GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA IN TEXTILE PROCESSING TECHNOLOGY
SEMESTER: V

Subject Name: **Analytical Textile Chemistry**

Sr. No.	Course content
1.	**Analysis of Various Chemicals Used in Textile Processing:** 1.1 Analysis of different inorganic and organic acids used in various wet processing operations. 1.2 Analysis of different alkalis used in various wet processing operations. 1.3 Analysis of different oxidizing agents used in various wet processing operations. 1.4 Analysis of different reducing agents used in various wet processing operations**.**
2.	**Identification and Analysis of Textile Fibres:** 2.1 Identification of various textile fibres such as : Cotton, Wool, Silk, Viscose, Nylon, Polyester, Acetate and Acrylic. 2.2 Analysis of chemically degraded textile fibres.
3.	**Identification and Analysis of Textile Dyes:** 3.1 Identification of various textile dyes by its standard testing methods. 3.2 Analysis of various dyes by titration methods. 3.3 Analysis of dyes by colourimetric method. 3.4 Standardization of dyes by standard matching techniques.
4.	**Study of Chromatography:** 4.1 Principle and objects of chromatography. 4.2 Classification of chromatography techniques. 4.3 Detailed study of various types of chromatography. 4.4 Comparison of various types of chromatography. 4.5 Applications of chromatography in textile and other fields.
5.	**Study of Spectroscopy:** 5.1 Principle and objects of spectroscopy. 5.2 Classification of spectroscopy techniques. 5.3 Detailed study of various types of spectroscopy. 5.4 Comparison of various types of spectroscopy. 5.5 Applications of spectroscopy in textile and other fields.

6.	**Instruments Used for Analysis:** 6.1 pH Meter : (a) Definition of pH and pH meter, (b) Principle of pH meter, (c) Types of pH meter, (d) Construction and working mechanism of various types of pH meters. 6.2 Viscometer : (a) Definition of viscometer, (b) Principle of viscometer, (c) Types of viscometer, (d) Brief study of construction and working mechanism of various types of viscometers.
7.	**Eco-Parameters and Their Measurement Techniques:** 7.1 Introduction to eco-friendliness. 7.2 Various eco-parameters concerned in textile processing. 7.3 Different measurement techniques for above eco-parameters.

Reference Books:

Sr. No.	Name of Books	Authors
1.	Textile Analysis	E. R. Trotman & S. R. Trotman
2.	Textile Laboratory Manual	Garner
3.	Evaluation of Textile Chemicals	V. A. Shenai
4.	Journal of Society of Dyes and colourists (International Testing Methods Volume)	JSDC
5.	Textile Testing and Analysis	N. A. Vaishnav & H. D. Joshi