TT223 TECHNOLOGY OF MANUFACTURED FIBRES

Course Description & Objectives:
The main objective of this course is to give comprehensive idea about the regenerated and manmade fibres. The preparation and properties of the fibres are also discussed. The importance of using manmade fibre is also discussed.

Course outcomes:
1. Students will able to understand the importance of synthetic fibres in textile industry.
2. They will know the process of manufacture of the synthetic fibres.
3. They will able to find the structure property relation of synthetic fibres

UNIT I - Principles of Man Made Fiber
Introduction to man made fibers – Distinction between Natural and Man Made Fibres for Production, Properties & End Uses - important operations in the production of synthetic fibres – fibres varying substrate and geometry – Principles of fibre forming polymers, parameters influencing the quality – glass transition temperature – Melting temperature-Principles of spinning of man made fibres.

UNIT II - Melt Spinning
UNIT III - PET & Polyamide
Surface modification of polyester cause and effect – recent developments in polyesters like CDP, EDP, CFDP, APP etc.

UNIT IV - Solution Spinning & Rayon Fibre
Introduction to solution spinning – salient features of solution spinning – principles of wet and dry spinning-Rheology of Wet & Dry Spinning – comparison – a brief note on dry jet wet spinning.
Manufacture of Rayons - viscose, acetate and cuprammonium – physical and chemical properties - A brief note on Recent developments in viscose manufacturing (Lyocell fibre).

UNIT V - Acrylic. PP and Other Fibers

TEXT BOOKS:

REFERENCE BOOKS: