**17SH4102-MANAGEMENT SCIENCE**

(Common to EEE, ECE, CSE&IT)

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| **Course Category:** | Basic sciences | **Credits:** | 3 |
| **Course Type:** | Theory | **Lecture-Tutorial-Practical:** | 3-0-0 |
| **Pre-requisite:** | NIL | **Sessional Evaluation:**  **External Exam Evaluation:**  **Total Marks:** | 40  60  100 |

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| **Course Objectives:** | Students undergoing this course are expected to : | |
| 1. Learn the disciplines of management science and manager’s role in  business and other decision-making.  2. Gain an overview of the process of developing and using  quantitative techniques in decision making and planning.  3. Aware of the ethical dilemmas faced by managers and the social  responsibilities of business.  4. Know the significance of strategic management in competitive and  dynamic global economy.  5. Learn marketing strategies based on product, price, place and  promotion objectives.  6.Learn to determine activity times | |
| **Course Outcomes:** | Upon successful completion of the course , the students will be able: | |
| **CO1** | To explain the concepts of management, ethical and social responsibilities. |
| **CO2** | To describe various locations and layouts of plants. |
| **CO3** | To apply work study techniques for increased productivity. |
| **CO4** | To manage human resources efficiently and effectively with best HR practices. |
| **CO5** | To develop marketing strategies based on product, price, place and promotion objectives. |
| **CO6** | To determine activity times (early start, early finish, late start, late finish, total float, and free float) and schedule the project using the CPM and PERT. |
| **Course Content:** | **UNIT-I**  **Introduction to management**: Concept of management, functions of management, evolution of management thought, Taylor's scientific management theory, Fayal's principles of management, maslow's theory of hierarchy of human needs, Douglas McGregor's theory X and theory Y, hertz-berg two factor theory of motivation .  **UNIT-II**  **Design of organization:** Principles of organization, organization process, types of organization structures: line, line and staff organization, function, committee, matrix, virtual, cellular, team organization, boundary less organization, inverted pyramid structure, lean and flat organization, managerial objectives and social responsibilities.  **UNIT-III**  **Strategic management**: Corporate planning, mission, objectives, programmes, SWOT analysis, strategy formulation and implementation.  **Marketing management**: Functions of marketing, marketing mix, marketing strategies based on product life cycle and channels of distribution.  **UNIT-IV**  **Human resources management**: Basic functions of human resources management, manpower planning, job evaluation and merit rating, incentive plans.  **UNIT-V**  **Production and operations management**: Plant location and plant layout concepts, types of production (job, batch & mass), production planning and control, work study, basic procedure involved in method study, work measurement.  **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, Project cost analysis, project crashing (simple problems). | |
| **Text books**  **&**  **Reference books:** | **Text books:**  1. “Applied management science and operations research”, by Dr.  T.P. Singh, Er. Arvind Kumar UDH publishers and Distributors  Pvt Ltd.  2. “Management science”, by A.R. Aryasri Mc Graw Higher Ed  4th Edition.  3. “Industrial engineering and management”, by O.P.Kanna, Dhanpat  Rai Publications.  **Reference books:**  1.“Business organizations and management”, by C.B.Gupta  2.“Industrial engineering and management (Including Production  Management)”, by T.R.Banga, S.C.Sharma | |
| **e-Resources:** | <http://nptel.ac.in/courses>  <http://iete-elan.ac.in>  <http://freevideolectures.com/university/iitm> | |