



Daffodil Polytechnic Institute, Institute Code: 50238

Subject Teacher : Md. Obydullah Al Masum
Subject Name : Textile Testing & Quality Control - I
Subject Code : 21151
Technology : Textile Technology
Semester : 5th Textile
Reference Book : Textile Testing & Quality Control - I (Publisher: Prime Publication)

Marks	Grade Point	Letter Grade	Marks	Grade Point	Letter Grade
80>	4.00	A+	55-59	2.75	B-
75-79	3.75	A	50-54	2.50	C+
70-74	3.50	A-	45-49	2.25	C
65-69	3.25	B+	40-44	2.00	D
60-64	3.00	B	0-39	0.00	F

Time Distribution (90min)			
	Particular	Time	
Greeting with students		5 Min	
Previous class review		10 Min	
Present class lecture		60 Min	
Feedback		10 Min	
Attendance		5 Min	

THEORY LESSON PLAN

Chapter	Learning Area	Learning Outcome	Supporting Equipments
1.	Introduction to Textile Testing & Quality Control 1.1. Define Textile Testing. 1.2. Mention the objectives of textile testing. 1.3. Illustrate the importance of textile testing. 1.4. Define Quality Control. 1.5. Differentiate between process control and product control. 1.6. State the affecting factors on test results. 1.7. List the name of Fibre, yarn, grey fabric, dyed/printed fabric and apparel test.	1) To know about about the basic concept of textile testing and quality control 2) to know the basic test of fiber, yarn and fabric	Text Book, marker & Link:
2	Sampling Technique	1) To know about	Text book,

	2.1. Define sample and sampling. 2.2. State the necessity of sampling. 2.3. Describe the influencing factors of sampling method. 2.4. Discuss different sampling methods.	sampling method	marker & Link:
Quiz Test - 1 Date:		Evaluation of Chapter- 1 & 2	Questions & answers script
3	Identification of Textile Fibre 3.1.Explain the necessity of Fibre identification. 3.2. State the method of sample preparation for identification. 3.3.Explain burning method for fibre identification. 3.4.Explain microscopic method for fibre identification. 3.5.Explain chemical method for fibre identification.	1) To Know the the fiber identification method	Text Book, Marker & Link:
4	Humidity & Moisture in Textile 4.1.Define humidity, Relative humidity, absolute humidity, standard atmospheric condition, testing atmospheric condition and conditioning of sample. 4.2.Define Moisture, Moisture regain and moisture content. 4.3.Relate between moisture regain and moisture content. 4.4.Discuss the effect of humidity on textile materials. 4.5.Describe the working principles of dry & wet bulb hygrometer. 4.6. State the factors affecting moisture regain of textile materials. 4.7.Discuss advantages and disadvantages of atmospheric condition on textile processing.	1)To know different terms related to humidity and moisture in textile 2) To know the factor affecting moisture regain of textile materials. 3) To know the working principle of dry, wet bulb hygrometer.	Text Book, Marker & Link:
Class Test - 1 Date:		Evaluation of Chapter- 3 & 4	Questions & answers script
5	Fibre Length Measurement 5.1.Define Staple length and effective length. 5.2.Define mean length, modal length and span	1) To know about different length of fiber	Text Book, Marker & Link:

	length. 5.3. Define Mean Length (ML) and Upper Half Mean Length (UHML) 5.4. Define floating Fibre percentage. 5.5. State uniformity index and uniformity ratio. 5.6. State the importance of fibre length. 5.7. Describe the methods of Fibre length measurement by comb sorter and digital fibro graph. 5.8. Describe the methods of Fibre length measurement by High Volume Instrument (HVI) and Advanced Fibre Information System (AFIS)	2) To know about the method of fiber length measurement by comb shorter	
MID TERM EXAM - (Exam starts from March 01)		Syllabus: Chapter 1-5	
6	Fibre Fineness 6.1 Define Fibre fineness. 6.2 Define micronaire value. 6.3 Discuss the principle of fibre fineness measurement. 6.4 Discuss the importance of fibre fineness measurement. 6.5 Illustrate the working procedure of fibre fineness measurement by air flow method. 6.6 Mention the range of micronaire value for measuring the fibre fineness.	1) To know about fiber fineness 2) To know the working procedure of fibre fineness measurement by air flow method.	Text book,, Marker & Link:
7	Fibre Strength Measurement 7.1 Define fibre strength. 7.2 State the importance of bundle Fibre strength. 7.3 Mention the factors influencing bundle Fibre strength. 7.4 Describe the working principle of bundle Fibre strength (Tenacity) measurement by Stelometer.	1) To know about fibre strength, factors influencing bundle fiber strength. 2) To know the working principle of bundle fibre strength	Text book, Marker & Link:
Quiz Test - 2 Date:		Evaluation of Chapter- 6 & 7	Questions & answers script
8	Fibre Maturity	1) To know about fiber	Text book,

	8.1. Define fiber maturity. 8.2. Explain the importance of Fibre maturity. 8.3. Classify cotton fibre according to maturity. 8.4. Distinguish among matured, immature and dead fibre. 8.5. Discuss the maturity ratio measurement system. 8.6. Mention the range of maturity ratio.	maturity, maturity ratio measurement system.	Marker & Link:
9	Trash and Neps Measurement 9.1. Define trash, Neps & seed coat neps. 9.2. Discuss the necessity of trash & neps measurement. 9.3. Describe the problems of neps on processing steps and products. 9.4. Interpret Shirley trash analyzer, High Volume Instrument (HVI) and Advanced Fibre Information System (AFIS). 9.5. Discuss color grading measurement system by High Volume Instrument (HVI).	1) To know about trash, Neps, seed coat neps. 2) To know Shirley trash analyzer, High Volume Instrument (HVI) and Advanced Fibre Information System (AFIS).	Text book, Marker & Link:
Class Test - 2 Date:		Evaluation of Chapter- 8 & 9	Questions & answers script
10	Yarn Numbering System 10.1 Define yarn count. 10.2 State different yarn counting system with formula. 10.3 Mention different conversion formula related to yarn count. 10.4 Calculate relevant mathematical problems of yarn count. 10.5 Prepare a table of units of length and weight of different yarn numbering system. 10.6 List different instrument used for measuring yarn count. 10.7 Explain the method to find the count of plied/folded and cabled/cord yarn. 10.8 Describe the working principle of wrap reel & balance method for yarn count measurement. 10.9 Illustrate the principle of yarn count measurement by beezley's balance.	1) To know about yarn count. 2) To know different kind of numbering system 3) To know the method of the count of plied/folded and cabled/cord yarn. 4) to know the principle of yarn count measurement by beezley's balance.	Marker, Text Book & Link:

11	Twist in Yarn 11.1. Define yarn Twist Per Inch (TPI), Twist Per Meter (TPM) and Twist Per Centimetre (TPC). 11.2. Define Twist Multiplier (TM) and Twist Factor (TF). 11.3. State the measurement procedure of twist. 11.4. Discuss direction of twist (S and Z). 11.5. Interpret the effect of twist on yarn and fabric. 11.6. Describe the working principle of a modern twist measurement instrument.	1) To know about TPI,TPM and twist of yarn. 2)To know Twist direction and working principle of modern twist measurement instrument	Text book, Marker & Link:
12	Yarn Strength and Elongation 12.1. Define single yarn strength. 12.2. Illustrate measuring procedure of single yarn strength tester. 12.3. Define lea strength. 12.4. Define Count-Strength Product (CSP). 12.5. Define elongation percentage of single yarn. 12.6. State the factors affecting yarn strength and elongation.	1) To know about yarn Strength and Elongation related topic.	Text book, Marker & Link:
13	Yarn Evenness and Imperfection 13.1. Define yarn evenness (Um Percentage and CVm Percentage) and imperfection (IPI). 13.2. Define yarn hairiness. 13.3. Describe the measuring principle of yarn evenness tester. 13.4. State the effects of hairiness on processing and fabric. 13.5. Discuss the principle of hairiness measurement.	1) To know about Yarn evenness, Yarn hairiness. 2) To know the principle of yarn evenness tester and measurement	Text book, Marker & Link:
14	Yarn Faults 14.1. Define seldom occurring fault. 14.2. Define frequent occurring fault. 14.3. Define classimat matrix. 14.4. Describe working principle of classimat. 14.5. Discuss measuring parameters of classimat.	1) To know different kind of yarn faults.	Text book, Marker & Link:

Submission of Assignment or Presentation (All Chapters)	Date:
Total Class & Quiz Tests: 4	Total Class: 30

PRACTICAL LESSON PLAN

Chapter	Learning Area	Learning Outcome	Supporting Equipments
1	Measure Humidity	1. Identify the model, brand, origin and manufacturing year of wet and dry bulb hygrometer. 2. Measure Relative Humidity (RH%) by wet and dry bulb Hygrometer. 3. Maintain the record of performed experiment.	
2	Identify Textile Fibre	1. Identify the chemicals used for different fibres. 2. Observe the specification of microscope 3. Detect the nature of fibres by burning method. 4. Recognize cross-sectional and longitudinal view of textile fiber by microscope. 5. Recognize fibres by chemical test. 6. Maintain the record of performed experiment.	
3	Identify Yarn Numbering System	1. Identify the wrap reel, electrical balance, Beesley balance and auto sorter machinery. 2. Determine the count of cotton, jute, wool, nylon, polyester yarn by Wrap reel & electronic balance, Beesley balance and Auto sorter. 3. Maintain the record of performed experiment.	
4	Measure Yarn Twist	1. Recognize the specification of twist tester.	

		2. Observe the basic settings for twist tester. 3. Apply ordinary, semi-automatic and automatic twist tester. 4. Maintain the record of performed experiment.	
5	Perform Yarn Fault Analysis	1. Identify model, brand, origin and manufacturing year of classimat. 2. Demonstrate fault analysis from classimat. 3. Maintain the record of performed experiment.	