

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: V TEXTILE PRODUCTION

Subject Name: **Chemical and Physical Analysis of Textiles**

Subject Code: **152804**

Teaching Scheme				Evaluation Scheme		
Theory	Tutorial	Practical	Total	University Exam (Theory) (E)	Mid Sem Exam (Theory) (M)	Practical (I)
4	0	2	6	70	30	50

(1) Chemical Analysis of Textiles:

Sr. No.	Course content
1.	Fibre Identification by using different chemical reagents, End group analysis of fibres. Determination of saponification value of PET, Melting point, molecular weight measurements, Refractive index and Bi refringes, etc.
2.	Determination of moisture related properties such as absorbency, Moisture retention and moisture regain, etc.
3.	Analysis of fibre blends: Various methods such as microscopic, mechanical, chemical, etc, Factors affecting accuracy of quantitative analysis of fibre blends, Correction factors, Methods of quantitative analysis.
4.	Determination of size content, Formaldehyde and resin textiles.

(2) Physical Analysis of Textiles:

Sr. No.	Course content
1.	Aim and scope of testing, Measurement of twist, length, fineness, crimp, count, Hairiness of yarn, Yarn numbering systems and conversions.
2.	Determinations of foreign matter, Maturity of fibres.
3.	Testing of Tensile Property of fibres, Yarns & fabrics, Fabric thickness, Compressibility, Resilience, Rigidity, Drape & other properties, Associated with the fabric handle, Cloth tear test & test for bursting strength & resistance to wear.
4.	Measurement of yarn & sliver irregularity, Test for air permeability & thermal transmission.

Practical and Term Work:

Based as per the syllabus prescribed.

Reference Books:

1. Chemical Testing of Textiles, David M. Hall.
2. Profiles in Chemical Analysis, N. F. Desai.
3. Evaluation of Textile Chemicals, V. A. Shenai.
4. Principles of Textile Testing, Booth J.E.
5. Textile Testing, Angappan.