

LESSON PLAN

DEPARTMENT OF TEXTILE TECHNOLOGY, ITT, CHOUDWAR

SUBJECT: TEXTILE TESTING-I

Periods: 4/Week

SEMESTER: 5th

NAME OF FACULTY: Pravat Kumar Sahoo

No. of weeks/Sem as per SCTE&VT, Odisha Textile Tech/ Engg Syllabus: 15

| Week | Class Day | Theory / Practical Topics |
|-----------------|-----------------|--|
| 1st | 1 st | Need of textile testing |
| | 2 nd | Fundamental concepts |
| | 3 rd | Testing process, criteria and methods |
| | 4 th | Introduction to sampling |
| 2nd | 1 st | Types of sample and different methods |
| | 2 nd | Sample selection methods for fiber |
| | 3 rd | Sample selection process for yarn |
| | 4 th | Fabric sampling methods |
| 3rd | 1 st | Trash and Its causes |
| | 2 nd | Methods for determining trash in cotton fiber |
| | 3 rd | Brief idea on Shirely trash analyzer |
| | 4 th | Brief idea on statistics |
| 4 th | 1 st | Classification and tabulation of data |
| | 2 nd | Measures of dispersion mean, median, mode |
| | 3 rd | Calculation of SD and CV% |
| | 4 th | Calculation related to sampling |
| 5 th | 1 st | Idea on moisture management in textile |
| | 2 nd | Effect of moisture on textile material and manufacturing |
| | 3 rd | Process and machinery involved in moisture determination |
| | 4 th | Concept of humidity |
| 6 th | 1 st | Moisture content and moisture regain |
| | 2 nd | Moisture content and moisture regain of different fibers |
| | 3 rd | Moisture hysteresis curve analysis |
| | 4 th | Calculation on MR and MC |
| 7 th | 1 st | Fiber dimension analysis, fundamental concept |
| | 2 nd | Purpose of fiber dimension measurement, process and machines |
| | 3 rd | Different lengths in fiber dimension |
| | 4 th | Instrument used in fiber length measurement, Baer Sorter |
| 8 th | 1 st | Concept of Fibrograph instrument |
| | 2 nd | Fiber fineness measurement, process, methods and parameters |
| | 3 rd | Measurement of fiber fineness by Caustic soda |
| | 4 th | Measurement of fiber fineness by Airflow method |
| 9 th | 1 st | ATIRA fineness tester |
| | 2 nd | Fiber maturity |

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| | 3 rd | Relationship between fiber fineness and maturity |
| | 4 th | Fiber maturity index |
| 10 th | 1 st | Brief idea on AFIS |
| | 2 nd | Brief idea on HVI |
| | 3 rd | Concept of FQI |
| | 4 th | Doubt clearing/ short fall class. |
| 11 th | 1 st | Importance of strength measurement |
| | 2 nd | Basic terminology in strength determination |
| | 3 rd | Concept of stress& strain, modulus |
| | 4 th | Brief idea on tenacity breaking length, creep, elastic limit |
| 12 th | 1 st | Concept of crimp, Y- modulus |
| | 2 nd | Stress-Strain curve analysis |
| | 3 rd | Stress-Strain curve for different fiber |
| | 4 th | Single fiber strength analysis |
| 13 th | 1 st | Bundle fiber strength determination |
| | 2 nd | Working of Stelo meter |
| | 3 rd | Interpretation of test results |
| | 4 th | Factors affecting strength of fibers |
| 14 th | 1 st | Load-Elongation curve |
| | 2 nd | Basic concept of yarn number |
| | 3 rd | Different yarn numbering system |
| | 4 th | Concept of Count |
| 15 th | 1 st | Concept of Tex and denier |
| | 2 nd | Universal yarn numbering unit |
| | 3 rd | Conversion formula |
| | 4 th | Doubt clearing/ Revision |

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