

III B.TECH - II Semester
INDUSTRIAL ENGINEERING AND
ENTREPRENEURSHIP

Course code: ME6T6FE4

Credits: 3

Lecture: 3 periods/week

Internal assessment: 30marks

Practice: 1 period/week

Semester end examination: 70 marks

COURSE OBJECTIVES:

- Define fundamental functions of management (L1)
- List the different organizational types and leadership qualities (L1)
- Identify the statistical techniques to improve the quality (L3)
- Interpret the significance of project management.(L2)
- Discuss the basics of entrepreneurship. (L2)

COURSE OUTCOMES:

Upon completion of this course the student will be able to:

1. Describe the role and responsibilities of management and the organizational Structures (L1)
2. List the different organizational structures and leadership qualities. (L1)
3. Implement different quality control techniques. (L3)
4. Explain PERT and CPM techniques regarding project management. (L2)
5. List the significance of entrepreneurship and its startup procedures.(L1)

UNIT I

Introduction: Definition and application of Industrial Engineering, Roles of Industrial Engineer, definition and levels of management, functions of Management, differences between policies, goals and objectives, Taylor's Scientific Management, Fayol's Principles of Management.

UNIT II

ORGANISATIONAL STRUCTURES: Basic concepts related to Organization – Departmentation and Decentralization, Flat and Tall organizations, Organizational chart, Line organization, Line and staff organization, functional organization

LEADERSHIP: Introduction, Definition, Types of leadership based on authority- their area of applicability and suitability, advantages and limitations.

UNIT III

QUALITY CONTROL: Statistical Quality Control-techniques-variables and attributes-assignable and non-assignable causes- variable control charts, and R charts, attributes control charts, p charts and c charts. Acceptance sampling, Introduction to TQM and Quality Circles.

UNIT IV

PROJECT MANAGEMENT: Network modeling, Probabilistic model- various types of activity times estimation, program evaluation review techniques (PERT), probability of completing the project, deterministic model- critical path method (CPM), critical path calculation.

UNIT V

ENTREPRENEURSHIP: Introduction, Concept and profile of entrepreneur, Entrepreneurial philosophy, functions and qualities of entrepreneur, Entrepreneurial development and failure.

SMALL SCALE INDUSTRIES: Introduction, role, scope and concept of small scale industries, startup of small scale industries, registration procedure of small scale industry, financial and other assistance provided to small scale industries.

Learning Resources

Text Books:

1. O.P. Khanna, "Industrial Engineering and Management", DhanpatRai
2. T. R. Banga, S. C. Sharma, N. K. Agarwal, "Industrial Engineering and Management Science" Khanna Publishers.

Reference Books:

1. PannerSelvam, Production and Operations Management, PHI, 2004.
2. Ralph M Barnes, Motion and Time Studies, John Wiley and Sons, 2004.
3. Chase, Jacobs, Aquilano, Operations Management, TMH 10th Edition, 2003.
4. L.S.Srinath, PERT / CPM, affiliate East-West Press, New Delhi, 2000.
5. Phillip Kotler, Marketing Management, Pearson, 2004.
6. S. Bhaskar, "Management Science" Anuradha Publications.