



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Diploma Engineering

Level: Diploma

Branch: Computer Aided Costume Design and Dress Making

Subject Code: DI05051011

Subject Name: Industrial Management & Marketing

w. e. f. Academic Year:	2026-27
Semester:	5 th
Category of the Course:	PCC

Prerequisite:	NA
Rationale:	The course Industrial Management & Marketing is designed to equip diploma students with fundamental knowledge and practical skills required to improve productivity, efficiency and workplace safety in industrial environments while also developing basic managerial and marketing awareness. It integrates core concepts of productivity, work study, method study and work measurement with hands-on tools such as process charts, time study and workplace layout analysis to enhance operational performance. Additionally, the inclusion of industrial marketing concepts enables students to understand market dynamics, customer needs and promotional strategies in a business-to-business context. This balanced combination of technical, analytical and managerial aspects ensures that students develop industry-relevant competencies, problem-solving abilities and employability skills.

Course Outcome:

After Completion of the Course, Student will able to:

Sr. No.	Course Outcomes	RBT Level
01	Describe the concepts of productivity, working conditions and workplace environment in an industrial setup.	R
02	Illustrate basic work study procedures.	U
03	Select suitable method study tools to optimize workplace layout and efficiency.	R
04	Choose appropriate work measurement techniques.	A
05	Explain industrial marketing, market segmentation and sales promotion strategies for any product.	U

**Revised Bloom's Taxonomy (RBT)*



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Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA(M)	PA(I)	ESE (V)	
4	0	0	4	70	30	0	0	100

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	Productivity, Working Condition and Environment 1.1 Definition and Meaning of Productivity 1.2 Productivity in an enterprise. 1.3 Task of management. 1.4 Working conditions of the organization and Environment of the work place 1.4.1 Occupational safety and health organization 1.4.2 Safety criteria 1.4.3 Prevention of industrial accidents 1.4.4 Working premises 1.4.5 Good Housekeeping 1.4.6 Lighting 1.4.7 Noise and vibration 1.4.8 Climatic conditions 1.4.9 Personal protective equipment 1.4.10 Ergonomics 1.4.11 Working time 1.4.12 Work-related welfare facilities	12	20
2.	Work Study 2.1 Meaning and importance of Work Study. 2.2 Techniques of Work Study and their relationship. 2.3 Basic Procedure for Work study. 2.3.1 Select 2.3.2 Record 2.3.3 Examine 2.3.4 Develop 2.3.5 Evaluate	07	10



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	2.3.6 Define 2.3.7 Install 2.3.8 Maintain 2.4 Role of human element in the enterprise.		
3.	Method Study 3.1 Definition and Meaning of Method study. 3.2 Factors considered while selecting the work for method study. 3.2.1 Economic consideration 3.2.2 Technical consideration 3.2.3 Human consideration 3.3 Process chart symbols 3.4 Principle of motion economy 3.4.1 Use of the human body 3.4.2 Arrangement of the workplace 3.4.3 Design of tools and equipment 3.5 Workplace layout 3.6 Methods of Method study 3.6.1 The string diagrams 3.6.2 Flow Process chart 3.6.2.1 Worker type 3.6.2.2 Material type 3.6.2.3 Equipment type 3.6.3 The Multiple activity charts 3.6.4 Man and Machine chart 3.6.5 Two handed charts	17	30
4.	Work Measurement 4.1 Definition of Work Measurement 4.2 Importance of Work Measurement 4.3 Terminologies used for Work Measurement 4.3.1 Basic time 4.3.2 Standard time 4.3.3 Rating 4.3.4 Allowances 4.3.5 SAM and SMV 4.3.6 Elementary Breakdown 4.3.7 Qualified worker 4.3.8 Average worker 4.4 Techniques of Work Measurement 4.4.1 Work Sampling 4.4.2 Structured Estimating 4.4.3 Time Study	14	25



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	4.4.3.1 Concept of Time study 4.4.3.2 Time study equipment 4.4.3.3 Time study forms		
5.	Industrial Marketing 5.1. Concept of Industrial (Business-to-Business) Marketing 5.2. Industrial & Consumer marketing 5.3. Demand in Industrial Marketing 5.3.1 Derived demand 5.3.2 Joint demand 5.3.3 Cross-elasticity of demand 5.4 Sales Promotion in Industrial Marketing 5.4.1 Meaning & definition of Sales Promotion 5.4.2 Need of Sales Promotion 5.4.3 Methods of Sales Promotion 5.5 Types of Industrial Markets 5.5.1 Commercial enterprises 5.5.2 Government markets 5.5.3 Institutional markets 5.5.4 Cooperative markets 5.6 Industrial Market Segmentation 5.6.1 Need for market segmentation 5.6.2 Bases of segmentation 5.6.2.1 Geographic 5.6.2.2 Demographic 5.6.2.3 Behavioral	10	15
	Total	60	100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
40	40	20	--	--	--

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)



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References/Suggested Learning Resources:

(a) Books:

1. Introduction to Work study: George Kanawaty Published by International labour organization (1992) ISBN:9221071081
2. Essential of work study (method study and work measurement): Shyam Bhatawdekar and Dr. Kalpana Bhatawdekar Published by Publishing Division of Prodcons Group (2012) ASIN: B008RYYWJQ.
3. Industrial Safety Management: Pravin M. Pathak, Jayant P. Khairnar Published by Notion India Pvt. Ltd. (2022) ISBN-13: 9798886676044
4. Productivity enhancement in manufacturing operations: K. C. Alexander and Dr. A. K. Raj Published by Notion India Pvt. Ltd. (2017) ISBN-13: 9781947429413
5. Production Planning and Control: Ramachandran S., Devraj R., Rasidhar L. published by Airwalk publications; 1st edition (3 January 2017) ASIN: B01N7OQRLB

(b) Open-source software and website:

1. <https://educationleaves.com/what-is-work-study/>
2. <https://www.managementstudyguide.com/work-study-and-industrial-engineering.htm>
3. <https://businessjargons.com/work-measurement.html>
4. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_protect/@protrav/@safework/documents/instructionalmaterial/wcms_175900.pdf
5. <https://egyankosh.ac.in/bitstream/123456789/24138/1/Unit-3.pdf>
6. <https://egyankosh.ac.in/bitstream/123456789/7254/1/Unit-5.pdf>
7. <https://npcindia.gov.in/NPC/Files/Publication/Other%20Publications/Method-Study-MG4.pdf>
8. <https://sjce.ac.in/wp-content/uploads/2021/10/Method-study-and-the-selection-of-jobs.pdf>
9. https://rskr.irimee.in/sites/default/files/METHOD%20STUDY%20NOTES_1_.pdf
10. <https://dde.pondiuni.edu.in/files/StudyMaterials/MBA/MBA3Semester/Marketing/3IndustrialMarketing.pdf>
11. https://ycmou.ac.in/media/publication/ycmou_book/SNP_YB_100.pdf

Suggested Project List:

1. Evaluate a college laboratory for lighting, noise and seating ergonomics. Propose improvements using OHS standards.
2. Identify a "bottleneck" process in a production line. Record the current method with a Flow Process Chart and develop a "Proposed Method" using Motion Economy.



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3. Create a comprehensive safety manual for a specific department (e.g., Cutting Room), identifying hazards and required Personal Protective Equipment (PPE).

Suggested Activities for Students: If any

- a. Students are given a simple assembly task (e.g., a small garment component). They must record their hand movements using a Two-Handed Process Chart.
- b. Using basic tools (or mobile apps), students measure the lighting (Lux levels) and noise (Decibels) in different areas of the department/campus.
- c. Group discussion on productivity improvement techniques.
- d. Students take a disorganized storage area or toolkit and apply Good Housekeeping principles to reorganize it.
- e. Chart-based exercises (flow chart, process chart, etc.).

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