GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering
Subject Code: 3162911
B.E. Semester VI

Subject Name: Garment Technology

Type of course: Professional Elective Course

Prerequisite: Student should have knowledge of basic fabric formation methods, fabric properties and concepts thereof.

Rationale: Garment Technology covers the garment manufacturing process in detail. The machineries, the technologies involved and the quality aspects taken into consideration during the manufacturing process are studied. The application of computer aided designing and computer aided manufacturing are also discussed in detail in the subject.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P	C	Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	0	2	4	70	30	30	20	150

Content:

Sr. No.	Content	Total Hrs
1	Introduction to the apparel industry, Study of important fabric parameters assessment for manufacturing a quality garment.	3
2	Garment manufacturing process : Marker planning, Spreading, Cutting, Numbering and Bundling, Fusing, Sewing – Seams, Stitches, Sewing machine feed mechanism, Sewing needle and Sewing thread, Sewing machine beds, Sewing machine work aids.	12
3	Garment processing, finishing and packing.	6
4	Physiological and psychological comfort aspects.	5
5	The application of CAD and CAM in garment manufacturing sequence: 3D body scanning, Computerized garment designing, Automatic fabric inspection, Computerized marker planning, Computer controlled cutting, Automation in material handling and Computerized embroidery.	12
6	Garment production systems.	2
7	Quality control in garment manufacturing process – Cutting department, Assembling department, Garment finishing department and Packing department.	4

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks

R Level	U Level	A Level	N Level	E Level	C Level
20	30	30	10	5	5

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

1. Garment Manufacturing Technology, Ed. Rajkishore Nayak & Rajiv Padhye, The Textile Institute, Manchester, 2015.
2. The Technology of Clothing Manufacture, Carr H. and Latham B., Om Books Service, Delhi.
3. Automation in Garment Manufacturing, Ed.Rajkishore Nayak & Rajiv Padhye, The Textile Institute, Manchester, 2018.
4. Apparel Manufacturing Technology, T. Karthik, P.Ganesan and D. Gopalaksrishnan, Taylor & Francis Group, 2017
5. Apparel Machinery and Equipment, R.Rathinamoorthy and R. Surjit, Woodhead Publishing India, 2015
6. Computer Technology for Textiles and Apparel, Ed by Jinlian Hu, The Textile Institute, Manchester, 2011

Course Outcomes: After learning the course, students should be able to:

Sr. No.	CO statement	Marks % weightage
CO-1	Understand the stages involved in the manufacturing of the garment.	30
CO-2	Comprehend the finishing operations processes carried out on garments for enhancement of appearance, handle and performance.	15
CO-3	Know the various factors affecting and concepts related to physiological and psychological comfort of garments.	10
CO-4	Understand the application of CAD/CAM in garment manufacturing.	30
CO-5	Analyze the quality aspects considered and care taken during manufacturing to deliver a quality garment.	15

List of Experiments:

1. To study the process sequence followed in the garment manufacturing unit.

2. To understand the principle and working of 3D body scanning.
3. To study the designing and pattern making process.
4. To study the functioning of cutting department in the garment manufacturing process.
5. To understand the principle and working of computerized marker planning.
6. To study the working of different types of sewing machines.
7. To study about the different types of sewing machine beds and work aids.
8. To study the garment finishing and packing process of garments.
9. To understand the quality assessment and assurance process.
10. To study the importance of and parameters related to clothing comfort.
11. To study the garment production systems.
12. To study the principle and working of computerized embroidery.

Major Equipment: Sewing machine, computerized embroidery, marker planning, cutting, grading software and equipment, attachments

List of Open Source Software/learning website: https://nptel.ac.in, World Wide Web, Google Search Engine etc.