

MANAGEMENT SCIENCE

IV B. Tech. - II Semester
Course Code: A3HS15

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COURSE OVERVIEW:

This course covers many approaches to solving business problems from managerial point of view. Various optimization techniques are surveyed with an emphasis on the why and how of these types of models as opposed to a detailed theoretical approach. Students develop optimization models which relate to their areas of interest. Spreadsheets are used extensively to accomplish the mathematical manipulations. Emphasis is placed on input requirements and interpretation of results

COURSE OBJECTIVES:

1. To impart knowledge of source and function of values.
2. Demonstrate an understanding of the importance of values, ethics, and social responsibility for the self and for contemporary society.
3. Reflect on how values shape personal and community ethics and decision-making. An ability to function effectively on multi-disciplinary teams (team work).
4. Inculcate professional, ethical, legal, security and social issues and responsibilities.
5. Gain personal and professional insight into organizational behaviour, diversity, personalities, goal setting, motivation, empowerment, and leadership style.

COURSE OUTCOMES:

- Upon completion of this course, students will be able to:
1. Exercise critical thinking to propose, communicate, and implement, action plan that address opportunities and issues.
 2. Identify and utilize ethical and legal standards in psychology while taking into account all relevant stakeholders.
 3. Observe and recognize behaviours in organizational settings to aid in predicting outcomes.
 4. Appreciate the importance of time management, planning, and communication in completing a group project.
 5. Integrate knowledge of the key theories across the disciplines of public administration.
 6. Compare various perspectives across organizational environments and the role of manager in core management and public policy disciplines

SYLLABUS

UNIT - I

CONCEPTS OF MANAGEMENT AND ORGANISATION: Functions of management, evolution of management thought, Taylor's scientific management, fayol's principles of management, Hertzberg's Maslow's hierarchy of human needs, theory x and y, Hawthorne experiment, morale, motivation, working environmental conditions, systems approach to management.

DESIGNING ORGANISATIONAL STRUCTURES: Basic concepts related to organisation - departmentation and decentralization, types of organization structures.

UNIT - II

PLANT LOCATION: Definition, factors affecting the plant location, comparison of rural and urban sites, methods for selection of plant- matrix approach. Plant layout - definition, objectives, types of plant layout, various data analyzing forms travel chart.

WORK STUDY: Definition, objectives, method study - definition, objectives, steps involved- various types of associated charts, difference between micro motion and memo motion studies. Work measurement- definition, time study, steps involved, equipment, different methods of performance rating, allowances, standard time calculation. Work Sampling - definition, steps involved, standard time calculations, and differences with time study.

UNIT - III

INTRODUCTION TO PERT / CPM : Project management, network modelling-probabilistic model, various types of activity times estimation, programme evaluation review techniques, critical path,

probability of completing the project, deterministic model, critical path method (CPM), critical path calculation, crashing of simple of networks.

INSPECTION AND QUALITY CONTROL: Types of inspections, 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 plan, single sampling and double sampling plans, OC curves. Introduction to TQM - quality circles, ISO 9000 series procedures.

UNIT - IV

MATERIALS MANAGEMENT: Objectives, inventory functions, types, associated costs, inventory classification techniques-ABC and VED analysis. Inventory control systems, continuous review system, periodical review system. Stores management and stores records. Purchase management, duties of purchase of manager, associated forms.

UNIT - V

INTRODUCTION TO HUMAN RESOURCE MANAGEMENT: Functions of HRM, job evaluation, different types of evaluation methods. Job description, merit rating, different methods of merit ratings, wage incentives, different types of wage incentive schemes. Marketing, selling, marketing mix, product life cycle.

TEXT BOOKS:

1. O. P. Khanna (2004), Industrial Engineering and Management, Dhanpat Rai, New Delhi.

REFERENCE BOOKS:

1. Stoner, Freeman (2005), Gilbert, Management, 6th edition, Pearson Education, New Delhi.
2. Panner Selvam (2004), Production and Operations Management, Prentice Hall of India, New Delhi.
3. Ralph M. Barnes (2004), Motion and Time Studies, John Wiley and Sons.