

# FUNDAMENTALS OF MANAGEMENT FOR ENGINEERS

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# INTRODUCTION TO MANAGEMENT

UNIT-1

# NATURE, SCOPE, FUNCTIONS



1. Management is a continuous and dynamic process of planning, organizing, leading, and controlling resources.
2. Its nature is goal-oriented, universal, and applicable in all types of organizations.
3. It is both an art (skills in handling people) and a science (systematic knowledge and principles).
4. The scope of management is broad, covering areas like production, finance, marketing, and human resources.
5. It operates at all levels—top, middle, and lower—ensuring coordination and efficiency.
6. The main functions include planning (setting goals), organizing (arranging resources), staffing, directing, and controlling.
7. Overall, management ensures optimal use of resources to achieve organizational objectives effectively and efficiently.

# MANAGERIAL ROLLS

1. Managerial roles are the specific behaviors and duties performed by managers in an organization.
2. According to Henry Mintzberg, these roles are grouped into three categories.
3. Interpersonal roles include figurehead, leader, and liaison, focusing on people and relationships.
4. Informational roles involve monitor, disseminator, and spokesperson, dealing with information flow.
5. Decisional roles include entrepreneur, disturbance handler, resource allocator, and negotiator.
6. Managers perform these roles simultaneously to ensure smooth organizational functioning.
7. These roles help managers achieve goals efficiently by balancing people, information, and decision-making.



# LEVELS OF MANAGEMENT



Levels of management refer to the hierarchy of authority and responsibility in an organization. There are three main levels: top-level, middle-level, and lower-level management.

Top-level management (executives) focuses on strategic planning and policy-making.

Middle-level management acts as a link between top and lower levels, implementing plans.

Lower-level management (supervisors) handles day-to-day operations and worker supervision. Each level has different roles but works together to achieve organizational goals.

This structure ensures clear communication, coordination, and efficient functioning of the organization. Authority flows from top to bottom, while feedback and information move from bottom to top. Effective coordination among all levels improves productivity and organizational success.

# MANAGERIAL SKILLS



1. Managerial skills are the abilities required by managers to perform their roles effectively.
2. According to Robert L. Katz, there are three basic types of managerial skills.
3. Technical skills involve knowledge of specific tasks, tools, and techniques.
4. Human skills refer to the ability to work with, motivate, and communicate with people.
5. Conceptual skills involve understanding the organization as a whole and making strategic decisions.
6. Top-level managers require more conceptual skills for long-term planning.
7. Middle-level managers need a balance of technical, human, and conceptual skills.
8. Lower-level managers require more technical skills for daily operations.
9. Communication and leadership skills are essential across all levels of management.
10. Effective managerial skills improve efficiency, productivity, and organizational success.

# CLASSICAL APPROACH



- The Classical Approach is one of the earliest theories of management focusing on efficiency and structure.
- It emerged during the late 19th and early 20th centuries with industrial growth.
- It emphasizes formal organization, clear hierarchy, and division of labor.
- Frederick Winslow Taylor introduced Scientific Management to improve worker productivity.
- Henri Fayol developed principles of management like planning, organizing, and control.
- Max Weber proposed Bureaucratic Management based on rules and authority.
- It focuses on standardization, specialization, and efficiency in operations.
- The approach treats organizations like machines with clearly defined roles.
- It contributed to the development of modern management practices.
- However, it is criticized for ignoring human factors and employee needs.

# BEHAVIORAL APPROACH



- The Behavioral Approach focuses on the human and social aspects of management. It emerged as a response to the limitations of the Classical Approach. It emphasizes employee motivation, satisfaction, and group behavior. The Hawthorne Studies highlighted the importance of social factors at work. Elton Mayo is a key contributor to this approach. It recognizes that employees are not just economic beings but also social beings. Concepts like leadership, communication, and teamwork are central to this approach. Theories like Maslow's Hierarchy of Needs explain human motivation. Douglas McGregor proposed Theory X and Theory Y about worker attitudes. This approach improves productivity by focusing on employee well-being and relationships.

# QUANTITATIVE APPROACH



- The Quantitative Approach focuses on the use of mathematical and statistical techniques in management.
- It developed during and after World War II to solve complex military problems.
- It is also known as Management Science or Operations Research.
- This approach uses models, equations, and data analysis for decision-making.
- Techniques include linear programming, probability, statistics, and simulation.
- It helps managers make objective and rational decisions based on data.
- Computers and information technology play a major role in this approach.
- It is widely used in production, finance, inventory control, and logistics.
- The approach improves efficiency, accuracy, and planning.
- However, it may ignore human and behavioral aspects of management.

# SYSTEM APPROACH



- The Systems Approach views an organization as a set of interrelated and interdependent parts. It is based on Systems Theory. Each department (production, finance, marketing, HR) works together as a whole system. The organization receives inputs (resources), processes them, and produces outputs (goods/services). Feedback is used to control and improve the system's performance. It emphasizes coordination and integration among all parts of the organization. The organization is considered an open system interacting with its environment. Changes in one part of the system affect the entire organization. This approach helps in better decision-making and problem-solving. It improves overall efficiency by focusing on the organization as a whole rather than individual parts.

# CONTINGENCY APPROACH



- The Contingency Approach states that there is no one best way to manage an organization.
- It suggests that management practices depend on the situation and circumstances.
- Decisions should be based on internal and external environmental factors.
- It follows the “if–then” approach (if a situation occurs, then a specific action is taken).
- Managers must be flexible and adaptable in their decisions.
- Factors like technology, size, environment, and employees influence management style.
- This approach integrates ideas from classical, behavioral, and quantitative approaches.
- It helps managers choose the most suitable method for a given situation.
- It improves organizational effectiveness by adapting to changes.
- However, it can be complex as it requires analyzing many variables before decision-making.

# IT APPROACH



- The IT Approach focuses on the use of Information Technology in management.
- It involves collecting, processing, and analyzing data for decision-making.
- Systems like Management Information Systems (MIS) support managerial functions.
- Tools such as computers, software, and networks improve efficiency and communication.
- IT helps in faster and more accurate decision-making.
- It enables real-time monitoring and control of organizational activities.
- Technologies like data analytics, AI, and cloud computing enhance business performance.
- It is widely used in areas like finance, marketing, HR, and operations.
- IT improves coordination, productivity, and global connectivity.
- However, it requires high investment, skilled personnel, and data security measures.