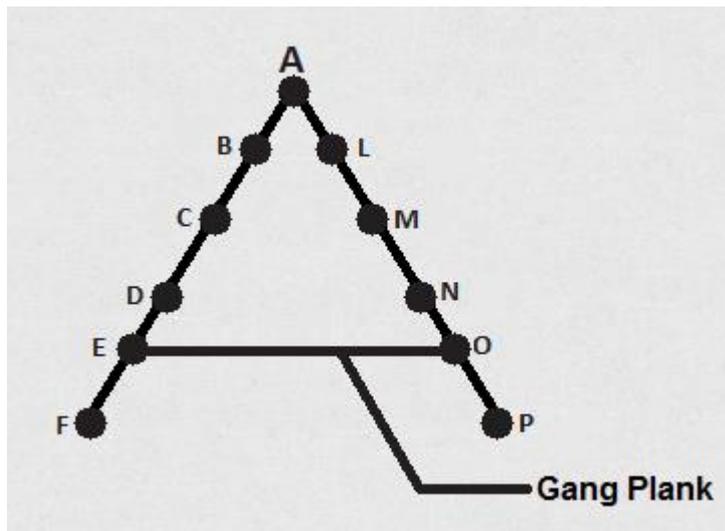


- For example: The major decision and activities of setting up goals can be centralised, but there can be a policy of decentralisation for activities of routine work such as purchase of raw materials.

(9) Scalar Chain:

An organisation consists of superiors and subordinates.

- The formal lines of authority from highest to lowest ranks are known as scalar chain.



- According to Fayol, “Organisations should have a chain of authority and communication that runs from top to bottom and should be followed by managers and the subordinates.”
- Let us consider a situation where there is one head ‘A’ who has two lines of authority under her/ him.
- One line consists of B-CD-E-F.
- Another line of authority under ‘A’ is L-M-N-O-P.
- If ‘E’ has to communicate with ‘O’ who is at the same level of authority then she/he has to traverse the route E-D-C-B-A-L-M-N-O. This is due to the principle of scalar chain being followed in this situation.
- According to Fayol, this chain should not be violated in the normal course of formal communication. However, if there is an emergency then ‘E’ can directly contact ‘O’ through ‘Gang Plank’ as shown in the diagram. This is a shorter route and has been provided so that communication is not delayed.

- In practice you find that a worker cannot directly contact the **CEO of the company**. If at all she/he has to, then all the formal levels i.e., foreman, superintendent, manager, director etc have to know about the matter.
- However, in an **emergency** it can be possible that a worker can contact CEO directly.

(10) Order:

- According to Fayol, **“People and materials must be in suitable places at appropriate time for maximum efficiency.”**
- The principle of order states that **‘A place for everything (everyone) and everything (everyone) in its (her/his) place’**. Essentially it means orderliness.
- If there is a **fixed place** for everything and it is present there, then there will be **no hindrance in the activities of business/ factory**.
- This will lead to increased productivity and efficiency.
- For example: If a worker is in need of a tool, he / she should should know in which tool room or box it will be found. Similarly, if an employee needs guidance from his boss, he/she must know where the boss is sitting.

(11) Equity:

- **“Good sense and experience** are needed to ensure fairness to all employees, who should be treated as fairly as possible,” according to Fayol.

- This principle emphasises **kindliness and justice** in the behaviour of managers towards workers.
- This will ensure **loyalty and devotion**. Fayol does not rule out use of force sometimes.
- Rather he says that **lazy personnel should be dealt with sternly to send the message that everyone** is equal in the eyes of the management.
- There should be **no discrimination against anyone on account of sex, religion, language, caste, belief or nationality** etc.
- In practice we can observe that now a days in multinational corporations people of various nationalities work together in a discrimination free environment.
- Equal opportunities are available for everyone in such companies to rise.
- **Thus, we find Indiaborn CEO's such as Rajat Gupta who heads multinational like Mckinsey Inc. Lately India-born American Arun Sarin has become CEO of Vodaphone limited, a British telecom major.**

(12) Stability of Personnel:

- **“Employee turnover should be minimised to maintain organisational efficiency”**, according to Fayol.
- Personnel should be **selected and appointed after due and rigorous procedure.**

- But once selected they should be kept at their post/ position for a **minimum fixed tenure**.
- They should have stability of tenure.
- They should be given **reasonable time to show results**.
- **Any adhocism in this regard will create instability/insecurity** among employees.
- They would tend to leave the organisation.
- **Recruitment, selection and training cost will be high**. So stability in tenure of personnel is good for the business.

(13) Initiative:

- Workers should be encouraged to develop and carry out their plans **for improvements** according to Fayol.
- Initiative means taking **the first step with self-motivation**.
- It is **thinking out and executing the plan**. It is one of the **traits of an intelligent person**. Initiative should be encouraged.
- But it does not mean going against the established practices of the company for the sake of being different.
- A good company should have an **employee suggestion system whereby initiative/ suggestions which result in substantial cost/time reduction** should be rewarded.

CBSE 2010

Q. “Workers should be encouraged to develop and carry out their plans for development.” Identify the principle of management according to Fayol

(14) **Espirit De Corps**: means unity is strength



- Management should promote a **team spirit of unity and harmony among employees**, according to Fayol.
- Management should promote teamwork especially in **large organisations** because otherwise objectives would be difficult to realise. It will also result in a **loss of coordination**.
- A manager should **replace 'I' with 'We' in all his conversations with workers to foster team spirit**.
- This will give rise to a **spirit of mutual trust and belongingness** among team members.
- It will also minimise the need for **using penalties**.

CBSE 2013

Q. "A manager should replace 'I' with 'We' in all his conversations." Identify the principle of management emphasised.

Espirit de corps

Fayol Versus Taylor— a Comparison

BASIS OF COMPARISON	Henri Fayol	F. W. Taylor

1. Perspective	Top level of management	Shop floor level of a factory
2. Unity of Command	Staunch Proponent	Did not feel that it is important as under functional foremanship a worker received orders from eight specialists.
3. Applicability	Applicable universally	Applicable to specialised situations
4. Basis of formation	Personal experience	Observations and experimentation
5. Focus	Improving overall administration	Increasing Productivity
6. Personality	Practitioner	Scientist
7. Expression	General Theory of Administration	Scientific Management

CBSE 2014 (5 MARKS)

1. Principles of Taylor and Fayol are mutually complementary. One believed that management should

not close its ears to constructive suggestions made by the employees, while the other suggested that a good company should have an employee suggestion system, whereby suggestions which result in substantial or cost reduction should be rewarded. Identify and explain the principles of Taylor and Fayol referred in the above para.

ANS. COOPERATION , NOT INDIVIDUALISM; PRINCIPLE OF INITIATIVE

2. Principles of Taylor and Fayol are mutually complementary. One believed that management should share gains with the workers, while the other suggested that employees compensation should depend on the earning capacity of the company and should give them a reasonable standard of living. Identify and explain the principles of Taylor and Fayol referred in the above para.

ANS. HARMONY, NOT DISCORD ; REMUNERATION OF EMPLOYEES

3. Principles of Taylor and Fayol are mutually complementary. One believed that management should scientifically selected the person and work assigned should suit his / her physical and intellectual capabilities, while the other suggested that the work can be performed more efficiently if divided into specialised tasks. Identify and explain the principles of Taylor and Fayol referred in the above para.

ANS. DEVELOPMENT OF EACH AND EVERY PERSON TO HIS/HER GREATEST EFFICIENCY; DIVISION OF WORK.

CBSE 2015

1. What is meant by Principles of Management? State any three points of their importance. (4 marks)
2. State any four features of Principles of Management. (4 marks)
3. With the help of a diagram, explain Functional Foremanship as a technique of scientific management. (6 marks).
4. Explain the following technique of Scientific Management (6 marks)
 - a. Differential Piece wage system
 - b. Motion Study
5. Explain the following technique of Scientific Management (6 marks)
 - a. Time Study
 - b. Simplification of Work