



Paper 1: Fundamentals of Economics and Management (FEM)

STAFFING FUNCTION OF MANAGEMENT

It may be defined as a process in identifying, assessing, placing, evaluating, and developing individual at work. The management function of staffing involves manning the organisation structure through proper and effective selection, appraisal and development of personnel to fill the roles designed into the structure. It also lowers the process of developing and providing for fair remuneration for them. Moreover, function of staffing is continuous one and is equally important in running business. The process involved in staffing includes the following:

1. **Job analysis:** Determining major characteristics of a job.
2. **Performance appraisal:** Assessing the performance of employees in term of output quality.
3. **Man-power development:** Training employees to improve their knowledge, skill and efficiency.

Directing Functions of Management

It is the managerial function of guiding and leading people. It is not only issuing orders and instruction by a superior to his subordinates, but includes the process of guiding and inspiring them.

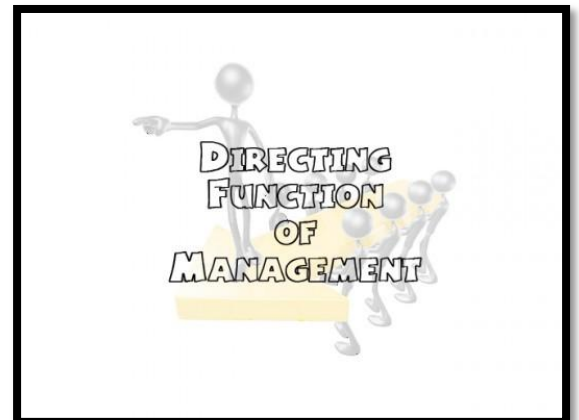
1. Issuing instruction and order to subordinates.
2. Guiding and leading the subordinates.
3. Supervising the subordinates.

From the above it may be said that directing includes the functions of :

1. Communication,
2. Leadership and supervision,
3. Motivation.

Communication: It is dispensable for directing function. It is the process of importing ideas and making oneself understood by other. Characteristics of effective communication are the followings:-

1. There must be at least two persons to make it complete communication.





2. The message communicated must be understood by the receiver in same sense.
3. Communication may be formal or informal. Formal communication is transmission of information or direction in formal organisation structure. The informal pattern of communication is quite often known as 'grapevine'.
4. Communication may be oral, written or gestural.
5. Communication may be downward, upward or horizontal.

Leadership

"It is defined as the ability of a manager to induce subordinates to work with confidence and real." It is the activity of influencing people to strive willingly for group objectives.

In order to successfully lead other people, a person must possess certain qualities. A leader should possess the following qualities:

1. Intelligence and good decision making power.
2. A well-balanced personality.
3. Impartiality.
4. Ability to effectively deal with subordinates.
5. Initiative.
6. Imagination.
7. Honesty.
8. Sincerity.
9. Emotional stability.
10. Power to co-ordinate.
11. Ability to guide and teach.
12. Physical energy and stamina to work.



Autocratic and Democratic leader: Autocratic leaders are dictators who centralise authority and decision making in themselves. They do not follow subordinates to "reason why." Democratic leaders, on the other hand, decentralise authority and welcome to participation of group in decision making.



Autocratic Leader	Democratic Leader
1. Uses criticism.	1. Uses praise.
2. Gives order and directions.	2. Sets objectives.
3. Takes effort for granted.	3. Approves efforts and accomplishment.
4. Emphasis on getting the work completed.	4. Emphasis on challenges.
5. It is enough that you keep your job.	5. Encourage growth.
6. Manner : Formal and Businesslike.	6. Manner : Informal and friendly.

Motivation

Motivation means to provide someone with a motive. In other words, motivation is the act of stimulating someone or oneself to set on a desired course of action. It is "a process of stimulating people to action to accomplish desired goals".

Motivation can be either positive or negative. Positive motivation, sometimes called "carrot approach" offers something valuable to a person — financial or non-financial. Though both positive and negative motivation aim at inducing people to work more and for the better, yet these are certain basic difference between their approach and methodology.



Theories of Motivation

Maslow's Theory of Human Motivation:

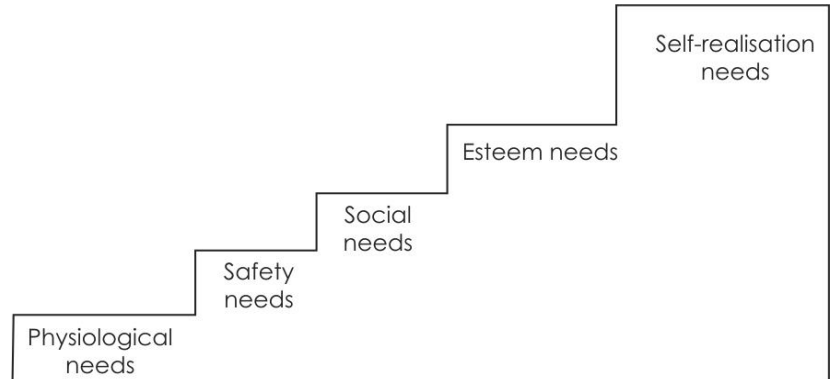
Maslow advanced the following propositions about human behaviour.

1. Humans are wanted beings: As soon as one need is satisfied, another appears in its place. This process is unending.
2. A satisfied need is not a motivator of behaviour
 - only unsatisfied needs motivate behaviour.
3. Human needs are arranged in series of levels
 - a hierarchy of importance. As soon as needs on lower levels are by and large fulfilled, those on the next higher level merge and demand satisfaction.



Maslow classified human needs into five categories in order of priority:

1. Basic physiological needs.
2. Safety or security needs.
3. Social needs.
4. Esteem or ego needs.
5. Self-realisation needs.



McGregor's Theory X and Theory Y: Douglas McGregor, states that management action of motivating human beings in the organisation involves certain assumption and generalisation regarding human behaviour and human nature.

Theory X : This theory is based on following assumptions.

1. The average human being has an inherent dislike of work and will avoid it if he can.
2. Most people must be coerced, controlled, directed or threatened with punishment to get them to put forth adequate efforts towards the achievement of organisation objectives.
3. The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition and wants security above all.

Theory Y : This theory makes following assumptions :

1. The expenditure of physical and mental effort in work is as natural as play or rest. The average human does not inherently dislike work.
2. External control and threat of punishment are not the only means for bringing about effort toward organisation objectives.
3. Commitment to objectives is a function of rewards associated with their achievement.
4. The average human being learns, under proper conditions, not only to accept but to seek responsibility.
5. The capacity to exercise a relatively high degree of imagination, ingenuity and creativity.
6. Under conditions of modern industrial life, the intellectual potentialities of the average human being are only partially utilised.



Comparison of Theory X and Y.

1. Theory X is based on the assumption that average human being has an inherent dislike of work. Theory Y assumes that for human being work is as natural as play or rest.
2. Theory X assumes that people do not have ambitions and avoid responsibilities. Theory Y are just revers of it.
3. Theory X assumes that motivating forces are the lower needs, while Theory Y assumes that higher needs are more important for motivation though unsatisfied lower needs are also important.
4. Theory X assumes that people lack self-motivation and need to be closely supervised to get maximum output.
5. Theory X is negative and pessimistic and Theory Y is positive and optimistic.

Herzberg's Hygiene Theory of Motivation

Herzberg interviews engineers, accountants and managers to determine those things that caused them to be satisfied and dissatisfied. One interesting conclusion of Herzberg's study was that satisfaction and dissatisfaction appear to be somewhat independent. Those factor that cause dissatisfaction are different from those that result in satisfaction. There are five factors that mostly cause dissatisfaction of employees. These include :

1. Company policy.
2. Working conditions.
3. Salary.
4. Relation with one supervisor.
5. Relations with co-workers.

The other set of factors which were needed to satisfy the employee. These satisfiers include :

1. Achievement.
2. Recognition.
3. Advancement.
4. The work itself.
5. Responsibility.

These satisfiers centre around the higher level needs on Maslow's heirachy and self realisation aceeds. These factors are capable of having a positive effect on its satisfaction often resulting in an increase in one's total output.

There is a high correlation between Maslow's and Herzberg's models. The lower level needs of Maslow are the dissatisfies of Herzberg while the higher level needs of Maslow are satisfiers of Herzberg.



Herzberg also developed the technique of jobs enrichment to make jobs more varied, interesting and challenging by giving additional authority, greater opportunity to use talents and more self-control on the job itself.

Yaroom's Valance - Expectancy Theory of Motivation: This theory tries to show how the characteristics of individuals combine to create reasons for the persons to make the necessary effort to complete a sequence of operations.

Motivation (Force) = Valence x Expectancy Valence is the strength of an individual, preference to particular outcome. The valence may be positive or negative. A prospect for promotion is a positive valence while fear of demotion is negative valence.

Based on the expectancy model, Porter and Lowler have given a modified model of motivation in which they have tried to relate the expectation with the actual reward.

McClelland's Need Theory of Motivation

There are three major relevant element that lead on individual to work :

- (a) **Need for achievement** : The desire to excel, achieve in relation to a set of standards, to strive to succeed.
- (b) **Need for affiliation** : They desire friendly and close interpersonal relationships.
- (c) **Need for power** : The desire to make other behave in a way that they would not have behaved otherwise.

According to McClelland, some people have an intense desire to achieve and they would never settle for anything less than the 'best'. High achievers take high risks and do not feel satisfied unless they have put maximum effort in completing the task.

Equity Theory of Motivation: The basis of this theory is the need for fair treatment. Equity theory argues that all of us compare our effort to our reward relative to other persons within our organisation. If the ratio of effort to reward is equal, then we experience a feeling of equity.



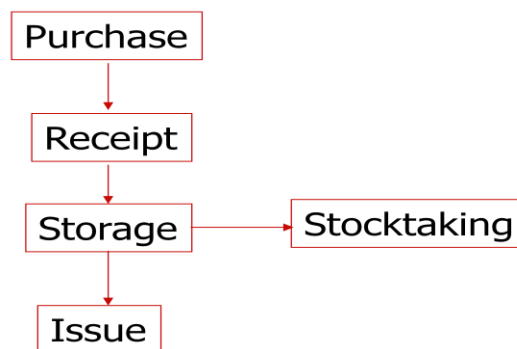
Paper 2: Fundamentals of Accounting (FOA)

MATERIALS

Introduction

- Inventory in a company includes stock of raw materials, work-in-progress, finished & semi-finished products, spare components and by-products, etc
- Inventory control is an important feature of cost accounting system

Material control procedures



- Establishing optimal stock levels is of vital importance of in controlling of stock
- Once the optimal stock levels are established, the store department is responsible for ensuring that optimal stock levels are maintained for each item of materials in stock. Normally, a bin card is used to record the quantity of materials in stock for each item
- When items of materials have reached their re-order point, the storekeeper will make out a purchase requisition requesting the purchasing department to contact with appropriate supplier
- When the purchasing department receives the purchase requisition, the purchasing officer will examine the different sources of supply for the purpose of securing the highest quality materials at the lowest price
- On the receipt of the goods, the stores department will inspect and compare the supply with the purchase order
- When the departmental foreman receives a production order, he will give a materials requisition to the storekeeper. On the receipt of requisition, the storekeeper checks for correctness and authorisation. If satisfactory, the issue will be made and entered the details in bin cards. He then forwards the store requisition to accounts department



- When the accounts department receives the stores requisition, it will price each of the items listed on it by appropriate pricing methods (e.g FIFO etc). Then, the amount of materials issued is charged to appropriate job or overhead account and the stock values are reduced

Pricing of the issues of material

- ❖ Pricing of materials may change from time to time.
- ❖ Materials are usually acquired by several deliveries at different prices
- ❖ Actual costs can then take on several different values
- ❖ Therefore, the materials pricing system adopted should be the simplest and the most effective one

Methods of stock valuation

- ✚ First-in-first-out (FIFO)
- ✚ Last-in-first-out (LIFO)
- ✚ Weight average cost (WAVCO)
- ✚ Specific identification/unit cost method

First-in-first-out

- ✚ This method assumes that the first stock to be received is the first to be sold
- ✚ The cost of materials used is based on the oldest prices
- ✚ The closing stock is valued at the most recent prices

Last-in-first-out (LIFO)

- ✚ This method assumes that the last stock to be received is the first to be sold
- ✚ Therefore, the cost of materials used is based on the most recent prices
- ✚ The closing stock is valued at the oldest prices

Weight average cost (WAVCO)

- ✚ This method assumes that the cost of materials used and closing stock are valued at the weighted average cost

Specific identification/unit cost method

- ✚ This method assumes that each item of the stock has its own identity
- ✚ The costs of materials used and closing stock are determined by associating the units of stock with their specific unit cost



Stock control level

- ◆ The stores should control its stock at an appropriate level so as to minimize the costs related to stock
- ◆ These cost can be classified into three categories:
 - Costs of obtaining stock
 - Carrying cost
 - Stock-out-stock

Cost of obtaining stock/ordering cost

- Purchase costs of goods acquired
- Carriage inwards
- Administrative costs of purchasing and accounts department

Stock-out cost

- Loss of sale revenue due to the stop in production
- Reduction in future sales because of the loss of goodwill
- Higher costs for urgent and small order of materials

Cost of storage (carrying cost)

- Storage and handling cost
- Interest on capital tied up by the stock
- Insurance and security
- Stock loss due to deterioration, obsolescence and pilferage
- Audit, stocktaking and stock recording cost

Economic Order Quantity (EOQ)

- ◆ EOQ is the size of the order which contributes towards maintaining the stocks of material at the optimal level and at a minimum cost

$$EOQ = \sqrt{\frac{2 \times O \times Q}{C}}$$

Where EOQ = Economic Order Quantity

O= order cost per order



Q = Annual quantity required in units

C = Carrying cost per unit per annum

Example

The annual consumption of a part "X" is 5000 units. The procurement cost per order is ₹10 and the cost per unit is ₹0.5. The storage and carrying cost is 10% of the material unit cost.

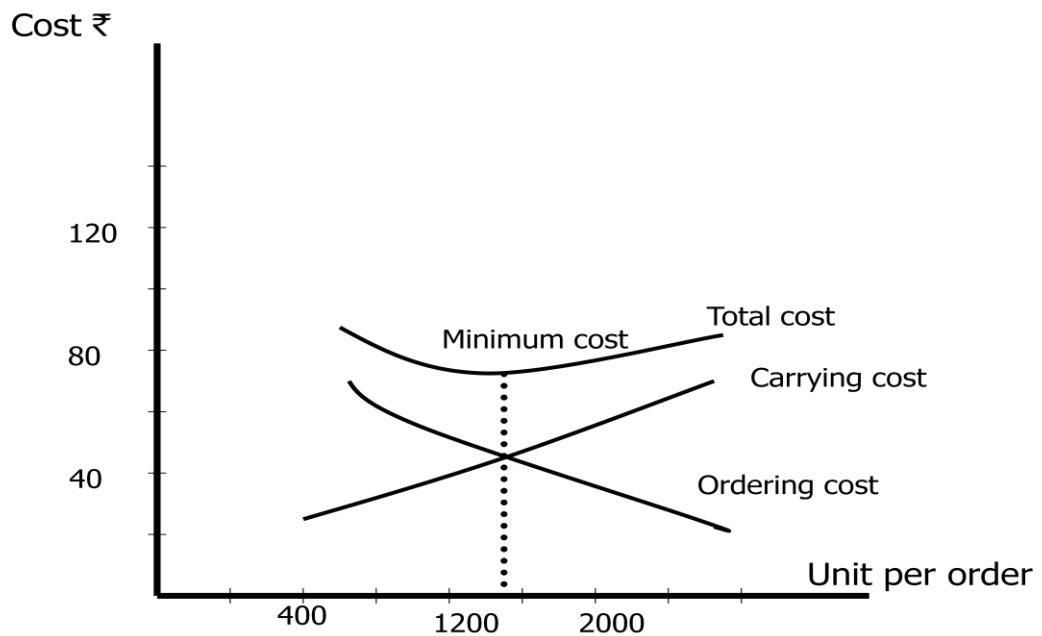
Required:

Calculate the EOQ

Solution:

O= ₹10 Q= 5000, C= ₹0.5×10%

$$EOQ = \sqrt{\frac{2 \times O \times Q}{C}}$$
$$EOQ = \sqrt{\frac{2 \times 10 \times 5000}{0.5 \times 10}}$$
$$= 1414 \text{ units}$$



The graph shows the line representing ordering cost sloping downward, indicating lower cost when a large quantity is purchased and the line representing cost of carrying stock going upward, indicating a higher cost for a large quantity



Level setting

- ❖ It is to determine the correct or most optimal stock level so as to avoid overstocking or under stocking of materials
- ❖ These levels are known as the Maximum, Minimum and Re-order levels

Re-order level

- ◆ The level of stock of material at which a new order for the material should be placed

The formula:

$$\text{Re-order level} = (\text{Maximum usage} \times \text{Maximum lead time})$$

Re-order quantity

- ◆ Reorder quantity is the size of each order

The formula:

$$\text{Reorder quantity} = \text{Maximum stock} - (\text{Reorder level} - \text{Minimum usage in minimum lead time})$$

Maximum level

- ◆ The maximum stock level is highest level of stock planned to be held
- ◆ Any amount above the maximum level will be considered as excessive stock

The formula:

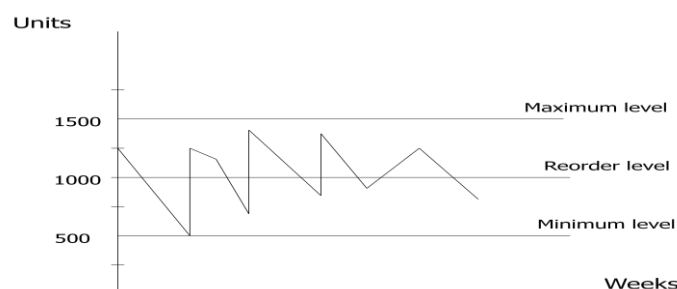
$$\text{Maximum level} = \text{re-order level} + \text{Re-order quantity (EOQ)} - \text{Minimum anticipated usage in Minimum lead}$$

Minimum level/Safety stock

- ◆ The minimum level is that level of stock that provides a safety buffer in the event of increased demand or reduced receipt of stock caused by the lengthening of lead time
- ◆ The stock level should not be allowed to fall below the safety stock

The formula:

$$\text{Minimum level} = \text{Re-order level} - \text{Average usage in average lead time}$$





Example:

Average usage	100 units per week
Minimum usage	70 units per week
Maximum usage	140 units per week
Lead time (the time between ordering and replenishment of goods)	3-5 weeks
Ordering cost per order	₹180
Annual cost of carrying a unit in stock	₹5.2

Calculate:

- (i) Economic Order Quantity (EOQ)
- (ii) Reorder level
- (iii) Reorder quantity
- (iv) Minimum level
- (v) Maximum level

Solution:

✚ **Economic Order Quantity (EOQ)**

$$\text{EOQ} = \sqrt{\frac{2 \times O \times Q}{C}}$$
$$\text{EOQ} = \sqrt{\frac{2 \times 180 \times 5200}{5.20}}$$
$$= 600 \text{ units}$$

✚ **Reorder level**

$$\text{Re-order level} = (\text{Maximum consumption} \times \text{Maximum re-order period})$$
$$= 140 \text{ units} \times 5$$
$$= 700 \text{ units}$$

✚ **Minimum level**

$$\text{Minimum level} = \text{Re-order level} - \text{Average usage in average lead time}$$
$$= 700 \text{ units} - (100 \text{ units} \times 4)$$



= 300 units

‡ **Maximum level**

Maximum level = re-order level + EOQ – Minimum anticipated usage in Minimum lead

= 700 units + 600 units – (70 units × 3)

= 1090 units

‡ **Reorder quantity**

Reorder quantity = Maximum stock – (Reorder level – Minimum usage in minimum lead time)

= 1090 units – (700 units – 70 units × 3)

= 600 units

Paper 3: Fundamentals of Laws and Ethics (FLE)

The Minimum Wages Act, 1948

Introduction

In this unit we are going to discuss on "Minimum wages Act 1948". According to the Act, the Act enables the Central and State Government to fix minimum rates of wages payable to employees in a selected number of 'sweated' industries. There are certain provisions under the Act. You will get a fair idea on the important provisions of the Act while going through this unit.

Object and Scope

The main objective of this Act, is fixing a minimum rate of wages in number of industries where the labours are not organized and sweated labours are most dominant. The Act aims at preventing the exploitation of workers or labours in some industries, for which, the appropriate Government is empowered to take steps to prescribe minimum rates of wages in certain employment.

The Minimum Wages Fixing Machinery convention was held at Geneva in the year 1928 by ILO with reference to remuneration of workers in those industries where the, level of wages was substantially low and the labour was vulnerable to exploitation, being not well organised and having less effective bargaining power.

This Act may be called the Minimum Wages Act 1948. The Act enables the Central and State Government to fix minimum rates of wages payable to employees in selected number of 'sweated' industries. The Act extends to the whole of India.



Definitions

Following are some of the definitions and sections under the Act:

1. Adolescent [2. (a)]: "adolescent" means a person who has completed his fourteenth year of age but has not completed his eighteenth year.
2. Adult [2. (aa)]: "adult" means a person who has completed his eighteenth year of age.
3. Appropriate government [2. (b)]: "appropriate government" means:
 - (i) in relation to any scheduled employment carried on by or under the authority of the Central Government or a railway administration] or in relation to a mine oil field or major port or any corporation established by a Central Act the Central Government and
 - (ii) in relation to any other scheduled employment the State Government;
4. Child [2. (bb)]: "child" means a person who has not completed his fourteenth year of age.
5. Competent authority [2. (c)]: "competent authority" means the authority appointed by the appropriate government by notification in its Official Gazette to ascertain from time to time the cost of living index number applicable to the employees employed in the scheduled employments specified in such notification.
6. Cost of living index number [2. (d)]: "cost of living index number" in relation to employees in any scheduled employment in respect of which minimum rates of wages have been fixed means the index number ascertained and declared by the competent authority by notification in the Official Gazette to be the cost of living index number applicable to employee in such employment.
7. Employer [2. (e)]: "employer" means any person who employs whether directly or through another person or whether on behalf of himself or any other person one or more employees in any scheduled employment in respect of which minimum rates of wages have been fixed under this Act and includes except in sub-section (3) of section 26:
 - i. in a factory where there is carried on any scheduled employment in respect of which minimum rates of wages have been fixed under this Act any person named under clause (f) of sub-section (1) of section 7 of the Factories Act 1948 (63 of 1948) as manager of the factory;
 - ii. in any scheduled employment under the control of any government in India in respect of which minimum rates of wages have been fixed under this Act the person or authority appointed by such government for the supervision and control of employees or where no person or authority is so appointed the head of the department;
 - iii. in any scheduled employment under any local authority in respect of which minimum rates of wages have been fixed under this Act the persons appointed by such authority for the supervision and control of employees or where no person is so appointed the chief executive officer of the local authority;
 - iv. in any other case where there is carried on any scheduled employment in respect of which minimum rates of wages have been fixed under this Act any person responsible to the owner for the supervision and control of the employees or for the payment of wages;
8. Prescribed [Sec.2 (f)]: "prescribed" means prescribed by rules made under this Act.



9. Schedule employment [Sec.2 (f)]: "schedule employment" means an employment specified in the Schedule or any process or branch of work forming part of such employment

10. Wages [Sec.2(h)] : "wages" means all remuneration capable of being expressed in terms of money which would if the terms of money which would be payable to a person employed in respect of his employment or of work done in such employment and includes house rent allowance but does not include:

i. the value of:

a) any house accommodation supply of light water medical attendance or

b) any other amenity or any service excluded by general or special order of the appropriate government;

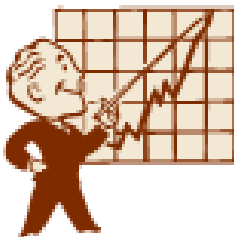
ii. any contribution paid by the employer to any person fund or provident fund or under any scheme of social insurance;

iii. any traveling allowance or the value of any traveling concession;

iv. any sum paid to the person employed to defray special expenses entailed on him by the nature of his employment; or

v. any gratuity payable on discharge;

11. Employee [Sec.2 (i)]: "employee" means any person who is employed for hire or reward to do any work skilled or unskilled manual or clerical in a scheduled employment in respect of which minimum rates of wages have been fixed; and includes an out-worker to whom any articles or materials are given out by another person to be made up cleaned washed altered ornamented finished repaired adapted or otherwise processed for sale for the purposes of the trade or business of that other person where the process is to be carried out either in the home of the out-worker or in some other premises not being premises under the control and management of that other person; and also includes an employee declared to be an employee by the appropriate government; but does not include any member of the Armed Forces of the Union.



Check Your Progress

Q1. Fill in the blanks with appropriate words:

a. The Minimum Wages Fixing Machinery convention was held at _____ in the year _____ by ILO.

b. "Adolescent" means a person who has completed his _____ of age but has not completed his eighteenth year.

c. "Child" means a person who has not completed his _____ year of age.

d. " _____ " means prescribed by rules made under this Act.

e. "Wages" means all remuneration capable of being expressed in terms of _____ .



Fixation and Revision of Wages (Sec 3 to Sec 5)

The fixation and revision of wages falls under the Sec 3, Sec 4 and sec 5. Sec 3 deals with, the appropriate government fix the minimum wages that is payable to the employees in any scheduled employment. The sec 4 describes on the contents of minimum wages. Sec 5 lays down the procedure for fixing and revising the minimum rates of wages.

Minimum Number of Employees: The appropriate government can forbear from fixing minimum rate of wages of any scheduled employment in which there are less than 1,000 employees in the organization. But if the appropriate government find after an inquiry that there are more than 1,000 employees in any scheduled employment, it shall fix the minimum rate of wages payable as soon as after the finding.

1. **Fixing of minimum rates of wages (Sec. 3): Under sec 3, the appropriate Government fix the minimum rate of wages.**

The appropriate government-

- a) shall fix the minimum rate of wages payable to the employees employed in the employment specified in Part I or part II of the schedule(the schedule is reproduced at the end of the unit) and in an employment to either by notification in official Gazette.
- b) the employees employed in the employment specified in Part II of the schedule (the schedule is reproduced at the end of the unit), fix the minimum rate of wage for apart of the state or for any specified class, instead of fixing the minimum rate of wages for the whole state.
- c) shall review the minimum rate of wages so fixed and revise the same , at such intervals not exceeding 5 years.

Minimum rates: The Appropriate Government may fix:

- a) minimum rate of wages for time work (hereinafter referred to as "a minimum time rate");
- b) minimum rate of wages for piece work (hereinafter referred to as "a minimum piece rate");
- c) a minimum rate of remuneration to apply in the case of employees employed on piece work for the purpose of securing to such employees a minimum rate of wages on a time work basis (hereinafter referred to as "a guaranteed time rate");
- d) a minimum rate (whether time rate or piece rate) to apply in substitution for the minimum rate which would otherwise be applicable in respect of overtime work done by employees (hereinafter referred to as "over time rate").

Different minimum rates: The different minimum rates of wages may be fixed for-

- a) different scheduled employments;
- b) different classes of work in the scheduled employment;
- c) adults, adolescents, children and apprentice;



2. **Minimum Rate of Wages (Sec 4): The appropriate governments fix or revise minimum rate of wages may consists of-**
 - a) a basic rate of wages and special allowance
 - b) a basic rate of wages with or with the cost of living allowance
 - c) an all inclusive rate allowing for the basic rate, the cost of living allowance and the cash value of the concessions
3. **Procedure for fixing and revising minimum wages (Sec 5): There are two separate modes of procedure for fixing and revising minimum wages under sec 5.the main object of both the procedures is to enable the government to reach a balanced conclusion with regard to fixation of a minimum wage. The two modes are as follows:**
 - a) Mode one: Appointment of Committee: The appropriate government should appoint as many committees or sub-committees as to hold necessary inquires for fixation of minimum rates of wages.
 - b) Mode two: Publication of proposals in the official gazette: The appropriate government shall by notification in the official Gazette, publish its proposals for the information of the person who is likely to be affected by the fixation of minimum rates of wages.

Safeguards Payment of Minimum Wages (Sec 11 to 18)

The safeguards payments of minimum wages falls under the sec 11 to sec 18.the section are as follows:

1. Wages in kind (sec 11): The minimum wages under the Act shall be paid in cash. But where it has been custom to pay wages wholly or partly in kind, the appropriate Government may, by notification in the official Gazette, authorize the payment of minimum wages either partly or wholly in kind. The cash value of wages in kind and of concessions in respect of supplies of any essential commodities at concessional rates shall be estimated in the prescribed manner.
2. Payment of minimum rate of wages (Sec 12): In respect of any scheduled employment where minimum wages have been fixed, the employer shall pay each and every employee wages at a rate not less than the minimum rate of wages fixed for that class of employees. The wages shall be paid without any deductions except as prescribed.

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minimum rate of wages fixed for that class of employees. The wages shall be paid without any deductions except as prescribed.

3. Fixing hours for a normal working day, etc (Sec 13): In respect of any scheduled employment where minimum wages have been fixed, the appropriate government may:
 - a) fix the numbers of hour of work which is the normal working day inclusive of one or more intervals;
 - b) provide a day of rest in every period of 7 days and for payment of remuneration in respect of such day of rest;
 - c) provide for payment for work on a day of rest at a rate not less than the overtime rate.
4. Rates of overtime (sec 14): Where employee, whose minimum rate of wages is fixed under this Act, by the hour, by the day or by any longer wage-period as prescribed, works overtime, the employer shall pay him for every hour or for part of an hour so worked in excess, wages at the rates fixed for overtime work under the Act or under any law of the appropriate Government in force, whichever is higher.

Let us know

The provisions of the minimum Wages Act, 1948 shall not prejudice the operation of the provision of sec .59 of the Factories Act, 1948 in any case where those provisions are applicable Sec .59 of the Factories Act, 1948 provides that where a worker works in factory for more than 9 hours in any day or for more than 48 hours in any week, he shall, in respect of overtime work, be entitled to wages at the rate of twice his ordinary rate of wages.

5. Wages of worker who works for less than the normal working day (Sec 15): Sometime it may happen that any employee whose minimum rate of wages has been fixed by the day may work on any day on which he has employed the period less than the required number of hours constituting a normal working day. In that case he is entitled to receive wages for the work done by him on that day if he had worked on a full normal working day except:
 - (i) if his failure of work is caused by his unwillingness to work and not by omission of the employer to provide him with work;
 - (ii) in such other cases and circumstances as may be prescribed.
6. Wages for 2 or more classes of work (Sec. 16): Where an employee does 2 or more classes of work to each of which a different minimum rate of wages is applicable, the employer shall pay to such employee in respect of the time respectively occupied in each such class of work, wages at not less than the minimum rate in force in respect of each such class.
7. Minimum time rate wages for piece work (Sec. 17): Where an employee is employed on piece work for which minimum time rate and not a minimum piece rate has been fixed under the Act, the employer shall pay such employee wages at not less than the minimum time rate.
8. Maintenance of registers and records (Sec 18): In an organization who falls under this Act shall maintain registers and records giving the detail information of the employees, the work performed by them, the wages paid to them and such other particulars and in such form as may be prescribed.



Enforcement of the Act (Sec 19 to Sec 20)

The Appropriate Government can appoint by notification in the Official Gazette an inspector (section 19). The inspector can within his local limit

- a) enter at all reasonable hours, with such assistant (if any) or any local or other public authority ,as think fit any premises or place of premises where employees are employed or for the purpose of examining any register, record of wages or notices required to be kept;
- b) examine any person he find in such premises or depending on any reasonable causes believe is an employee or an employee who given out his work from therein;
- c) require any person giving out work or any out-workers to give any information, which in his power to give with respect to the names and addresses of the persons from or to whom the work is given out or received and with respect to the payment to be made for the work.
- d) seize or takes copies of the register, record of wages or notices in respect of any offence under the Act.
- e) exercise such other powers as may be prescribed.

Within the meaning of section 175 and 176 under Indian Penal Code, any document or information given by the inspector shall be deemed to be legally bound. The inspector shall be deemed to be a public servant within the meaning of Indian Penal Code.

The employee can claims for minimum wages (under section 20):

1. The Appropriate Government may by notification in the Official Gazette, appoint –
 - a. any Commissioner for Workmen's Compensation, or
 - b. any officer of the Central Government exercising functions as a Labour Commissioner for any region,
 - c. any officer of the State Government not below the rank of the Labour Commissioner or, any other officer.

Such person should have an experience as a judge of a Civil Court or as a stipendiary Magistrate to hear or decide any claims arising out of the payment of less than the minimum rates of wages.

2. Again for any claims of the employees under section 3, the employees himself or any legal practitioner or any official of a registered trade union or inspector can apply to such Authority and the application shall present to them within six month from the date on which the minimum wages became payable.
3. After the necessary enquiry, the Authority shall hear the applicant and the employer and give them opportunity of being heard. If the wages is paid of less than the minimum rates of wages, than the Authority may asked to the employer to pay exceed the actual amount which has to pay in addition with compensation not exceeding ten times the amount of such excess for such act.

In any other case, if the payment become due than the employee will get together with the payment of such compensation as the Authority may think fit not exceeding ten rupees.



4. If under this section the Authority hearing any claim and found that it was either malicious or vexatious, it may direct penalty not exceeding fifty rupees to the employer by the person presenting the application.
5. Under this section if any amount is directed to be paid than as if it were a fine imposed by the Authority as a Magistrate or if he is not Magistrate than to such person whom the Authority makes application in this behalf as if were a fine imposed by such Magistrate.
6. Every direction is final under this section.
7. Every Authority appointed shall have all powers of a Civil Court under the Code of Civil Procedure, 1908.

Lets us Sum up

The main objective of the Minimum Wages Act 1948, is fixing a minimum rate of wages in number of industries where the labours are not organized and sweated labours are most dominant. The appropriate government after an inquiry if find that there are more than 1,000 employees are working under any scheduled employment, it shall fix the minimum rate of wages payable as soon as after such finding. The fixation and revision of wages falls under the Sec 3, Sec 4 and sec 5.

The appropriate governments fix or revise minimum rate of wages which may consists of –

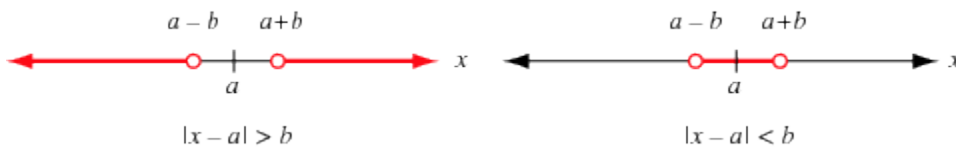
- (i) basic rate of wages and special allowance;
- (ii) basic rate of wages with or with the cost of living allowance;
- (iii) an all inclusive rate allowing for the basic rate, the cost of living allowance and the cash value of the concessions.



Paper 4: Fundamentals of Business Mathematics and Statistics (FBMS)

INEQUATION

A mathematical statement that one quantity is greater than or less than another. "a is less than b" is denoted $a < b$, and "a is greater than b" is denoted $a > b$. "a is less than or equal to b" is denoted $a \leq b$, and "a is greater than or equal to b" is denoted $a \geq b$. The symbols $a \ll b$ and $a \gg b$ are used to denote "a is much less than b" and "a is much greater than b," respectively.



Solutions to the inequality $|x - a| < b$ consist of the set $\{x : -b < x - a < b\}$, or equivalently $\{x : a - b < x < a + b\}$.

Solutions to the inequality $|x - a| > b$ consist of the set $\{x : x - a > b\} \cup \{x : x - a < -b\}$, or equivalently $\{x : x > a + b\} \cup \{x : x < a - b\}$. If a and b are both positive or both negative and $a < b$, then $\frac{1}{a} > \frac{1}{b}$.

Inequations can be solved just like equations, except you need to learn one new important rule:

✦ If you multiply both sides of an inequation by '-1', you need to swap the direction of the *inequality* symbol.

Swapping the direction of the inequality symbol means you change a "larger than" symbol to a "smaller than symbol" and vice versa.

>	becomes	<
<	becomes	>
≤	becomes	≥
≥	becomes	≤

When you solve inequations, the answer you get isn't an exact number. Instead your answer is usually something like, "x is smaller than 5," or, "y is larger than or equal to - 5."



Inequation question

Solve the following inequation for x:

$$-3x + 5 \geq 14$$

Solution

So in our final answer we basically want x all by itself on one side of the inequation. To get to that stage we'll need a few steps. At the moment, the x is on the left hand side of the equation. There's also a 5 on that side – let's get rid of the 5 by subtracting it from both sides:

$$\begin{aligned} -3x + 5 - 5 &\geq 14 - 5 \\ -3x &\geq 9 \end{aligned}$$

Now it's a bit better, but we've still got problems. There's a negative sign in front of the term with the x in it. Let's deal with the negative sign. You can change the sign of a term by multiplying it by '-1'. Let's do that to both sides of the equation:

$$\begin{aligned} -3x \times -1 &\geq 9 \times -1 \\ 3x &\geq -9 \text{ WRONG!!!} \end{aligned}$$

Uh-oh. What have I forgotten to do? Well, we've just multiplied both sides of the equation by '-1' – we need to swap the inequality symbol around. So we need to change it from a "larger than or equal to" symbol to a "smaller than or equal to" symbol:

$$3x \leq -9$$

OK, that's better. Now it's almost in the right format, we just would like to have the x completely by itself. At the moment it's got a 3 in front of it. We can get rid of the 3 by dividing both sides by 3:

$$\begin{aligned} 3x &\leq -9 \\ \frac{3x}{3} &\leq \frac{-9}{3} \\ x &\leq -3 \end{aligned}$$



Handy Hint #1 - Choosing how to solve questions

It may seem obvious to you, but a lot of students forget to think about what they've learnt in the weeks or months before an exam. Chances are that most of the questions in an exam are going to require you to use some of the stuff you've recently learnt to solve them.

Say that it's been six weeks since your last exam, and for those last six weeks all you've done is study algebra, algebra and more algebra. You're now sitting in a new exam and starting to read the first question. It's pretty likely that to solve a lot of the questions in this exam, you'll need to use some of that algebra. So remember that when you're reading the questions.

Sometimes you'll come across a question which you think you can solve without using stuff you've recently learnt. This is fine – often there are many different ways to solve a problem. However, your teacher probably wants you to demonstrate that you can use the material you've learnt recently. So, *if you can*, try and solve the problems using stuff you've just learnt. If you can't do this, then any other way of solving the problem will do just fine.

Using set notation to solve inequations

We've already learnt how to solve inequations, such as the following one:

$$2x + 3 \leq 7$$

It's the same process as we use for normal equations, except we have to remember that when we multiply or divide both sides by '-1', we need to swap the direction of the *inequality* symbol.

Now, there is a more formal mathematical way of writing down an inequality question, using *sets*. For instance, the last question would be written something like this:

$$\text{Find } \{x : 2x + 3 \leq 7\}$$

You can read this as "Find the set of x , given that two x plus three is smaller than or equal to seven." So we could solve this as we normally do:

$$2x + 3 \leq 7$$

$$2x + 3 - 3 \leq 7 - 3$$

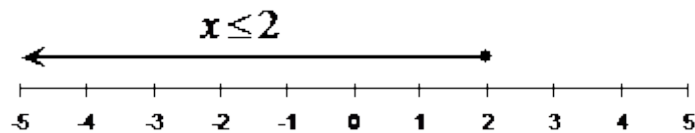
$$2x \leq 4$$

$$x \leq 2$$

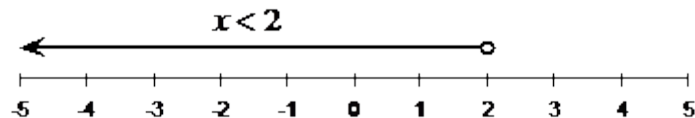


Expressing solutions to inequations on a number line

There is a graphical way of representing the answer to an inequation on the number line. By drawing an *arrow* along the number line, you can indicate the range of values that the variable can have. For instance, we would draw an arrow starting at 2, pointing in the negative direction:



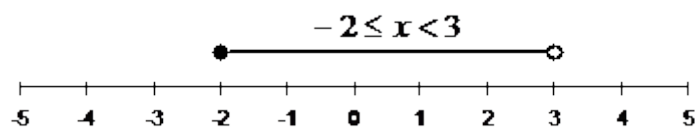
Notice how I've used a small, solid black circle at the start of the arrow, above the '2' on the number line. This tells the reader that the solution *includes* the number '2'. If the solution had been $x < 2$, then you'd draw the same arrow, starting at '2', but you'd use a *hollow* circle to indicate that the set of x does not actually include '2' itself:



The arrow also tells the reader that the set of x includes *all* the values in the direction the arrow points – so in this case *all* the negative values. We can also have a solution where the set of x is a fixed range, like this:

$$-2 \leq x < 3$$

The number line representation for this solution won't have any arrows in it, but will look like this:



Notice how the line is a *finite length* – it doesn't have an arrow on either end pointing forever in either direction. Instead, we have a solid circle above the '-2' on the number line, telling us that the set of ' x ' does include '-2'. The line runs towards the positive numbers, ending at above '3' on the number line. The circle above '3' is a hollow circle, telling us that the set of ' x ' *does not include* '3' itself, but the values leading up to it.