



**DIPLOMA IN TEXTILE ENGINEERING
SYLLABUS
PROBIDHAN-2022**

Subject Code	Subject Name	Period Per Week		Credit
21462	Garments Washing & Dyeing	T	P	C
		2	3	3

Learning Outcome (Theoretical):

- Interpret different raw materials, chemicals, auxiliaries and machinery used for garments washing and dyeing.
- Explain the working principles of the washing machine.
- Describe various wet processes of garments washing.
- Describe various dry processes of garments washing.
- Explain the working principles of the dyeing machine.
- Discuss different techniques and processes of garments dyeing
- Illustrate garments accessories dyeing.

Learning Outcome (Practical):

- Identify different dyes, chemicals, auxiliaries used for garments washing and dyeing.
- Select appropriate washing and dyeing recipes.
- Calculate the amount of dyes, chemicals, auxiliaries for garments washing and dyeing.
- Identify the process sequence of different washing and dyeing operation.
- Identify the effect of experimental results.

Detailed Syllabus (Theory)

Unit	Topics with contents	Final Marks
1	CONCEPTS OF GARMENTS WASHING 1.1 Define garments washing. 1.2 State the purposes of garments washing. 1.3 State the basic process flow chart of garments washing. 1.4 List out the raw materials used for garments washing.	5

	1.5 List the advantages of garments washing. 1.6 List the disadvantages of garments washing. 1.7 List the effects of garments washing.	
2	GARMENTS WASHING & DYEING MACHINERY 2.1 List the machinery used in garments washing & dyeing plants. 2.2. Classify garments washing & dyeing machines. 2.3 Describe the working principle of a pedal washing & dyeing machine. 2.4 Illustrate working principles of conventional, modern rotary washing & dyeing machines. 2.5 State hydro-extractor and dryer.	5
3	CLASSIFICATION OF GARMENTS WASHING 3.1 Classify garments washing. 3.2 List the name of washing chemicals. 3.3 Discuss various washing chemicals. 3.4 Store the preservations of washing chemicals. 3.5 Mention the preventive measures of workers in the washing plant.	5
4	WET PROCESS OF GARMENTS WASHING 4.1 Define garments washing. 4.2 Classify wet process of garments washing. 4.3 Discuss the process of normal washing. 4.4 State the process of caustic wash. 4.5 Discuss the process of bleach wash. 4.6 Describe the process of pigment wash. 4.7 Discuss the process of stone-enzyme wash. 4.8 Explain the process of acid wash. 4.9 List the advantages and disadvantages of the wet process of garments washing.	8
5	DRY PROCESS OF GARMENTS WASHING 5.1 Define the dry process of garments washing. 5.2 List different types of dry washing. 5.3 Describe the procedure of hand scraping. 5.4 State the procedure of whiskering. 5.5 Describe the procedure of grinding and destroying. 5.6 Explain the procedure of PP spray. 5.7 Describe the procedure of wrinkles. 5.8 List the advantages and disadvantages of the dry process of garments washing.	8
6	CONCEPTS OF GARMENTS DYEING 6.1 Define garments dyeing. 6.2 State the objects of garments dyed. 6.3 Classify garments dyeing. 6.4 List out the raw materials used for garments dyeing	8

	6.5 Discuss the selection criteria of trims and accessories before garments dyeing.	
7	TECHNIQUES OF GARMENTS DYEING 7.1 Explain Dip dyeing techniques. 7.2 State Tie-dyeing techniques. 7.3 Describe Boutique dyeing techniques. 7.4 Describe Tinting and Over dyeing techniques.	5
8	PROCESSES OF GARMENTS DYEING 8.1 List the ingredients of the dyeing recipe. 8.2 Discuss the importance of dyeing recipes. 8.3 Describe garments dyeing with reactive dye. 8.4 Describe garments dyeing with direct dye. 8.4 State the garments dyed with vat dye. 8.5 Describe garments dyed with pigment dye. 8.6 Explain the garments dyed with sulfur dye. 8.7 State the advantages and disadvantages of garments dyeing.	6
9	GARMENTS ACCESSORIES DYEING 9.1 State the process of sewing thread dyeing. 9.2 List out the machinery used for sewing thread dyeing. 9.3 Describe the process of zipper dyeing. 9.4 Discuss machinery used for zipper dyeing. 9.5 Describe process of button dyeing. 9.6 Discuss machinery used for button dyeing.	8
10	SPECIAL WASHING AND DYEING OF GARMENTS 10.1 state different special washing and dyeing techniques of garments. 10.2 Describe the ozone wash process. 10.3 Discuss the laser wash process. 10.4 State the oil wash process. 10.5 Discuss the burn wash process. 10.6 Explain the double dyeing process on blended garments. 10.7 Discuss the towel bleach wash process.	6
	Total:	60

Detailed Syllabus (Practical)

Unit	Topics with Contents	Final Marks
1	DETERMINE THE OPERATING PROCEDURE OF DIFFERENT GARMENTS WASHING AND DYEING MACHINERY 1.1 Identify different parts of the garments washing and dyeing machine. 1.2 Identify the function of different parts of the washing and dyeing machine. 1.3 Observe the operation of the garments washing and dyeing machine. 1.4 Maintain the records of performed tasks.	2.5
2	PERFORM THE APPLICATION PROCEDURE OF CAUSTIC WASH ON GARMENTS 2.1 Identify the fabric, relevant chemicals, auxiliaries and machinery. 2.2 Calculate the chemicals and auxiliaries to obtain the required shed. 2.3 Perform the washing operation. 2.4 Maintain the record of the experiment performed.	2.5
3	PERFORM THE APPLICATION PROCEDURE OF BLEACH WASH ON GARMENTS 3.1 Identify the fabric, relevant chemicals, auxiliaries and machinery. 3.2 Calculate the chemicals and auxiliaries to obtain the required shed. 3.3 Perform the washing operation. 3.4 Maintain the record of performed experiment	2.5
4	PERFORM THE APPLICATION PROCEDURE OF STONE-ENZYME WASH ON GARMENTS 4.1 Identify the fabric, relevant chemicals, auxiliaries and machinery. 4.2 Calculate the chemicals and auxiliaries to obtain the required shed. 4.3 Perform the washing operation. 4.4 Maintain the record of the experiment performed.	2.5
5	PERFORM THE APPLICATION PROCEDURE OF ACID WASH ON GARMENTS 5.1 Identify the fabric, relevant chemicals, auxiliaries and machinery. 5.2 Calculate the chemicals and auxiliaries to obtain the required shed. 5.3 Perform the washing operation. 5.4 Maintain the record of performed experiments.	2.5
6	OBSERVE DIFFERENT DRY PROCESS OF GARMENTS PRODUCT 6.1 Identify the relevant tools, chemicals, auxiliaries and machineries. 6.2 Calculate the chemicals and auxiliaries to obtain the required effect. 6.3 Perform the dry process operations on garments. 6.4 Maintain the record of performed experiments.	2.5

7	PERFORM THE APPLICATION PROCEDURE OF REACTIVE DYES ON COTTON GARMENTS 7.1 Identify the relevant dyes, chemicals, auxiliaries and machineries. 7.2 Calculate the chemicals and auxiliaries to obtain the required Shade. 7.3 Perform the dyeing operation. 7.4 Maintain the record of performed experiments.	2.5
8	PERFORM THE APPLICATION PROCEDURE OF VAT DYES ON COTTON GARMENTS 8.1 Identify the relevant dyes, chemicals, auxiliaries and machineries. 8.2 Calculate the chemicals and auxiliaries to obtain the required Shade. 8.3 Perform the dyeing operation. 8.4 Maintain the record of performed experiments.	2.5
9	PERFORM THE APPLICATION PROCEDURE OF SULFUR DYE ON DENIM GARMENTS 9.1 Identify the relevant dyes, chemicals, auxiliaries and machineries. 9.2 Calculate the chemicals and auxiliaries to obtain the required Shade. 9.3 Perform the dyeing operation. 9.4 Maintain the record of the experiment performed.	2.5
10	PERFORM GARMENTS ACCESSORIES DYEING 10.1 Identify the relevant dyes, chemicals, tools, materials, auxiliaries and machineries. 10.2 Calculate the chemicals and auxiliaries to obtain the required shade. 10.3 Perform the dyeing operation. 10.4 Maintain the record of the experiment performed.	2.5
	Total:	25