AMTE-14 QUALITY EVALUATION OF FIBRES AND YARNS

UNIT-1 INTRODUCTION

1.1 Definition of quality- importance of quality assessment
1.2 Selection of samples for quality assessment – random and biased samples
1.3 Squaring technique and zoning technique for FIBRE selection;
1.4 Yarn sampling - use of random numbers-
1.5 Sampling for various types of yarn tests.

UNIT-2 FIBRE LENGTH AND STRENGTH ANALYSIS

2.1 FIBRE testing, the FIBRE quality index and spinnablity;
2.2 FIBRE length and length uniformity measuring techniques. Strength Tensile Testing modes
2.3 CRT, CRE, CRL and ARL; FIBRE strength, importance, relation to yarn strength;
2.4 Measurement techniques.

UNIT-3 FIBRE FINENESS, MATURITY AND TRASH ANALYSIS

3.1 FIBRE fineness- definition-comparison of various FIBREs- its importance in yarn manufacture; measurement techniques.
3.2 Cotton FIBRE maturity, estimation by microscopic method
3.3 Maturity ratio and index, estimation by other methods – optical, air flow differential dyeing; its importance in spinning. FIBRE trash – influence on quality; measurement
3.4 Principle and estimation micro dust estimation for rotor spinning.
3.5 High volume instrument for total FIBRE quality measurement.

UNIT-4 YARN COUNT, TWIST AND STRENGTH

4.1 Yarn numbering systems-Indirect and direct systems-count conversions;
4.2 Count measuring systems. Twist in single and ply yarns- twist direction- twist factor- twist and yarn strength; twist measurement and breaking twist angle measurement.
4.3 Single yarn strength; Lea count strength product (CSP) and Corrected Count Strength Product (CCSP).

UNIT-5 YARN MASS EVENNESS AND SURFACE QUALITY

5.1 Yarn mass evenness parameters- measurement- electronic mass evenness determination- Yarn fault classification- Yarn Appearance;
5.2 Yarn abrasion resistance- importance and measuring technique. Yarn hairiness- importance and assessment techniques.
5.3 Yarn friction- static and dynamic friction- methods of measurement

References Books:

1. Ruth Clock and Grace Kunz., "Apparel Manufacture- Sewn Product Analysis", Upper Sadle River Publications, New York, 2000
2. Pradip V. Mehta., "Managing Quality in the Apparel Industry", NIFT Publication, India, 1998