



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

INFORMATION TECHNOLOGY

COURSE DESCRIPTION FORM

Course Title	MANAGEMENT SCIENCE			
Course Code	A80014			
Regulation	R13- JNTUH			
Course Structure	Lecture	Tutorial	Practica	Credit
	4	-	-	4
Course Coordinator	Ms. K. L. REVATHI, Assistant Professor, MBA			
Team of Instructors	Ms. K. L. REVATHI, Assistant Professor, MBA			

I. COURSE OVERVIEW:

This course introduces the scientific study of employees, workplaces, and organizations. Industrial and organizational managers contribute to an organization's success by improving the workplace and the performance, satisfaction and well-being of its people. A HR manager conducts research on employee behaviors and attitudes, and how these can be improved through hiring practices, training programs, feedback, and management systems. HR manager also help organizations transition among periods of change and development. Industrial and organizational psychology is related to organizational behavior and human capital .

II. PREREQUISITE(S):

Level	Credits	Periods/ Week	Prerequisites
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III. MARKS DISTRIBUTION:

Sessional Marks	University End Exam marks	Total marks
<p>Midterm Test</p> <p>There shall be two midterm examinations. Each midterm examination consists of essay paper, objective paper and assignment.</p> <p>The essay paper is for 10 marks of 60 minutes duration and shall contain 4 questions. The student has to answer 2 questions, each carrying 5 marks.</p> <p>The objective paper is for 10 marks of 20 minutes duration. It consists of 10 multiple choice and 10 fill-in-the blank questions, the student has to answer all the questions and each carries half mark.</p> <p>First midterm examination shall be conducted for the first two and half units of syllabus and second midterm examination shall be conducted for the remaining portion.</p> <p>Five marks are earmarked for assignments. There shall be two assignments in</p>	75	100

Sessional Marks	University End Exam marks	Total marks
every theory course. Assignments are usually issued at the time of commencement of the semester. These are of problem solving in nature with critical thinking. Marks shall be awarded considering the average of two midterm tests in each course.		

IV. EVALUATION SCHEME:

S. No	Component	Duration	Marks
1.	I Mid Examination	80 minutes	20
2.	I Assignment	-	5
3.	II Mid Examination	80 minutes	20
4.	II Assignment	-	5
5.	External Examination	3 hours	75

V. COURSE OBJECTIVES:

At the end of the course, the students will be able to:

- I. Understand the fundamental principles of management and organization.
- II. Master the concepts of scientific management theories and organizational structures.
- III. Analyze different types of plant layouts viz. job, batch and mass production.
- IV. Gain knowledge in analyzing markets, supply chain management
- V. Master the concepts of SQL, EOQ, ABC Analysis, PERT, CPM.
- VI. Be familiar with HRM, PMIR, CMM, SWOT analysis.
- VII. Be familiar with Contemporary management practices and strategic management

VI. COURSE OUTCOMES (Cos):

After completing this course the student must demonstrate the knowledge and ability to:

1. Understand the concepts of management and organization, scientific management in traditional and modern theories.
2. Understand the different organization structures and leadership styles.
3. Use various production methods in production system and procedures for work measurement.
4. Able to know about the market and marketing strategies which are followed in business
5. Recognize the stages of different product life cycles.
6. Identify the rationale behind various inventory control system, supply chain management.
7. Recognize the issues related to human resources management.
8. Compare and Contrast the pert , CPM and project crashing
9. Understand the concepts of mission, vision, objectives, policy, strategy and programmers in organizations.
10. Determine the benefits environment scanning, SWOT analysis in different organizations.
11. Apply knowledge of contemporary strategic issues in to business.
12. Analyze the difference between transfer, promotion, absenteeism and demotion in companies.
13. Able to understand the importance of training and development in an organization.

14. Analyze the importance of six sigma, balance score card and capability maturity models in an organization.
15. Gain knowledge in the quality control tools and techniques by the graphical representation.

VII. HOW PROGRAM OUTCOMES ARE ASSESSED:

Program		Level	Proficiency assessed by
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	N	--
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	N	--
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.	N	--
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.	H	Lectures, Assignments, Exams
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	N	--
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.	S	Lectures, Assignments, Exams
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	S	Lectures, Assignments, Exams
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	H	Lectures
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	N	--
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	N	--
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	N	--
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.	H	Lectures, Assignments, Exams

N - None

S - Supportive

H - Highly Related

VIII. HOW PROGRAM SPECIFIC OUTCOMES ARE ASSESSED:

Program Specific Outcomes		Level	Proficiency assessed by
PSO1	Professional Skills: The ability to research, understand and implement computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient analysis and design of computer-based systems of varying complexity.	N	--
PSO2	Problem-Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.	N	--
PSO3	Successful Career and Entrepreneurship: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths, to be an entrepreneur, and a zest for higher studies.	H	Lectures

N - None

S - Supportive

H - Highly Related

IX. SYLLABUS:

UNIT-I

INTRODUCTION TO MANAGEMENT:

Concepts of Management and organization- Nature and Importance of Management, Functions of Management, systems approach to management - 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, Herzberg's Two-Factor Theory of Motivation- Leadership Styles, Social responsibilities of Management. Designing organizational Structures: Basic concepts related to Organization - Departmentation and Decentralization, Types of mechanistic and organic structures of organization and suitability

UNIT-II

OPERATIONS AND MARKETING 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 Business Process Reengineering (BPR) - Statistical Quality Control: control charts for variables and attributes (simple problems) and acceptance sampling, TQM, six sigma, Deming's contribution to quality. Objectives of Inventory control, EOQ, ABC Analysis, Purchase Procedure, Stores Management and Stores Records -JIT system, Supply Chain Management, Functions of Marketing, Marketing Mix, Marketing Strategies based on Product Life Cycle., Channels of distribution.

UNIT-III

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- Capability Maturity Model (CMM) Levels- Performance Management System.

UNIT-IV

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-V

STRATEGIC MANAGEMENT AND CONTEMPORARY STRATEGIC ISSUES:

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. Bench Marking, Balanced Score Card as contemporary business strategies.

Text Books:

1. Aryasri: Management Science, TMH, New Delhi.
2. P vijaya kumar, N.Appa Rao and ashima B.Chhalill, Cengage Learning India,2012.
3. Stoner, Freeman, Gilbert, Management, 6th Ed, pearson education New Dekh, 2004.

Reference Books:

1. Kotler Philip & Keller Kevin Lane: Marketing Mangement 12/e, PHI, 2007
2. Koontz & Weihrich: Essentials of Management, 6/e, TMH, 2007
3. Thomas N.Duening & John M.Ivancevich Management—Principles and Guidelines, Biztantra,2007.
4. Kanishka Bedi, Production and Operations Management, Oxford University Press, 2007.
5. Samuel C.Certo: modern management, 2012.
6. Schermerhorn: Management, Wiley, 2007.
7. Parnell: Strategic Management, Biztantra,20073.
8. L.S.Srinath: PERT/CPM,Affiliated East-West Press, 2007.

X. COURSE PLAN:

At the end of the course, the students are able to achieve the following course learning outcomes:

Lecture No.	Topics to be covered	Course Learning Outcomes	Reference
1-3	Introduction to management-concepts of management and organization nature and importance of management	Understand the concept of management	T1: 1.3
4-5	Functions of management, systems approaches to management	Gain knowledge in the Functions of management	T1: 2.1
6	Taylor theory, principles of management	To Understand the principles of management	T1: 3.2
7-8	Maslow's theory, Douglas mc gregore theory X and Y Herzberg	To know the human relations theory	T1: 3.7- 3.10
9-10	Leadership styles, social responsibilities of management	To Analyze and understand the leadership styles	T1: 3.11-4.5
11-13	Designing organization structures, Operations And Marketing Management –Principles.	To Analyze different structures of organizations	T1: 5.10 - 5.22
14-16	types of plant layout, Methods of production	To Understand different types of layouts	T1: 6.5-6.10
17-18	Work study and method study, BPR, SQL-control charts, acceptance sampling	Gets the knowledge of basic production methods	T1: 7.5-7.8
19-20	TQM, six sigma,demings contribution, JIT,	To remember the procedure of method & work study	T1:8.1-8.14

21-22	Inventory control EOQ, ABC analysis, Purchase procedure, stores records and management supply chain management	To understand & apply control charts	T1: 9.1-9.23
23-25	Marketing –functions, mix strategies product life cycle	Gets the knowledge of different strategic issues	T1: 20.5-20.11,9.24-9.25
26-28	Human Resources Management-concepts of HRM,HRD, PMIR,HRMvsPMIR	To analyze materials Management	T1: 10.3-10.24
29-31	Functions of HR manager	To Understand stores records management	T1:
32-34	CMM, Performance management system	To Understand the different stages in product life cycle	T1: 11.2-11.13
35-37	Performance management system, Project Management- Network	To remember the concept of personnel management	T1: 12.3-12.4
38-40	PERT	To Understand the genesis of HRM and PMIR	T1:12.5-12.11
41-43	CPM	To explain the detail functions of HRmanager	T1: 13.5-14.20
44-47	Probability of completing the project within given time, Project cost analysis	To understand practices prevalent in modern business, To determine the probability of completing the project	T1: 20.11-20.13
48-50	Project crashing, Strategic management & contemporary issues-mission ,goals, Objectives, policies, strategy, programmes.	To analysis contemporary practice in management, To understand the concepts of network, To apply the techniques in project, To remember the concepts of goals and mission	T1:20.17-20.18
51-53	Elements of corporate planning process, environmental scanning, Value chain analysis, SWOT analysis	To understand the optimal project completion time, apply the concepts of direct and indirect cost, To remember the basic concepts of corporate planning, analyse the internal amd external environment	T1:15.1-15.6
54-56	Steps in strategy formulation & implementation, Generic strategy alternatives	To Understand the optimum cost and duration for a given project, analyse the steps involved in corporate planning process	T1: 15.7-15.18
57-60	Bench marking, Balance Score Card as contemporary business strategies	Understand stages in strategy formulation and implementation process, remember the concept of bench marking, Understand the BSC in modern business organization	T1: 15.19-15.23

XI. MAPPING COURSE OBJECTIVES LEADING TO THE ACHIEVEMENT OF PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Course Objectives	Program Outcomes												Program Specific Outcomes		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
I	--	--	--	--	--	--	S	--	--	--	--		--	--	--
II	--	--	--	--	--	--	--	H	--	--	--	--	--	--	--
III	--	--	--	--	--	--	--	--	--	--	--	S	--	--	--
IV	--	--		--	--	--	--	--	--	--	--	H	--	--	H
V	--	--	--	--	--	--	--	S	--	--	--	--	--	--	--

S – Supportive

H - Highly Related

XII. MAPPING COURSE OUTCOMES LEADING TO THE ACHIEVEMENT OF PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Course Outcomes	Program Outcomes												Program Specific Outcomes		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	--	--	--	S	--	--	--	--	--	--	--	--	--	--	--
2	--	--	--	--	--	--	--	H	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--	--	--	--	--	H	--	--	--
4	--	--	--	H	--	--	--	--	--	--	--	--	--	--	--
5	--	--	--	S	--	--	--	--	--	--	--	--	--	--	--
6	--	--	--	--	--	S	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	S	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	H	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--	--	--	H	--	--	H
10	--	--	--	--	--	--	--	H	--	--	--	--	--	--	--
11	--	--	--	--	--	--	--	--	--	--	--	H	--	--	--
12	--	--	--	H	--	--	--	--	--	--	--	--	--	--	--
13	--	--	--	H	--	--	--	--	--	--	--	--	--	--	--
14	--	--	--	H	--	--	--	--	--	--	--	--	--	--	--
15	--	--	--	H	--	--	--	--	--	--	--	--	--	--	--

S – Supportive

H - Highly Related

Prepared by:

Ms. K. L. REVATHI, Assistant Professor, MBA

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