GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester: I

M.E. TEXTILE ENGINEERING

Subject Name: **Texturising Technology (Major Elective-I)**

Sr.No	Course content
1.	**Concepts of texturising** Purpose - Types of texturised yarns - Classification of process - Comparison of texturised and untexturised yarns and fabrics – Mechanics of texturising. Physical and mechanical properties of texturised filament yarn structure and geometry of texturised yams and relationship to yarn contraction and twist liveliness- Application of texturised yarns - Role of spin finish on texturised yarns.
2.	**Draw texturising & false twist texturising** Advantages - Simultaneous and sequential draw texturising - Working principles and machines, modification of yarn properties during draw texturing. Principle - Single heater and double heater - False twist texturising machines. Twisting elements - Factors influencing Twist - Properties of Textured yarn - Effect of feed material and process variables.
3.	**Friction texturising and air jet texturising** Principles - Beltex Unit, Ring tex Unit, - Heating elements mechanism of heating - Zone length and speed. Texturised yarn defects. Air Jet Texturising- Principle - Air jet nozzle types – Process variables - Yarn properties
4.	**Texturising of man made fibres** Principal methods of - Sheath core technique - thermo plasticization - Crystallization and decrystallisation. Texturising of Polyester, Nylon, Polypropylene, Acrylic, Viscose and their blends. Spin finish requirements for filaments meant for texturising. Dyeing considerations- Texturised Nylon and polyester yarns high temperature dyeing and jet dyeing - Finishing of textured yarns and fabrics by heat setting.
5.	**Quality control and machine design concepts** Measurement of shrinkage force - Crimp contraction and dye uniformity - Texturamat - M.Dynafil tester. Machine elements and layout - Yarn path. - Take- up system and automation. Machine speed and general calculations.

REFERENCE BOOKS:-

1.Wilson D.K. and Kollu, T., "Production of textured yarns by the false twist technique", Textile Progress Vol.21 No.3 Textile Institute, Manchester U.K

2.Gupta.V.B "Winter School on Man-made fibres – production, processing, structure, properties and applications Vol. 1 & 2", 2000

3. Hes.L. Ursinyp. "Yarn Texturing Technology", Eurotex, U.K., 2001.

4.Wilson D.K. Kollu T. "Production of Textured yarns by methods other than False Twist technique", TP Vol. 16, No.3, Textile Institute 1998.

5. Demir.A "Synthetic Yarn Production", Prentice –Hall Inc, New Delhi. 2004.

6. Behery H.M. and Demir A. Synthetic filament yarn texturing technology, Prentice Hall, 2001.

7. Hearle J.W.S., Texturizing Technology, Woodhead Publishing, UK, 1998.

8. Gandhi R S. "Textured yarns', MANTRA, 1998