

Lesson Plan

Subject Teacher : Asif Shahriar (Instructor)
Subject Name : Wet Processing -2
Subject Code : 21351
Technology : Textile
Semester : 5th
Text Book : Wet Processing -2 (Publisher: Haque 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

Mark Distribution (for 200 Marks)			
Theory Marks		Practical Marks	
Midterm	20	PC	25
Class test	05	PF	25
Quiz test	05	-	-
Final	120	-	-
Total	150	Total	50

Reference Book:

1. Textile scouring and bleaching- E.R. Trotman
2. Textile chemistry-1 Md. Mozibur Rahaman

INTENTION:

To provide the students with an opportunity to acquire knowledge and skills in the area of wet processing with special emphasis on:

- Scouring
- Souring
- Bleaching
- Textile dyeing.

Class Time Distribution	
Particulars	Time
Greeting with students	05 Minutes
Taking Attendance	05 Minutes
Previous Class Review	10 Minutes
Present Class Topic Discussion and Lecture Delivery	40 Minutes
Students problem solving	10 Minutes
Present Class Topics Review	10 Minutes
Future topic discussion	10 Minutes

SHORT DESCRIPTION ABOUT BOOKS STUDIES:

Scouring; Souring; Bleaching; color & concept of color; Dye & dyeing; Direct dyes; Basic dyes; Acid dyes; Vat dyes and Reactive dyes.

LECTURE	CHAPTER	SUPPORTING EQUIPMENT	LEARNING AREA	LEARNING OUTCOME
01	1. CONCEPT & PROCESS OF SCOURING.	Equipment: Machine, j-box and vapor lock, caustic soda, H ₂ O ₂ , H ₂ O etc. Video: https://www.youtube.com/watch?v=oar000HnCQQ Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwlZMrvfS	1.1 Define scouring. 1.2 Explain the necessity of scouring. 1.3 Mention the methods of scouring. 1.4 Mention the types of scouring. 1.5 Describe the scouring process of cotton in kier, j-box and vapor lock chamber by caustic soda. 1.6 Faults of scouring & its remedial measures.	After completing the class my student have knowledge about Different types of Scouring Concept & Process.

			1.7 Describe the scouring of silk, wool and blended fibers. 1.8 Functions of different chemicals used in scouring. 1.9 Advantages & disadvantages of kier boiler scouring machine.	
02	2. BASIC CONCEPT OF SOURING.	Equipment: Machine, Caustic soda, H_2O_2, H_2O, Anticreasing, HCl Acid etc. Video: https://www.youtube.com/watch?v=d3khJG7LT_w Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwIZMrvfS	2.1 Define souring. 2.2 Mention the necessity/importance of souring. 2.3 Describe souring processes. 2.4 Distinguish between scouring & souring.	After completing the class my student can identify different types of scouring & souring.
03	Quiz Test 1	Equipment: Exam Paper, Question Paper, Pandemic Time: Smart Phone/Laptop, Internet etc.	Chapter 1 & Chapter 2	After the test my student can assess what they have learned with regards to the previous lecture.
04	3. GENERAL IDEA OF BLEACHING	Equipment: Bleaching Machine, peroxide. Hypochlorite, Cotton, Fabric, bleaching agents H_2O_2 etc. Video: https://www.youtube.com/watch?v=fh-by1iMGcc Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwIZMrvfS	3.1 Define bleaching. 3.2 Mention the necessity of bleaching. 3.3 Mention the types of bleaching. 3.4 State the types of bleaching agents with example. 3.5 Describe, bleaching of cotton with hypochlorite. 3.6 Describe bleaching of cotton with peroxide.	After completing the class my student can Understand the general idea of Bleaching.

			3.7 Compare between hypochlorite and peroxide bleaching. 3.8 Discuss the factors affecting H_2O_2 bleaching.	
05	4. BLEACHING PROCESSES.	Equipment: Bleaching Machine, peroxide. Hypochlorite, Cotton, Fabric, bleaching agents H_2O_2 etc. Video: https://www.youtube.com/watch?v=bpPjVkJzTJk Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwlZMrvfS	4.1 Describe kier bleaching process. 4.2 Describe pad-roll process. 4.3 Describe continuous process. 4.4 Mention the points to be considered for the selection of bleaching agent. 4.5 Describe the bleaching of silk & wool. 4.6 Describe the bleaching of polyester- cotton blended fabrics. 4.7 Describe the advantages of peroxide bleaching.	After completing the class my student can identify different types of bleaching processes.
06	5 & 6. COLOR/DYE/DYESTUFF & DYEING.	Equipment: Color, Dye/Dyestuff, Chromophore, Cotton, Fabric, Chemical etc. Video: https://www.youtube.com/watch?v=MC9nYWY9F6Q Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwlZMrvfS	5.1 Define color. 5.2 Mention color according to Pigment theory. 5.3 Explain, chromophore, auxochrome, chromogen.. 6.1 Define Dye/Dyestuff. 6.2 Describe the properties of dyes. 6.3 Mention the Classification of dyestuff according to application. 6.4 Define dyeing. 6.5 Distinguish between dyes & dyeing. 6.6 Mention the flow-chart of dyeing.	After completing the class my Student can be able to know different Classification of dyestuff according to application.

07	Class Test 1	Equipment: Exam Paper, Question Paper. Pandemic Time: Smart Phone/Laptop, Internet etc.	Chapter 3, 4,5 & 6	After the test my student can assess what they have learned with regards to the previous lecture.
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08	Review Class		Chapter:1,3 & 5	After completing the review class my student will be able to get missed knowledge from the previous lecture and get all the solution of the problem which they faced in their self-study.
09	Quiz Test 2	Equipment: Exam Paper, Question Paper. Pandemic Time: Smart Phone/Laptop, Internet etc.	Chapter:1,3 & 5	After the test my student can assess what they have learned with regards to the previous lecture.
10	Review class		Chapter: 4,6	After completing the review class my student will be able to get missed knowledge from the previous lecture and get all the solution of the problem which they faced in their self-study.
11	Class Test 2	Equipment: Exam Paper, Question Paper Pandemic Time: Smart Phone/Laptop, Internet etc.	Chapter:4,6	After the test my student can assess what they have learned with regards to the

				previous lecture.
	Presentation	Equipment: Laptop, Projector	Short presentation on Different subject related topic by individual group.	After completing the review class my student will be able to get missed knowledge from the previous lecture and get all the solution of the problem which they faced in their self-study.
Model Test on completed Chapter				
Mid Term Examination				
12	7. Direct dyes and its application.	Equipment: Direct Dye/Dyestuff, Machine,Cotton,Fabric, Chemical etc. Video: https://www.youtube.com/watch?v=eGLHAK1alaQ Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwlZMrvfS	7.1 Define direct dyes. 7.2 Mention the characteristics of direct dyes. 7.3 Classify direct dyes. 7.4 Mention the trade name of direct dyes. 7.5 Describe the application of direct dyes on cotton. 7.6 State the after treatment of direct dyes. 7.7 State the stripping of direct dyes. 7.8 List the commercial name of direct dyes .	After completing the class my Student can be able to identify the Direct dyes and its application.
13	8. Basic dyes & its application.	Equipment: Basic Dye/Dyestuff, Machine,Cotton,Fabric, Chemical etc. Video: https://www.youtube.com/watch?v=VcSOz8EQqmo Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwlZMrvfS	8.1 Define basic dyes. 8.2 Mention the properties of basic dyes. 8.3 List the commercial name of basic dyes. 8.4 Describe the application of basic dyes on Jute fabrics. 8.5 State the after-treatment of dyed fabrics. 8.6 List the commercial name of basic dyes.	After completing the class my Student can be able describe different types Basic dyes & Process.

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14	9. Acid dyes & its application.	Equipment: Acid Dye, Machine,Cotton,Fabric, Chemical etc. Video: https://www.youtube.com/watch?v=jV5emJArtlk Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwlZMrvfs	9.1 Define acid dyes. 9.2 Mention the properties of acid dyes. 9.3 Classify acid dyes. 9.4 Describe the application of acid dyes on cellulose & protein fibres. 9.5 List the commercial name of acid dyes	After completing the class my Student can be able to Understand the Acid dyes & its application.
15	Quiz Test 3	Equipment: Exam Paper, Question Paper Pandemic Time: Smart Phone/Laptop, Internet etc.	Chapter 7,8 & 9	After the test my student can assess what they have learned with regards to the previous lecture.
16	10. Vat dyes & its application.	Equipment: Vat dyes, Machine,Fabrics & Other's Chemicals. Video: https://www.youtube.com/watch?v=jV5emJArtlk Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwlZMrvfs	10.1 Define vat dyes. 10.2 Classify vat dyes. 10.3 List the commercial name of vat dyes. 10.4 Mention the characteristics of vat dyes. 10.5 Define vatting. 10.6 Describe the application of vat dyes on cotton. 10.7 State the after treatment of vat dyes. 10.8 Discuss the stripping of vat dyes. 10.9 List the commercial name of vat dyes.	After completing the class my Student can be able to know about vat Dyes, the methods of Vat Dyeing Process.
17	11. The reactive dyes and its application.	Equipment: Reactive dyes, Machine, Fabrics & Other's Chemicals also.	11.1 Define reactive dyes. 11.2 Classify the reactive dyes. 11.3 Mention the characteristics of reactive dyes. 11.4 Describe the application of reactive dyes on cotton fabrics.	After completing the class my Student can be able to identify different types of reactive dyes and

		Video: https://www.youtube.com/watch?v=J9w17vyyp Slide: https://drive.google.com/drive/u/1/folders/1NBbMp9iGohszCYzQIXBpuQ9IwIZMrvfS	11.5 Describe the application of reactive dyes on silk fabrics. 11.6 State the after treatment of reactive dyes. 11.7 List the commercial name of reactive dyes.	its application.
18	Quiz Test 4	Equipment: Exam Paper, Question Paper Pandemic Time: Smart Phone/Laptop, Internet etc.	Chapter 10 & 11.	After the test my student can assess what they have learned with regards to the previous lecture.
19	Review class		Chapter: 6, 7 & 8	After completing the review class my student will be able to get missed knowledge from the previous lecture and get all the solution of the problem which they faced in their self-study.
20	Class Test 3	Equipment: Exam Paper, Question Paper Pandemic Time: Smart Phone/Laptop, Internet etc.	Chapter: 6, 7 & 8	After the test my student can assess what they have learned with regards to the previous lecture.
21	Review class		Chapter: 9 & 10	After completing the review class my student will be able to get missed knowledge from the previous lecture and get all the solution of the problem which they faced in their

				self-study.
22	Class Test 4	Equipment: Exam Paper, Question Paper Pandemic Time: Smart Phone/Laptop, Internet etc.	Chapter: 9 & 10	After the test my student can assess what they have learned with regards to the previous lecture.
23	Presentation	Equipment: Laptop, Projector	Short presentation on Different subject related topic by individual group.	After completing the review class my student will be able to get missed knowledge from the previous lecture and get all the solution of the problem which they faced in their self-study.
Model Test on All Chapter				
Semester Final				