

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN TEXTILE PROCESSING TECHNOLOGY

SEMESTER: V

Subject Name: **Quality Control in Wet Processing**

Sr. No.	Course content
1.	Introduction to Quality, Quality Control & Process Control: 1.1 Define quality, quality control and process control. 1.2 Role, scope and importance of quality control and process control. 1.3 Role, scope and importance of Total Quality Control (TQC) and Total Quality Management (TQM) system. 1.4 Objects and advantages of quality control and process control.
2.	Quality Control and Process Control in Desizing, Scouring and Bleaching : 2.1 Object and importance of the inspection of grey fabric in terms of quality aspects. 2.2 Process control in shearing/cropping, Singeing and Grey mercerizing. 2.3 Precautions required in various Desizing techniques. 2.4 Precautions required in Kier Boiling/Scouring of various natural and manmade fabrics. 2.5 Process control in different Bleaching processes. 2.6 Cuprammonium fluidity, Copper number and Barium activity number tests with their importance in terms of quality aspects.
3.	Quality Control and Process Control in Dyeing: 3.1 Selection of dyes for dyeing so far as quality control is concerned. 3.2 Various Precautions required in different dyeing machines. 3.3 Precautions required in basic parameters of the dyeing of cellulosic fibre/fabrics. 3.4 Precautions required in basic parameters of the dyeing of semi-synthetic and synthetic fibre/fabrics. 3.5 Process control in yarn dyeing and dyeing of blended fabrics. 3.6 Speciality chemicals and auxiliaries required for the various dyeing techniques for quality control. 3.7 Various colours' fastness testing methods to different agencies.
4.	Quality Control and Process Control in Printing: 4.1 Basic parameters to be taken care of in Printing. 4.2 Precautions required in the printing of cellulosic fibre/fabrics. 4.3 Precautions required in the printing of semi-synthetic and synthetic fibre/fabrics. 4.4 Process control in the printing of Blended fabrics. 4.5 Precautions required in the fixation of printed fabrics and their after treatments.

5.	Quality Control and Process Control In Finishing: 5.1 Objects of Textile Finishing. 5.2 Process control measures in mechanical and chemical finishes. 5.3 Specific features in finishing of different types of fabrics to get quality finished fabric products. 5.4 Evaluation of different finishing operations with respect to quality control. e.g. Crease recovery testing method, feel, shining & luster etc. 5.5 Inspection of final finished fabrics in terms of quality aspects.
6.	Necessity of Maintenance in Textile Wet Processing: 6.1 Importance and objectives of maintenance. 6.2 Various types of maintenance : (a) Break down maintenance (b) Productive maintenance (c) Predictive maintenance (d) Preventive maintenance (e) Corrective maintenance 6.3 Merits and Limitations of different types of maintenance.
7.	Hazards and Safety Measures in Process Houses: 7.1 Various types of Hazards in wet processing and their remedial measures : (a) Mechanical hazards (b) Chemical hazards (c) Electrical hazards 7.2 Primary safety measures required in wet processing department.
8.	Inspection of Fabrics for Quality Control: 8.1 Definition and necessity of inspection of fabrics. 8.2 Importance and objectives of the inspection of fabrics. 8.3 Functions of Inspection department. 8.4 Faults found during inspection of desized, scoured, bleached, dyed, printed and finished fabrics, their causes and remedial measures. 8.5 Inspection process for mass scale production.
9.	Instruments Used for Process Control: 9.1 Principle, functions and mechanism of various process control instruments such as : (a) Temperature recorders (b) Pressure meters (c) Level indicators & controllers (d) Computer colour matching system (d) Colour matching cabinet etc.
10.	Organizations for Standard Quality Certification: 10.1 ISO – 9001 (Quality Product), 14001 (Environment) & 18001 (Occupational Health & Safety Assessment System, i.e. OHSAS). 10.2 Brief study of Six Sigma concept.

Reference Books:

Sr. No.	Name of Books	Authors
1.	Process and quality control in chemical processing	S. V. Gokhle & J. R. Modi ATIRA
2.	Orientation programme in wet processing (Quality & Process Control)	BTRA
3.	Safety in Textile Industries	H. V. Mehta, ATIRA
4.	Heat economy in Textile Industries	Prabha, Prajiya & Vyas ATIRA
5.	Industrial Instrumentation	Donald P. Eckman
6.	Industrial Instrumentation	Petranbis
7.	Six Sigma – Short Term Training Manual	NITTTR, Bhopal