



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Diploma Engineering

Level: Diploma

Branch: Computer Aided Costume Design & Dress Making

Subject Code: DI04051031

Subject Name: Production Planning and Management

w. e. f. Academic Year:	2025-26
Semester:	4 th
Category of the Course:	PCC

Prerequisite:	-
Rationale:	The subject “Production Planning and Management” familiarizes students with planning, management and control in apparel manufacturing. It emphasizes effective use of resources, systematic production systems and preparation of time and action calendars to ensure productivity with minimal wastage. The subject also covers the preparation of time and action calendars to ensure timely and efficient production. Overall, it prepares students to improve productivity and reduce wastage in the apparel industry.

Course Outcome:

After Completion of the Course, Student will able to:

No.	Course Outcomes	RBT Level
01	Describe effective management and planning strategies.	R
02	Elaborate terminologies related to production planning and control.	U
03	Distinguish between various apparel manufacturing systems.	U
04	Interpret importance of managing critical resources.	U
05	Prepare time and action plan for apparel production.	A

*Revised Bloom's Taxonomy (RBT)

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	00	00	100



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Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	Management and Planning 1.1 Definition: Management and Planning 1.2 Functions and importance of management 1.3 Nature of planning 1.4 Types of plan: Strategic, Operational, Tactical and Contingency 1.5 Steps in planning process 1.6 Process of managing by objectives, strategies and policies 1.7 Formulation of objectives, SMART objective	12	20
2	Terminologies in Production Planning 2.1 Machine layout 2.2 WIP 2.3 Bottleneck 2.4 Critical operations 2.5 Line efficiency 2.6 Line planning 2.7 Line supervision 2.8 Throughput time 2.9 Lead time 2.10 Pitch time	6	10
3.	Garment production systems 3.1 Make-through system 3.2 Assembly system : Unit production system (UPS) and Progressive bundle system (PBS) 3.3 Modular production system (MPS) 3.4 Quick response manufacturing (QRM) 3.5 Flexible production systems (FPS)	18	30
4	Managing Critical Resources 4.1 7M of management 4.2 Finance management: Sources, Advantages and Disadvantages 4.3 Cost control and its importance 4.4 Material management: MRP (Material Requirement Planning)	18	30



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	and JIT (Just in Time)		
	4.5 Time management: Importance and principles		
5.	Time and Action Plan		
	5.1 Importance of TNA plan in apparel merchandising	6	10
	5.2 Factors to be considered while preparing TNA		
	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
20	60	20	--	--	-

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

References/Suggested Learning Resources:

(a) Books:

1. Essentials of Management, Harold Koortz & Heinz Weihrich Published by Tata McGraw Hill, 1998 ISBN-10. 1259005127; ISBN-13. 978-1259005121.
2. Management-I, Anand K. Bewoor & S. Kulkarni Published by Tech-Max Publications, Pune, 2010.
3. Management-II, Anand K. Bewoor & S. Kulkarni Published by Tech-Max Publications, Pune, 2010.
4. Garment manufacturing, Prasanta Sarkar Published by Online Clothing Study, Gurgaon, 2015.
5. Essentials of Management Joseph L Massie Published by Prentice Hall of India, (Pearson), Fourth Edition, 2003 ISBN-10: 8120304861, ISBN-13: 978-8120304864.

(b) Open-source software and website:

1. https://cbseacademic.nic.in/web_material/Curriculum21/publication/srsec/UNIT3_BA_XII.pdf
2. <https://www.scribd.com/document/836722995/7-M-Resources-for-Entrepreneurs><https://youtu.be/jRNqaOA8ZRI>
3. <https://www.onlineclothingstudy.com/2012/07/time-action-calender-format-for.html>
4. <https://www.youtube.com/watch?v=HsKgyRiKFF8>
5. https://www.youtube.com/watch?v=xCHgdSh_T-o



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Suggested Project List:

1. Develop a Time and Action Plan for a given garment.
2. Prepare charts showing types of production systems.
3. Collect pictures of different garment production units, line layouts, production systems, and management practices, and prepare a scrapbook or poster display.

Suggested Activities for Students: If any

1. Internet-based assignments.
2. Seminar on any relevant topic.
3. Teacher guided self-learning activities.

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