JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE
JECRC Campus, Shri Ram Ki Nangal, Via-Vatika, Tonk Road, Jaipur
Department of Mechanical Engineering

Name of Subject: Principles of Management (POM)

Subject Code: 5ME4-05

Year: 3rd Year, 5th Semester

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VISION AND MISSION OF THE INSTITUTE

VISION OF JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

To become a renowned center of outcome based learning, and work towards academic, professional, cultural and social enrichment of the lives of individuals and communities.

MISSION OF JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

M1: Focus on evaluation of learning outcomes and motivate students to inculcate research aptitude by project based learning.

M2: Identify, based on informed perception of Indian, regional and global needs, areas of focus and provide platform to gain knowledge and solutions.

M3: Offer opportunities for interaction between academia and industry.

M4: Develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professions.

VISION AND MISSION OF THE DEPARTMENT

VISION OF DEPARTMENT OF MECHANICAL ENGINEERING

The Mechanical Engineering Department strives to be recognized globally for outcome based technical knowledge and to produce quality human resource, who can manage the advance technologies and contribute to society.

MISSION OF DEPARTMENT OF MECHANICAL ENGINEERING

M1: To impart quality technical knowledge to the learners to make them globally competitive mechanical engineers.

M2: To provide the learners ethical guidelines along with excellent academic environment for a long productive career.

M3: To promote industry-institute relationship.

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PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To equip graduates with a strong foundation in engineering sciences, with an emphasis on mechanical engineering principles, enabling them to analyze, design, and solve real-world engineering challenges.

PEO2: To prepare graduates with sound scientific and engineering fundamentals to innovate and deliver effective solutions addressing practical challenges in mechanical engineering.

PEO3: To inculcate in graduates a professional and ethical attitude, effective communication and teamwork skills, a multidisciplinary approach, entrepreneurial mindset, and the ability to connect engineering solutions with societal and environmental concerns.

PEO4: To provide students with an academic environment that fosters excellence, leadership, adherence to ethical standards, and encourages self-motivated lifelong learning essential for a successful professional career in mechanical.

PEO5: To prepare students to excel in industry and higher education by providing quality education grounded in strong technical knowledge and high moral values.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Graduates will be able to design, analyze, and fabricate electric and hybrid vehicles using modern engineering tools and sustainable practices.

PSO2: Graduates will be able to apply design principles and computational techniques, including programming and data structures, to analyze and solve mechanical engineering problems.

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PROGRAM OUTCOMES (POs)

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 toWK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

SYLLABUS

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Syllabus

3rd Year - V Semester: B.Tech. : Mechanical Engineering

5ME4-05: PRINCIPLES OF MANAGEMENT

Credit: 2 **Max. Marks: 100(IA: 30, ETE:70)**
2L+0T+0P **End Term Exam: 3 Hours**

SN	Contents	Hours
1	Introduction: Objective, scope and outcome of the course.	1
2	Basic concepts of management: Definition – Need and Scope – Different schools of management thought – Behavioural, Scientific, Systems, and Contingency	2
	Contribution of Management Thinkers: Kautilya, Taylor, Fayol, Peter Drucker and C.K. Prahlad.	4
3	Functions of Management: Planning: Essentials of Planning and Managing by Objectives; Strategies, Policies and Planning Premises; Decision making.	2
	Organizing The Nature of organizing, Entrepreneuring, and Reengineering; Organizational Structure, Departmentation; Line/staff authority, empowerment, and decentralization; Effective organizing and organization culture;	3
4	Staffing Human resource Management and Selection; Performance Appraisal and Career Strategy; managing change through Manager and Organization Development.	2
5	Leading Human Factors and Motivation; Leadership: Committees, Terms, and Group Decision making; Communication.	3
	Controlling The system and process of controlling; Control Techniques and Information Technology; Productivity, Operations Management and Total Quality Management.	2
6	Management practices of: Dhirubhai Ambani, Narayan Murthy, Premji, Ratan Tata, Steve Jobs, Bill Gates.	4
	Studying organizational structures of any 10 companies and classifying them into different types of organizations which are studied above and justifying why such structures are chosen by those organizations.	2
	Preparing the leadership profiles of any 5 business leaders and studying their leadership qualities.	3
	TOTAL	**28**

Office of Dean Academic Affairs
Rajasthan Technical University, Kota

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COURSE OUTCOMES (COs)

Subject: Principles of Management **Code:** 5ME4-05

Course Outcomes:

On successful completion of this course the student will be able to:

CO1: Explain the concept, nature, and significance of management and its principles.

CO2: Summarize the contributions of major management thinkers and the evolution of management thought.

CO3: Describe various management functions like planning, decision-making, and strategic management.

CO4: Analyze different organizational structures and leadership styles to enhance managerial effectiveness.

CO5: Apply modern management techniques for organizational improvement.

CO6: Analyze the importance of motivation, communication, control, and communication in improving organizational performance.

CO-PO/PSO MAPPING

CO-PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	3	2	1	1	1	1	2	1	2	1	3	2
CO2	3	2	3	2	1	2	1	2	2	1	2	3	2
CO3	3	3	3	3	2	3	1	3	2	2	2	3	3
CO4	2	3	3	3	2	3	2	3	2	2	3	3	3
CO5	2	3	2	3	3	3	2	3	3	3	3	3	3
CO6	2	3	3	3	3	3	3	3	3	3	3	3	3

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COURSE PLAN

Name of the Course: Principles of Management

Code of the course: 5ME4-05

Name of Faculty: Lalit Kumar Sharma

Course Outcome

CO1: Explain the concept, nature, and significance of management and its principles.

CO2: Summarize the contributions of major management thinkers and the evolution of management thought.

CO3: Describe various management functions like planning, decision-making, and strategic management.

CO4: Analyze different organizational structures and leadership styles to enhance managerial effectiveness.

CO5: Apply modern management techniques for organizational improvement.

CO6: Analyze the importance of motivation, communication, control, and communication in improving organizational performance.

Unit No.	Topic	Lec. No.	CO	Specific Objective	Expected Outcome	Book Referred	From page to
-	Objective, Scope and Outcome of the Course	1	-	To introduce students to course structure, scope, and learning expectations	Students will understand course relevance and expected competencies	T1	1 – 5
Unit - 01	Definition, Need and Scope of Management, Different schools of management thought	2	1	To explain basic concepts and evolution of management theories	Students will be able to define management and compare different schools	T1	6 – 19
	Behavioural, Scientific, Systems, and Contingency	3	1	To analyze major management approaches and their applications	Students will differentiate and apply suitable management approaches	T1	22 – 38
	Contribution of Kautilya	4	1	To study ancient Indian management principles by Kautilya	Students will relate traditional concepts to modern management practices	G1	Google Article
	Contribution of Taylor, Fayol	5	1	To understand classical management theories and principles	Students will apply scientific and administrative principles in practice	T1	41 – 55
	Contribution of Peter Drucker, C.K. Prahlad	6	1	To explore modern management thinkers and their contributions	Students will evaluate contemporary management philosophies	T1	58 – 64
Unit - 02	Essentials of Planning and Managing by Objectives	7	2	To explain planning process and concept of MBO	Students will develop goal-setting and planning skills	T1	66 – 78
	Strategies, Policies and Planning Premises, Decision making	8	2	To understand strategic planning and decision-making processes	Students will analyze and make effective managerial decisions	T1	93 – 120
	The Nature of organizing, Entrepreneuring, and Reengineering, Organizational Structure, Departmentation	9	2	To explain organizing, organizational structure, departmentation, and concepts of entrepreneuring and reengineering	Students will be able to design structures, classify departmentation, and understand innovation and reengineering	T1	127 – 148

	Line/staff authority, empowerment, and decentralization	10	2	To understand authority relationships and delegation concepts	Students will apply empowerment and decentralization effectively	T1	158 – 167
	Effective organizing and organization culture	11	2	To study factors influencing organizational effectiveness and culture	Students will evaluate and improve organizational culture	T1	171 – 185
Unit - 03	Staffing Human resource Management and Selection	12	3	To explain recruitment, selection, and HR management processes	Students will understand workforce planning and selection methods	T1	186 – 203
	Performance Appraisal and Career Strategy	13	3	To analyze appraisal techniques and career planning	Students will design appraisal systems and career strategies	T1	211 – 228
	Managing change through Manager and Organization Development	14	3	To understand change management and OD interventions	Students will manage organizational change effectively	T1	230 – 247
Unit - 04	Leading Human Factors and Motivation	15	4	To study leadership and motivation theories	Students will apply motivation techniques to improve performance	T1	252 – 271
	Committees, Terms in Leadership	16	4	To understand committee roles and leadership concepts	Students will interpret leadership styles and group roles	T1	277 – 295
	Group Decision making, Communication	17	4	To develop skills in communication and team decision-making	Students will participate effectively in group decisions	T1	298 – 307
	Controlling The system and process of controlling, Control Techniques and Information Technology	18	4	To explain control mechanisms and role of IT in management	Students will design control systems using modern tools	T1	311 – 347
	Productivity, Operations Management and Total Quality Management	19	4	To study productivity improvement and quality management	Students will apply TQM and operations strategies	T1	351 – 374
BS	Sustainability	20	5	To introduce sustainable management practices	Students will incorporate sustainability in decision-making	NPTEL	
Unit - 05	Management practices of Dhirubhai Ambani	21	5	To analyze leadership and business strategies of Dhirubhai Ambani	Students will learn entrepreneurial and strategic insights	G2	Google Article
	Management practices of Narayan Murthy, Premji	22	5	To study ethical leadership and corporate governance	Students will understand values-driven management practices	G3 – G5	Google Articles
	Management practices of Ratan Tata	23	5	To examine leadership and innovation in Tata Group	Students will analyze visionary leadership and ethics	G6	Google Article
	Management practices of Steve Jobs, Bill Gates	24	5	To study global leadership and innovation strategies	Students will compare global management styles	G7 – G9	Google Articles
	Studying organizational structures of companies and classifying them into different types of organizations	25	6	To analyze real-world organizational structures	Students will classify organizations based on structure	T1	123 – 148
	Justifying why such structures are chosen by those organizations	26	6	To evaluate reasons behind structure selection	Students will justify structure based on organizational needs	T1	153 – 172
	Preparing the leadership	27	6	To develop research and	Students will prepare detailed	G2 – G9	Google

	profiles of any 5 business leaders			analytical skills on leadership	leadership profiles		Articles
	Studying their leadership qualities	28	6	To assess leadership traits and effectiveness	Students will identify key qualities of successful leaders	T1	247 – 283

Reference Books/Articles:

T1 - Harold Koontz, Heinz Weihrich, and Mark V. Cannice, Essentials of Management, McGraw Hill

T2 - Stephen P. Robbins & Mary Coulter, Management, Pearson Education

T3 - P. C. Tripathi, P. N. Reddy, and Ashish Bajpai, Principles of Management, Tata McGraw Hill

T4 - L. M. Prasad, Principles and Practice of Management, Sultan Chand & Sons

G1 - Chanakya, by Joshua J. Mark, published on 22 June 2020, https://www.worldhistory.org/Kautilya/

G2 - Dhirubhai Ambani, Indian businessman, The Editors of Encyclopaedia Britannica, https://www.britannica.com/money/Dhirubhai-Ambani

G3 - N.R. Narayana Murthy, https://www.infosys.com/about/management-profiles/narayana-murthy.html

G4 - N.R. Narayana Murthy, https://www.infosys.com/about/corporate-governance.html

G5 - Wipro's Founder Chairman Azim Premji turns 75: Here's 5 things that set him apart, Kirti Pandey, updated Jul 24, 2020, https://www.timesnownews.com/business-economy/article/wipros-founder-chairman-azim-premji-turns-75-heres-5-things-that-set-him-apart/626593

G6 - Role of Leadership and Corporate Governance: The Case of Tata Group and Infosys, DOI: 10.1177/2319714518813589, https://journals.sagepub.com/doi/10.1177/2319714518813589

G7 - Steve Jobs, American businessman, Steven Levy, The Editors of Encyclopaedia Britannica, https://www.britannica.com/money/Steve-Jobs

G8 - Bill Gates, https://www.gatesnotes.com/Books

G9 - Bill Gates, https://www.gatesfoundation.org/about/leadership/bill-gates