

# GOVT. POLYTECHNIC, NAYAGARH

5<sup>th</sup> SEMESTER MECHANICAL ENGINEERING (2025-26)

TOTAL PERIOD- 60P

SUBJECT- ENTREPRENEURSHIP AND MANAGEMENT & SMART TECHNOLOGY

NAME OF FACULTY: SANTOSH KUMAR PATRA, LECTURER STAGE-I (MECHANICAL)

THEORY-4P/WEEK

Semester from :14/07/2025 to 15/11/2025

SI No.	week	Day	Topics to be covered
1	1 <sup>st</sup>	1 <sup>st</sup> day	Concept /Meaning of Entrepreneurship
		2 <sup>nd</sup> day	Need of Entrepreneurship, Characteristics, Qualities and Types of entrepreneur with functions
		3 <sup>rd</sup> day	Barriers in Entrepreneurship
		4 <sup>th</sup> day	Entrepreneurs vs Manager
SI No.	week	Day	Topics to be covered
2	2 <sup>nd</sup>	1 <sup>st</sup> day	Forms of Business Ownership: Sole proprietorship, partnership forms and others
		2 <sup>nd</sup> day	Types of Industries, Concept of Start-ups
		3 <sup>rd</sup> day	Entrepreneurial support agencies at National, State, District Level Sources: DIC, NSIC, OSIC, SIDBI, NABARD, Commercial Banks, KVIC
		4 <sup>th</sup> day	Technology Business Incubators (TBI) and Science and Technology Entrepreneur Parks
SI No.	week	Day	Topics to be covered
3	3 <sup>rd</sup>	1 <sup>st</sup> day	Market Survey and Opportunity Identification (Business Planning)
		2 <sup>nd</sup> day	SSI, Ancillary Units, Tiny Units, Service sector Units
		3 <sup>rd</sup> day	Time schedule Plan, Agencies to be contacted for Project Implementation
		4 <sup>th</sup> day	Assessment of Demand and supply and Potential areas of Growth
SI No.	week	Day	Topics to be covered
4	4 <sup>th</sup>	1 <sup>st</sup> day	Identifying Business Opportunity & Final Product selection
		2 <sup>nd</sup> day	Preliminary project report preparation
		3 <sup>rd</sup> day	Detailed project report, Techno economic Feasibility & Project Viability
		4 <sup>th</sup> day	Definitions of management & Principles of management
SI No.	week	Day	Topics to be covered
5	5 <sup>th</sup>	1 <sup>st</sup> day	Functions of management (planning, organizing, staffing, directing and controlling)
		2 <sup>nd</sup> day	Level of Management in an Organization
		3 <sup>rd</sup> day	Production management Functions & Activities
		4 <sup>th</sup> day	Productivity Quality control, Production Planning and control
SI No.	week	Day	Topics to be covered
6	6 <sup>th</sup>	1 <sup>st</sup> day	Need for Inventory management
		2 <sup>nd</sup> day	Models/Techniques of Inventory management
		3 <sup>rd</sup> day	Functions of Financial management and Management of Working capital
		4 <sup>th</sup> day	Break even Analysis
SI No.	week	Day	Topics to be covered
7	7 <sup>th</sup>	1 <sup>st</sup> day	Brief idea about Accounting Terminologies: Book Keeping, Journal entry, Petty Cash book, P&L Accounts, Balance Sheets(only Concepts)
		2 <sup>nd</sup> day	Concept of Marketing and Marketing Management
		3 <sup>rd</sup> day	Concept of 4P's (Price, Place, Product, Promotion)
		4 <sup>th</sup> day	Human Resource Management and Functions of Personnel Management
SI No.	week	Day	Topics to be covered
8	8 <sup>th</sup>	1 <sup>st</sup> day	Manpower Planning, Recruitment, Sources of manpower, Selection process and Method of Testing
			Leadership Definition and Need/Importance
			Qualities and functions of a leader Manager Vs Leader
			Style of Leadership (Autocratic, Democratic, Participative)

Sl No.	week	Day	Topics to be covered
9	9 <sup>th</sup>	1 <sup>st</sup> day	Definition and Characteristics of Motivation
		2 <sup>nd</sup> day	Importance of motivation and Factors affecting motivation
		3 <sup>rd</sup> day	Theories of motivation (Maslow) and Methods of Improving Motivation
		4 <sup>th</sup> day	Importance of Communication in Business Types and Barriers of Communication
Sl No.	week	Day	Topics to be covered
10	10 <sup>th</sup>	1 <sup>st</sup> day	Introduction to Work Culture, TQM & Safety
		2 <sup>nd</sup> day	Relations with Peers, Superiors and Subordinates
		3 <sup>rd</sup> day	TQM concepts: Quality Policy, Quality Management, Quality system
		4 <sup>th</sup> day	Accidents and Safety, Cause, preventive measures, General Safety Rules, Personal Protection Equipment(PPE)
Sl No.	week	Day	Topics to be covered
11	11 <sup>th</sup>	1 <sup>st</sup> day	Human relationship and Performance in Organization
		2 <sup>nd</sup> day	Methods of Training & Development in human resource Management
		3 <sup>rd</sup> day	Payment of Wages in human resource management
		4 <sup>th</sup> day	Introduction to Legislation
Sl No.	week	Day	Topics to be covered
12	12 <sup>th</sup>	1 <sup>st</sup> day	Intellectual Property Rights(IPR), Patents, Trademarks, Copyrights of Legislation
		2 <sup>nd</sup> day	Features of Factories Act 1948 with Amendment (only salient points)
		3 <sup>rd</sup> day	Features of Payment of Wages Act 1936 (only salient points)
		4 <sup>th</sup> day	Doubt clearance and Revision
Sl No.	week	Day	Topics to be covered
13	13 <sup>th</sup>	1 <sup>st</sup> day	Introduction to Smart Technology
		2 <sup>nd</sup> day	Concept of IOT(Internet of Thing)
		3 <sup>rd</sup> day	How IOT works
		4 <sup>th</sup> day	Doubt clearance and Revision
14	14 <sup>th</sup>	1 <sup>st</sup> day	Characteristics of IOT
		2 <sup>nd</sup> day	Categories of IOT
		3 <sup>rd</sup> day	Applications of IOT- Smart Cities and Smart Transportation
		4 <sup>th</sup> day	Applications of IOT -Smart Home, Smart Healthcare and Smart Industry
15	15 <sup>th</sup>	1 <sup>st</sup> day	Applications of IOT -Smart Agriculture and Smart Energy Management
		2 <sup>nd</sup> day	Doubt clearance and Revision
		3 <sup>rd</sup> day	Doubt clearance and Revision
		4 <sup>th</sup> day	Doubt clearance and Revision


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