Department of ECM PVP12

2/4 B.Tech. FOURTH SEMESTER

EM4T4 MANAGEMENT SCIENCE Credits: 4

Lecture: 4 periods/week Internal assessment: 30 marks
Tutorial: 1 period /week Semester end examination: 70 marks

Course Objectives:

- To develop knowledge of fundamental management concepts, skills and tools, to aid in problem solving and decision making.
- To develop and understanding about the organizational structure and relationship between authority and responsibility in various structures.
- To discuss the evolution of principles that make it possible to design facilities, processes, and control systems with a degree of predictability as to their performance.
- To develop comprehensive skills in planning, selecting, motivating, and developing the human resources for organisational effectiveness.
- To understand the broad scope of marketing, societal, ethical and other diverse aspects of marketing.
- To familiarize the student with widely used networking models related to decision making, problem analysis and their interpretations in project management.
- To compare conceptual models of strategic management and to understand its applicability in understanding the constraints and opportunities in the sectors.
- To enable the students to understand the contemporary issues in the field of management science and their applicability in the real world.

Learning outcomes:

Students will be able to

- Understand the fundamental concepts of management and motivation.
- Apply the project management tools in various types of projects.
- Design the organization structures and plant layouts.
- Develop the strategic and operation plans in various functional areas of management.

Unit - I

Introduction to Management: Concepts of Management and organization- nature, importance and Functions of Management, Taylor's Scientific Management Theory, Fayol's Principles of Management, Mayo's Hawthorne Experiments, Maslow's Theory of Human Needs, Douglas McGregor's Theory X and Theory Y, Herzberg's Two-Factor Theory of Motivation, Systems Approach to Management, Leadership Styles, Social responsibilities of Management.

Unit - II

Designing Organisational Structures: Basic concepts related to Organisation - Departmentation and Decentralisation, Types of mechanistic and organic structures of organisation (Line organization, Line and staff organization, functional organization, Committee organization, matrix organization, Virtual Organisation, Cellular Organisation, team structure, boundaryless organization, inverted pyramid structure, lean and flat organization structure) and their merits, demerits and suitability.

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Unit - III

Operations Management: Principles and Types of Plant Layout-Methods of production (Job, batch and Mass Production), Work Study-Basic procedure involved in Method Study and Work Measurement- Statistical Quality Control: chart, R chart, c chart, p chart, (simple Problems), Acceptance Sampling, Deming's contribution to quality.

Unit - VI

- **a)** Materials Management: Objectives, Need for Inventory control, EOQ, ABC Analysis, Purchase Procedure, Stores Management and Stores Records.
- **b) Marketing**: Functions of Marketing, Marketing Mix, Marketing Strategies based on Product Life Cycle, Channels of distribution.

Unit - V

Human Resources Management (HRM) : Concepts of HRM, HRD and Personnel Management and Industrial Relations (PMIR), HRM vs.PMIR, Basic functions of HR Manager: Manpower planning, Recruitment, Selection, Training and Development, Placement, Wage and Salary Administration, Promotion, Transfer, Separation, Performance Appraisal, Grievance Handling and Welfare Administration, Job Evaluation and Merit Rating.

Unit - VI

Project Management (*PERT/CPM*): Network Analysis, Programme Evaluation and Review Technique (PERT), Critical Path Method (CPM), Identifying critical path, Probability of Completing the project within given time, Project Cost Analysis, Project Crashing. (simple problems).

Unit - VII

Strategic Management : Mission, Goals, Objectives, Policy, Strategy, Programmes, Elements of Corporate Planning Process, Environmental Scanning, Value Chain Analysis, SWOT Analysis, Steps in Strategy Formulation and Implementation, Generic Strategy alternatives.

Unit - VIII

Contemporary Management Practices: Basic concepts of MIS, End User Computing, Materials Requirement Planning (MRP), Just-In-Time (JIT) System, Total Quality Management (TQM), Six sigma and Capability Maturity Model (CMM) Levels, Supply Chain Management, Enterprise Resource Planning (ERP), Performance Management, Business Process outsourcing (BPO), Business Process Re-engineering and Bench Marking, Balanced Score Card.

Learning resources

TEXT BOOKS:

- 1. Aryasri: Management Science, TMH, 2004.
- 2. Rajesh C. Jampala, P. Adi Lakshmi, Management Science, Duvuri Publications, Machilipatnam, 2010.

REFERENCES:

- 1. Kotler Philip & Keller Kevin Lane: Marketing Mangement 12/e, PHI, 2005
- 2. Koontz & Weihrich: Essentials of Management, 6/e, TMH, 2005
- 3. Thomas N.Duening & John M.Ivancevich Management Principles and Guidelines, Biztantra, 2003.
- 4. Kanishka Bedi, *Production and Operations Management*, Oxford University Press, 2004.
- 5. Memoria & S.V.Gauker, Personnel Management, Himalaya, 25/e, 2005
- 6. Samuel C.Certo: Modern Management, 9/e, PHI, 2005
- 7. Schermerhorn, Capling, Poole & Wiesner: *Management*, Wiley, 2002.
- 8. Parnell: Strategic Management, Biztantra, 2003.
- 9. Lawrence R Jauch, R.Gupta & William F.Glueck: Business Policy and Strategic Management, Frank Bros. 2005.
- 10. L.S.Srinath: PERT/CPM, Affiliated East-West Press, 2005.