

Daffodil Polytechnic Institute				
Mark	Grade Point	Letter Grade	Mark	Letter Grade
80-100	4.00	A+	75-79	3.75
75-79	3.75	A	70-74	3.50
70-74	3.50	A-	65-69	3.25
65-69	3.25	B+	60-64	3.00
60-64	3.00	B	55-59	2.75
55-59	2.75	B-	50-54	2.50
50-54	2.50	C+	45-49	2.25
45-49	2.25	C	40-44	2.00
40-44	2.00	D	35-39	1.75
35-39	1.75	D-	30-34	1.50
30-34	1.50	E+	25-29	1.25
25-29	1.25	E	20-24	1.00
20-24	1.00	F	15-19	0.75
15-19	0.75	F-	10-14	0.50
10-14	0.50	G	5-9	0.25
5-9	0.25	G-	0-4	0.00
0-4	0.00	H		

## Daffodil Polytechnic Institute, Institute Code: 50238

### Lesson Plan – Academic session: July 2023 to December 2023

**Subject Teacher** : Asif Shahriar (Instructor)  
**Subject Name** : TEXTILE TESTING & QUALITY CONTROL-III  
**Subject Code** : 1963  
**Technology** : Textile Technology  
**Semester** : 6<sup>th</sup>  
**Reference Book** : TEXTILE TESTING & QUALITY CONTROL-III (Publisher: Prime Publication)

Mark Distribution (for 150 Marks)			
Theory Marks		Practical Marks	
Midterm	30	PC	25
Class test	10	PF	25
Quiz test	10	-	-
Final	120	-	-
<b>Total</b>	<b>200</b>	<b>Total</b>	<b>50</b>

#### Subject Aims:

1. To develop the basic knowledge regarding structure
2. To develop knowledge & skill about garments design
3. To acquire knowledge to make different fabric structure.

**Subject Outcome:** Basic concept of fabric testing; Dimensional test for fabrics; Fabric thickness; Threads per inch

And thread count in woven fabric; Crimp; Tensile properties of fabric; Air Permeability of

Fabrics; Water permeability of fabric; Crease of fabric; stiffness handle & drape of fabric;

Abrasion; Shrinkage of fabric; Fastness of fabric; Quality control, Statistical, Quality control,

Control charts, Process control in spinning, Weaving, Finishing & Clothing, HVI, AFIS & ISO.

Date	Lecture	Chapter	Class/Lab Supporting Equipment's	Learning Area	Learning Outcome
	01	<b>Understand the Fabric Testing.</b>	Different type of quality particulars of fabric.  <a href="https://www.youtube.com/watch?v=6zqnTpAylmw">https://www.youtube.com/watch?v=6zqnTpAylmw</a>	1.1 Discuss the importance of fabric testing. 1.2 List the quality particulars of fabric. 1.3 Explain the importance of sampling of fabric for testing. 1.4 State the number of tests for determining fabric quality.	1. To know about quality particulars of fabric.. 2. To know about importance of fabric testing.
	02	<b>Understand the Dimensional test for fabrics.</b>	Template, balance, Marking pencil  <a href="https://www.youtube.com/watch?v=8OKb53n24HA">https://www.youtube.com/watch?v=8OKb53n24HA</a>	2.1 Discuss about dimensional parameters of fabrics. 2.2 Describe the method of determining the length of fabric by a) Using a Measuring table b) Using a Measuring scale ie. Hand method. c) Using a Measuring machine-i) Drum method, ii) Clack method iii) Folding method. 2.3 Describe the method of determining the width of fabric. 2.4 Describe the method of determining the mass per unit area of woven fabric.	1.To know about dimensional parameters of fabrics 2. To know about the mass per unit area of woven fabric.
	03	<b>Quiz Test</b>		<b>Theory Base/ Practical Base Should mentioned. Chapter 1 &amp; Chapter 2</b>	Fabric Testing. Fabric thickness.
	04	<b>Understand Fabric thickness.</b>	Heals thickness gauze m/c.  <a href="https://www.youtube.com/watch?v=XO-Kng1YTTU">https://www.youtube.com/watch?v=XO-Kng1YTTU</a>	3.1 State the main principle of fabric thickness measurement. 3.2 Mention the factors considered during fabric thickness measurement. 3.3 Mention the name of fabric thickness measurement instrument. 3.4 Describe the method of finding the fabric thickness by digital thickness gauze.	1. To know about Heals thickness gauze m/c 2. To know about the fabric thickness by digital thickness gauze.
	05	<b>Understand threads per inch and thread count in woven fabric.</b>	One inch counting glass Traversing thread counter.  <a href="https://www.youtube.com/watch?v=EPCPjfl3XiQ">https://www.youtube.com/watch?v=EPCPjfl3XiQ</a>	4.1 Define set specification. 4.2 Describe different methods to determine threads per inch in woven fabric.	1. To know about One inch counting glass 2. To determine threads per inch in woven fabric.
	06	<b>Understand Crimp.</b>	The WIRA crimp meter, The Shirley crimp meter	5.1 Define crimp. 5.2 State the effect of crimp on fabric properties.	1. To know crimp 2. To know about cover factor.

Date	Lecture	Chapter	Class/Lab Supporting Equipment's	Learning Area	Learning Outcome
			<a href="https://www.youtube.com/watch?v=KjQlvCDGSGc">https://www.youtube.com/watch?v=KjQlvCDGSGc</a>	5.3 Discuss the points to be considered during crimp measurement. 5.4 Describe the method of crimp measurement by different crimp tester with their working procedure & precautions. 5.5 Discuss about cover factor.	
	07	Quiz Test		<b>Theory Base/ Practical Base Should mentioned. Chapter 3-5.</b>	
	08	Review Class		<b>Chapter:1-2</b> (Regarding students problem)	
	09	Review class		<b>Chapter:3-5</b> (Regarding students problem)	
	10	Class Test		<b>Theory Base/ Practical Base Should mentioned Chapter:1-5</b>	.
	11	Understand Tensile properties of fabric.	Busting m/c Tearing Tester <a href="https://www.youtube.com/watch?v=W_FJKVQxJ74">https://www.youtube.com/watch?v=W_FJKVQxJ74</a>	6.1 State the importance of fabric strength measurement. 6.2 Mention the techniques of the fabric strength measurement. 6.3 Describe different techniques of fabric strength measurement such as cut strip test, Grab test, tearing test, bursting test.	1. To know about fabric strength measurement. 2. To determine threads per inch in woven fabric.
	12	Understand Air Permeability of fabrics.	Tent cloth, Tarpaulin <a href="https://www.youtube.com/watch?v=KFsqb9ws_CU">https://www.youtube.com/watch?v=KFsqb9ws_CU</a>	7.1 Define and Classify air permeability. 7.2 State the importance of air permeability & fabric properties. 7.3 Define air permeability. 7.4 Describe the method of measuring the air permeability of cloth by Shirley air permeability tester with a) machine description. b) Working procedure.	1. To know about air permeability. 2. To determine the method of measuring the air permeability of cloth by Shirley air permeability tester with a) machine description. b) working procedure

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	13	Understand water permeability of fabric.	Rain Cloth <a href="https://www.youtube.com/watch?v=m2leHEX6Yw0">https://www.youtube.com/watch?v=m2leHEX6Yw0</a>	8.1 State the importance of water permeability. 8.2 Define absorbency, shower proof, water proof, water repellent. 8.3 Explain the basic concept of wetting & water repellency. 8.4 Discuss different methods of measuring water resistance of a fabric viz. a) wetting time test, b) Spray test, c) Drop penetration test & d) Hydrostatic head test.	1. To know about the importance of water permeability. 2. To determine Hydrostatic head test.
	14	Class Test		<b>Theory Base/ Practical Base Should mentioned. Chapter 6, 7&amp; Chapter 8</b>	Fabric strength measurement. Define about air permeability. Water permeability.
	15	Understand crease of fabric.	Shirley crease recovery tester <a href="https://www.youtube.com/watch?v=tVE2nbpabHY">https://www.youtube.com/watch?v=tVE2nbpabHY</a>	9.1 Define crease, crease resistance, crease recovery. 9.2 Mention the effects of crease 9.3 Describe the method of measuring crease recovery by. a) Total crease recovery tester b) Shirley crease recovery tester	1. To know about crease, crease resistance, crease recovery 2. To determine Shirley crease recovery tester.
	16	Review Chapter 1&9	Slide,Book,marker pen	All Question of Chapter 1-9	Reviewing the Chapter according to student's problem.
<b>Mid Term Examination</b>					
	17	Understand stiffness handle & drape of fabric.	Shirley stiffness tester <a href="https://www.youtube.com/watch?v=lwZV0c_fxQs">https://www.youtube.com/watch?v=lwZV0c_fxQs</a>	10.1 Define fabric stiffness, handle, drape, bending length, flexural rigidity. 10.2 State the factors influencing fabric stiffness, handle & drape. 10.3 Describe the method of measuring drape by Drape meter. 10.4 Mention the methods of stiffness measurement with the name of instruments used.	1. To know about fabric stiffness, handle, drape, bending length, flexural rigidity. 2. To determine the factors influencing fabric stiffness, handle & drape.

Date	Lecture	Chapter	Class/Lab Supporting Equipment's	Learning Area	Learning Outcome
				10.5 Describe the method of stiffness measurement by Shirley stiffness tester.	
	18	Understand abrasion.	Martindale Abrasion Tester. <a href="https://www.youtube.com/watch?v=uREKWkfc7Vw">https://www.youtube.com/watch?v=uREKWkfc7Vw</a>	11.1 Define serviceability, wear and mention the purpose of serviceably testing. 11.2 Define abrasion resistance & classify different type of abrasion. 11.3 State the causes of abrasion and state the factors considered before Measurement of abrasion resistance. 11.4 Mention the methods of assessment of abrasion damage. 11.5 Describe the methods of measuring abrasion resistance	1. To know about Define serviceability, wear and mention the purpose of serviceably testing.  2. To Mention the methods of assessment of abrasion damage
	19	Quiz Test	Exam paper, Printed question paper etc.	Chapter 10 & 11 (Theoretically and practically based)	
	20	Understand shrinkage of fabric.	Tachometer <a href="https://www.youtube.com/watch?v=4op74KMdQql">https://www.youtube.com/watch?v=4op74KMdQql</a>	12.1 Define fabric shrinkage. 12.2 Mention the type of shrinkage. 12.3 Describe the methods of shrinkage measurement.	1. To know about fabric shrinkage. 2. To determine the methods of shrinkage measurement.
	21	Understand Fastness of fabric.	Sample of different fastness. <a href="https://www.youtube.com/watch?v=i6uklY_oJvg">https://www.youtube.com/watch?v=i6uklY_oJvg</a>	13.1 Explain fastness.  13.2 Mention different type of fastness property of fabric. 13.3 Describe sampling method for different fastness test. 13.4 Describe the methods of measuring the following fastness properties- a) Color fastness to washing. b) Color fastness to Perspiration	1. To know about fastness. 2. To determine Color fastness to washing.

Date	Lecture	Chapter	Class/Lab Supporting Equipment's	Learning Area	Learning Outcome
				c) Color fastness to light.	
	22	<b>Understand Quality control, Statistical quality control and Control chart.</b>	<a href="https://www.youtube.com/watch?v=cNdWN7rIIGU">https://www.youtube.com/watch?v=cNdWN7rIIGU</a>	14.1 Define quality control, statistical quality control, and control chart with its interpretation. 14.2 Mention different limits, rules and procedure to construct a control chart. 14.3 Describe about different types of control chart 14.4 Construct control chart from given data.	1. To know about quality control. 2. To determine threads per inch in woven fabric Mention different limits, rules and procedure to construct a control chart.
	23	<b>Class Test</b>	Exam paper, Printed question paper etc.	<b>Chapter 12-14 (Theoretically and practically based)</b>	
	24	<b>Understand process control in spinning, weaving, finishing and clothing</b>	<a href="https://www.youtube.com/watch?v=TG5FfuySL6s">https://www.youtube.com/watch?v=TG5FfuySL6s</a>	15.1 Discuss process control. 15.2 Classify process control and state the steps of process control 15.3 Define and distinguish process control and product control. 15.4 Mention and describe the process control measures at different stages and also The steps taken in spinning weaving, finishing and clothing.	1. To know about process control. 2. To determine Classify process control and state the steps of process control.
	25	<b>Understand HVI</b>	<b>HVI m/c</b> <a href="https://www.youtube.com/watch?v=PFL6QIKsUy0">https://www.youtube.com/watch?v=PFL6QIKsUy0</a>	16.1. Define HVI 16.2 State the tests that can be done by HVI machine in different module. 16.3. Mention the merits of HVI machine 16.4. Discuss about the operational procedure of HVI and interpretation of HVI results.	1. To know about HVI 2. To determine the State the tests that can be done by HVI machine in different module..
	26	<b>Quiz Test</b>	Exam paper, Printed question paper etc.	<b>Chapter 15 &amp; 16 (Theoretically and practically based)</b>	
	27	<b>Understand AFIS</b>	<b>AFIS M/C</b> <a href="https://www.youtube.com/watch?v=ZiZs-6TBKN4">https://www.youtube.com/watch?v=ZiZs-6TBKN4</a>	17.1 Describe AFIS 17.2 Mention the tests that can be done by AFIS in different module	1. To know about AFIS 2. To determine the importance of calibration of cotton.

Date	Lecture	Chapter	Class/Lab Supporting Equipment's	Learning Area	Learning Outcome
				17.3 Discuss about the operational procedure of AFIS and analysis of AFIS result. 17.4. Define calibration of cotton. 17.5 Classify calibration of cotton. 17.6 Describe the importance of calibration of cotton.	
	28	Understand ISO	ISO Chart <a href="https://www.youtube.com/watch?v=Ws8xnDZWKQI">https://www.youtube.com/watch?v=Ws8xnDZWKQI</a>	18.1 Define ISO with its objectives and Principles. 18.2 State the importance of ISO certification. 18.3 Describe the steps for getting ISO quality certificate. 18.4 Describe the steps of awarding ISO certificate 18.5 Discuss about the functions and quality of quality control personnel	1. To know about ISO with its objectives and Principles.  2. To know the importance of ISO certification.
	29	Class Test	Exam paper, Printed question paper etc.	Chapter 17 & 18 (Theoretically and practically based)	
	30	Review Chapter 10-18	Slide,Book,marker pen,	All Question of Chapter 10-18	Reviewing the Chapter according to student's problem.
	31	Review Chapter 1-3	Slide,Book,marker pen,.	All Question of Chapter 1-3	
	32	Review Chapter 4-6	Slide,Book,marker pen,	All Question of Chapter 4-6	Understanding the Chapter according to student's problem.
	33	Review Chapter 6-9	Slide,Book,marker pen,	All Question of Chapter 6-9	Understanding the Chapter according to student's problem.
	34	Review Chapter -10-14	Slide,Book,marker pen,	All Question of Chapter 10-14	Understanding the Chapter according to student's problem.
	35	Review Chapter 14-18	Slide,Book,marker pen,	All Question of Chapter 14-18	Understanding the Chapter according to student's problem.
	36	Presentation	Multimedia System, Projector. Internet Connection.	Short presentation by individual student.	Be confident on practical life.
	37	Model Test	Exam paper, Printed question paper etc.	Chapter1-18 (Theory and practical based)	

Date	Lecture	Chapter	Class/Lab Supporting Equipment's	Learning Area	Learning Outcome
<b>Semester Final Examination</b>					

### **PRACTICAL LESSON PLAN**

Exp No.	Topics with Contents	Submission Time
1	Determine the length and width of a fabric	Within next 7 Days
2	Determine the mass per unit area of a fabric	Within next 7 Days
3	Determine the crease recovery of fabrics	Within next 7 Days
4	Determine the water resistance of fabrics	Within next 7 Days
5	Determine the fastness properties of fabrics	Within next 7 Days
<b>Last Submission Deadline: 10/10/2023</b>		<b>Total Class: 4</b>