

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY , KATTANKULATHUR

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

18MEO111T INDUSTRIAL ENGINEERING

VI SEM

Unit -V

## WAGES AND SALARIES DEFINED

**Wages** – paid to **blue-collar employees**; paid daily, weekly or monthly; paid to jobs which can be measured in terms of money's worth.

**Salary** – paid to **white-collar employees**; paid in monthly basis; paid to employees whose contribution cannot be measured easily.

**Compensation** – a comparative term; includes wages and all other allowances and benefits. (e.g. allowances, leave facilities, housing, travel, and non-cost such as recognition, privileges, and symbols of status)

Wage and Salary administration is a group of activities involved in the development, implementation, and maintenance of a pay system.

This is ongoing process of managing a wage and salary structure

# **WHY DO WE NEED TO STUDY WAGE AND SALARY ADMINISTRATION?**

- To have a scientific, rational, and balanced wage and salary structure.
- In a salary administration, the employer should not feel that the employees are paid more than they deserve and the employees should not feel that they are underpaid.

One of the most important functions of Human Resources is the payment of the proper salaries and the wages to all company employees. The pay that the employees receive from their employer is the very reason for their being in the job.

The function of the payroll in a company is usually the wage and salary administration and it is carried out by the Human Resources Department.

# THEORIES OF WAGES

**1. Classical Wage Theory :** This theory is based upon the fundamental concept that labor is a commodity, and we have to pay the price according to supply and demand.

**2. The Just Wage Theory of St. Thomas Aquinas :** A just wage is described as wage which permits the recipient worker to live in a manner in keeping with his position in the society.

**3. The Wage Fund Theory :** This theory is expounded by John Stuart Mill and his followers based on the Malthusian theory of population and the law of diminishing returns.

**4. Bargaining Theory of John Davidson :** This theory proposes that the labor is a commodity like anything that could be bought at a price by the user

**5. The Marginal Productivity Theory :** This theory offers the best explanation of wages in modern industry.

**6. The purchasing Power Theory :** This theory tries to establish the relationship between wages and the level of economic activity.

**7. Labor Theory of Value :** It emphasizes that labor is the source of all the products and that without this important component, there could be no goods for human consumption.

**8. The Standard of Living Theory of Wages “**A recent development in the labor market is the theory of living wages that means that wages should be based on the cost of living.

**9.Karl Marx:** Marx mentions that beyond the supply and demand fluctuations in the price of labor produced by competition on both sides of the boundary (e.g. competition between employers for workers and competition between potential workers for jobs), on average the price of labor will be equal to the “cost of production” of **labor power**. The cost of production of labor power is the “cost required for maintaining the worker as a worker and of developing him into a worker”.

### **WAGE AND SALARY SURVEYS:**

- Once the worth of a job has been established, using one of the job ratings systems, the actual salary to be paid for each job must be determined.
- A major factor in making the determination is the wage survey.

Since salaries paid by other companies have an effect on employment, morale and turnover rate, close attention is paid to the salary that is prevailing in the community and industry for specific jobs.

A survey of employers in the same industry and the same area showing the wages and salaries they pay to their employees.

Wage and salary surveys are useful because they show the prevailing compensation in a given city or other place, which may result in employers making upward or downward adjustments.

The actual salary to be paid for each job must be determined.

Wage survey is a major factor.

Informal surveys may be conducted through telephones or informal interviews.

# **PROCEDURE IN CONDUCTING WAGE AND SALARY SURVEYS**

1. Defining the Labor Market
2. List of key Job Position
3. Detailed Description of Jobs
4. Collection of Salary Data
5. Compilation of Salary Data
6. Results of Survey

## **CONSIDERATIONS IN MAKING DECISIONS**

Whether the salaries will be above, below, or the same level.

- Whether pay in a single rate for each job.
- How many pay grades or salary ranges to use, and how wide each pay grade should be.
- The range of the amount in terms of money value



## **DATA TREND GRAPH**

- One tool that is often used to simplify the process in decision making is the use of two-dimensional graphs.
- Horizontal line, where the points for key jobs are plotted.
- Vertical line, where the range of pay is plotted.

## **TECHNIQUES IN INDICATING THE TREND OF THE DATA PLOTTED.**

1. Eye Inspection- This technique is the least scientific and reliable as this does not require scientific computations. It is more of a judgmental analysis.
2. The Least Squares- This uses the statistical formula. It presents more accurately the relationships between the money value and the key jobs.
3. The Second Degree Curve- The trend Line will normally take the form of a curve, and may more accurately indicate the trend of the data.

# **Wage and Salary Structure**

The hierarchy of jobs to where the pay rates are attached.

The Advantages:

1. Affects the workers' standard of living.
2. Eases the recruitment and maintenance of an effective labor force.
3. Develops employee morale and increases work efficiency.
4. Represents cost and competitive advantage in the industry
5. Helps in preparing budgetary allocations.
6. Eliminates pay distortions and inequities in employee compensation.
7. Establishes an equitable salary range for various jobs.

## **WAGE STRUCTURE DESIGN**

- The design of the wage and salary structure is the establishment of job classes and rate ranges. All jobs within a class are treated in the same way for purposes of economical administration.

## **GREEN CIRCLE RATE**

- When employees' salaries fall below the minimum of the pay grade for the job. • The decision to bring salaries to the minimum of the grade should be based on the employees' performance.

## **RED CIRCLE RATE**

- Situation whereby the employee with high seniority is either so competent or has received so many increases that his salary is above the maximum of the pay grade.

## **METHODS OF WAGE PAYMENT**

- What is Wage Payment?
- It is the way of giving financial compensation to the workers for the time and effort invested by them in converting materials into finished products.
- The main purpose of a formal wage and salary management plan is to have a systematic method of payment to ensure that employees receive a fair wage and salary for the work they perform.

## **TWO METHODS OF PAYING SALARIES**

- By the time worked
- By the Amount of Work Produced

## FIRST METHOD OF PAYING SALARIES

By the time worked- wages are computed in terms of unit of time.

- Day-Work methods of pay - include weekly, biweekly, or on a monthly basis. - It is common to pay workers by the day and the term day work was adopted.
- Non-incentive Wage Plan – paying by the time worked.
- No matter how hard an employee works during an hour, the pay will be computed by the hourly rate and no more.
- Wages under this plan are computed by multiplying the number of hours worked by the rate hour:
- $H \times R = W$
- H- Hours actually worked
- R- Rate per hour in pesos
- W- Total Wages earned

# Methods of wage payment

# Methods of wage payment

There are two basic systems of wage payment:

- Time rate system and
- Piece rate system.

Both the systems have their merits and demerits. No system can be considered suitable for all times and under all circumstances.

- A worker is paid Rs.15 per hour and he spent 400 hours during a particular month in a factory. What is his total earnings of that particular month?
- Beta Ltd. Considers the following wage payment system:
- Normal working week - 5 days of 8 hours each plus 3 late shifts of 3 hours each  
Rate of Payment - Day work: Rs.180 per hour Late shift Rs.220 per hour  
Avg. output for 49 hours week i.e., including 3 late shifts is 120 articles.  
Compute weekly earnings and labour cost per article



# Straight Piece rate

- Under straight piece rate system workers are paid according to the number of units produced at a fixed rate per unit.
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- $\text{Earnings} = \text{No. of units produced} \times \text{piece rate per unit}$

# Differential Piece Rate

- This is an improvement over straight piece rate to increase the performance of both efficient and inefficient workers. Two or more rates are offered to workers. Higher performance is paid at a higher rate and lower performance is paid at lower piece rate. In other words the increase in wages is in proportion to increase in production.

# Illustration- For example

- if standard output per hour is 10 units and high piece rate is Re. 1.20 per unit and low piece rate Re. 0.80 per unit, workers producing 10 units or more per hour are paid at Rs. 1.20 per unit and those who produce less than 10 units per hour are paid at Re. 0.80 per unit.

- **Piece rate** system
- In this method, wages are paid to the employees after completion of work. Under it, a worker is paid on the **basis of output**. Not the time by him to perform the work. This is one of the simplest and most commonly used systems of wages payment. In this system, the wage rate is expressed in terms of per unit of output, per job or per work-order. This amount of wages payable to a workman under this method is to be calculated as follows:
- Total wages = total output x wages rate per unit of output = output units x unit rate = actual yield x unit or piece rate.

This system is suitable in the following cases:

- Where a work is of a repetitive nature.
- Where the measurement of work is simple.
- Where the quality and accuracy of output is not very important.
- Where strict supervision is not possible.

- Incentive wages payment plan
- To remove the defects of both time rate and piece rate systems of wages payment, incentive plans have been developed. Under these plans, the advantages of time and piece-wages system are combined, and incentives are provided to workers to work hard. The characteristics of these plans are as follows: i
- .Incentives by way of bonus and other are given to efficient workers for times saved. ii. A standard time is fixed and the worker is to perform the given work within the standard time. The standard time is set after making time studies for the performance of specific job.

## Variations of Piece Wages:

There are four variations of piece wages.(I) Straight Piece Rate.(II) Differential Piece Rate.

- (1) Taylor's differential piece rate system.
- (2) Merrick's multiple piece rate system.
- (3) Gantt's task and bonus plan.

# Job evaluation

- A job evaluation is the process of establishing how much compensation to allocate to a job. This process involves using internal and external data to determine what a given position's salary range should be, what related positions should pay, and what benefits are appropriate for a given job.
- **The characteristics of job evaluation are as:**
  - It is a method with a systematic approach.
  - It is an analysis of the work involved in its starting point.
  - It is an attempt to determine the requirements of the work involved for any incumbent.
  - It is a process by which jobs in an organisation are appraised.

# Job evaluation methods

- Ranking Method. This job evaluation method works by ranking jobs according to their perceived value compared to other jobs
- Grading/Classification Method
- Point-Factor Method
- Factor Comparison Method
- Competitive Market Analysis Method.



# Rating of employee

- Rating employee performance allows managers to inform team members of how well they're performing and areas they can improve on. Supervision shows that you're serious about performance and leaves less margin for slacking or coasting.
- The 1 to 10 scale for performance rating is the most commonly used scale for determining how employees performed within a given period of time. There are five performance ratings on this type of scale:
  - Outstanding,
  - Exceeds expectations,
  - Meets expectations,
  - Needs improvement, and
  - Unsatisfactory.

# Incentive scheme

- An incentive scheme is a program that managers or other company leaders can use to motivate and retain team members. Incentive schemes can take a variety of forms, including:
  - Prizes or rewards
  - Special privileges
  - Public recognition
  - Increased perks or benefits
- Incentive schemes can help team members develop loyalty to the organization and maximize their desire to produce excellent work. Some incentive schemes are short term and project-based, like motivating team members to reach a certain quota during a set time period, while others are continuous and long-term, like a monthly reward for meeting a specific metric.

# Incentive schemes...

- **1. Extended privileges .... Baby care, personal rooms, ...**
- **2. appreciate Perfect attendance**
- **3. Unlimited PTO...paid time off**
- **4. Holiday breaks**
- **5. Commuting benefits to office if crowded city**
- **6. Wellness offerings**
- **7. Professional and personal development**
- **8. Laundry services**

**9. Flexible scheduling**

**10. Remote work**

**11. Tuition reimbursement**

**12. Health perks**

**13. Retreats**

**14. Employee ownership**

**16. Volunteer hours**

**17. Team-building activities**

# Environmental pollution and control

- Environmental pollution control and industrial pollution control are today in the middle of vast scientific introspection.
- Sustainable development and human society interconnected. Social and economic sustainability are equally important as energy and environmental sustainability.
- Integrated water resource management and wastewater management are necessary.
- Humanity is facing immense challenges and tremendous difficulties with regards to water remediation and environmental protection.

- Scientists, engineers, and civil society are gearing forward for the implementation of 17 United Nations Sustainable Development Goals.
- The global environmental situation is absolutely grave and is of immense concern to citizens around the world.
- The applications of United Nations Sustainable Development Goals are of utmost importance for developing, developed and disadvantaged countries around the world.
- Thus, conventional and nonconventional environmental engineering techniques along with novel separation processes are changing the face of science and engineering in the global scenario

- **National Standard “Limit of Harmful Substances of Indoor Decorating and Refurbishing Materials”**
- amounts and sources of various air pollutants in the pulp and paper industry, especially from kraft pulping.
- MDSs offer numerous opportunities for achieving multiple benefits in wastewater treatment, desalination, biofuel production, environmental pollution control, heavy metal removal, and recovery along with energy production. The performance of MDCs has been significantly improved in recent years with scale-up demonstrations reaching up to 105 L capacity reactors.

- Comprehensive planning takes into account the underlying geology of the area, the impact of proposed development on ground water, rivers, lakes, wetlands, and coastal waters,
- The impact of manufacturing and transportation activities on air quality,
- The effects of urbanization on the natural biota, the impacts of suburban development on the supply of prime agricultural land, and
- The effects of solid and liquid waste disposal on the natural environment.



- **ISO 14001** provides requirements with guidance for use that relate to environmental systems. Other standards in the family focus on specific approaches such as audits, communications, labelling and life cycle analysis, as well as environmental challenges such as climate change.
- ISO 45001 (OHSAS 18001 – occupational health and safety assessment specification) is very similar to ISO 14001, but instead of managing environmental issues, **45001 focuses on managing Occupational Health and Safety concerns**. These include Job Hazards, OSHA regulatory requirements and potential emergencies.

# OHSAS

OHSAS 18001 focuses on **controlling hazards**. It provides a framework for the effective management of occupational health and safety including all aspects of risk management and legal compliance. It addresses occupational health and safety rather than any specific product safety matters.