DIPLOMA IN TEXTILE ENGINEERING SYLLABUS
PROBIDHAN-2022
6TH SEMESTER (FM)

Sl. No.	Subject		Period		C	Marks Distribution						
						Theory Assessment			Practical Assessment			Grand Total
	Code	Name	T	P		Continuous	Final	Total	Continuous	Final	Total	
1	21261	Advanced Fabric Manufacturing-I	3	3	4	60	90	150	25	25	50	200

This course will be conducted by: Md. Obydullah Al Masum

1) **Learning Outcome (Theoretical/Knowledge):**

1. Explain warp stop & weft stop motion of modern loom
2. Describe the mechanism and uses of dobby and jacquard loom
3. Demonstrate principle operation of modern loom
4. Interpret the process to select the appropriate loom according to end uses
5. Describe the manufacturing process and end uses of special fabric
6. Explain factors related to weaving management
7. State the faults in weaving and woven fabric and their remedies

2) **Learning Outcome (practical):**

1. Identify different parts of modern loom
2. Operate the modern loom
3. Select appropriate loom according to end uses
4. Identify the different parts of denim manufacturing process

Detailed Syllabus (Theory)

Unit	Topics with Contents	Final Marks
1	**Warp Stop & Weft Stop Motion** 1.1 Define tertiary motion 1.2 Mention different types of tertiary motion 1.3 State the features of automatic loom 1.4 Define Warp stop motion 1.5 Describe the electrical warp stop motion 1.6 Define weft stop motion 1.7 Classify weft stop motion 1.8 Describe different types of wefts stop motion 1.9 Define weft mixing and weft patterning 1.10 Differentiate between weft mixing and weft patterning	5
2	**Dobby Shedding** 2.1 Define dobby shedding 2.2 Classify dobby shedding 2.3 Describe positive dobby shedding mechanism 2.4 Describe negative dobby shedding mechanism 2.5 Distinguish between negative and positive dobby shedding	5
3	**Jacquard Shedding** 3.1 Define jacquard shedding 3.2 Classify jacquard shedding 3.3 Comparison among various types of jacquard shedding 3.4 Discuss the building of jacquard harness system 3.5 Describe the various types of harness tie-up 3.6 Analyze the lifting loss of jacquard loom 3.7 Calculate the production of dobby and jacquard loom	10
4	**Modern/Shuttle less Loom** 4.1 Define modern loom 4.2 State the features of modern loom	5

	4.3 List the types of modern loom 4.4 Differentiate between shuttle loom and modern loom 4.5 Describe the weft accumulator/ weft feeder of modern loom	
5	**Projectile Loom** 5.1 Define projectile weaving 5.2 State the features of projectile loom 5.3 Describe the main parts of projectile loom 5.4 Illustrate the working principle of projectile loom 5.5 Discuss the advantages and disadvantages of projectile loom	7
6	**Rapier Loom** 6.1 Define rapier weaving 6.2 State the features of rapier loom 6.3 Explain the classification of rapier loom 6.4 Mention the advantages and disadvantages of various types of rapier loom 6.5 Describe the working principle of dewas system for flexible rapier	6
7	**Jet Loom** 7.1 Define jet loom 7.2 Classify jet loom 7.3 Define air jet weaving 7.4 State the advantages and disadvantages of air jet weaving 7.5 Discuss the working principle of weft insertion configuration of air jet weaving machine 7.6 State the air quality of air jet weaving 7.7 Define water jet weaving 7.8 State the quality of water used in water jet weaving 7.9 Mention the advantages and disadvantages of water jet weaving	8
8	**Characteristics of modern Loom** 8.1 Discuss the characteristics of the fabrics produced in projectile loom	4

	8.2 Discuss the characteristics of the fabrics produced in rapier loom 8.3 Discuss the characteristics of the fabrics produced in jet loom 8.4 Calculate the production of different modern loom	
9	**Denim** 9.1 Define denim fabric 9.2 State the main features of denim fabric 9.3 Describe the raw materials used in denim fabric 9.4 Explain the types of denim fabric 9.5 Discuss the warp preparation of slasher denim manufacturing process 9.6 Discuss the warp preparation of rope dyeing denim manufacturing process 9.7 Describe the finishing process of denim fabric 9.8 Describe the end uses of denim fabric	8
10	**Pile Fabric** 10.1 Define Pile fabric 10.2 Classify pile fabric 10.3 Describe the structure of different pile fabrics 10.4 Mention the construction methods of different types of pile fabric	4
11	**Terry towel** 11.1 Define terry towel 11.2 Classify terry towel 11.3 Describe the fiber used in terry towel 11.4 Describe the yarn used in terry towel 11.5 Discuss yarn properties of terry towel 11.6 Discuss the mechanism of pile formation 11.7 Design the structure of terry towel 11.8 Draw and point out different elements of terry towel 11.9 State the end uses of terry towel	4

12	**Carpet** 12.1 Define carpet 12.2 State the properties of carpet 12.3 Describe the raw materials used in carpet 12.3 Explain the classification of carpet 12.4 Mention the methods of carpet manufacturing process 12.5 Illustrate uses of carpet 12.6 Describe the manufacturing process of tufted carpet. 12.7 State the end uses of tufted carpet.	4
13	**Narrow Fabric** 13.1 Define narrow fabric 13.2 State the features of lace, braid, elastic, tape and ribbon 13.3 State the types of lace, braid, elastic, tape and ribbon 13.4 Explain the manufacturing process of braid 13.5 Mention the end uses of lace, braid, elastic, tape and ribbon	4
14	**Weaving Management** 14.1 Define weaving management 14.2 State the time studies in weaving 14.3 Calculate the weaver's load distribution 14.4 State the causes of warp and weft yarn breakage in weaving 14.5 Explain the factors controlling loom efficiencies 14.6 Describe basic production planning in weaving	6
15	**Woven Fabric Inspection** 15.1 Describe inspection machine of woven fabric 15.2 Calculate the penalty points (4 points, 10 points) of grey and finished woven fabric 15.3 Discuss the faults and remedies of grey woven fabric 15.4 Discuss the faults and remedies of finished woven fabric 15.5 Discuss the faults and remedies of denim fabric	8
	Total	**90**

Detailed Syllabus (Practical)

Unit	Topics with Contents	Final Marks
1	**Observe Weft Stop Motion** 1.1 Observe the mechanism of side weft fork motion 1.2 Draw the diagram of side weft fork motion 1.3 Identify different parts of side weft fork motion 1.4 Maintain the record of performed experiment	1.5
2	**Observe Electric Warp stop motion** 2.1 Observe the mechanism of electric warp stop motion 2.2 Draw the diagram of electric warp stop motion 2.3 Identify different parts of electric warp stop motion 2.4 Maintain the record of performed experiment	1.5
3	**Observe Positive Dobby** 3.1 Observe the construction of positive dobby shedding mechanism 3.2 Observe the working principle of dobby shedding mechanism 3.3 Draw the shedding mechanism of positive dobby 3.4 Identify the different parts of positive dobby 3.5 Maintain the record of performed experiment	1.5
4	**Observe Jacquard** 4.1 Observe the construction of Jacquard mechanism 4.2 Observe the working principle of Jacquard mechanism 4.3 Draw the diagram of Jacquard shedding mechanism 4.4 Identify the different parts of Jacquard mechanism 4.5 Maintain the record of performed experiment	5

5	**Observe High speed cam shedding Mechanism** 5.1 Observe the working principle of positive cam shedding mechanism 5.2 Draw the diagram of positive cam shedding mechanism 5.3 Identify the different parts of positive cam shedding 5.4 Maintain the record of performed experiment	3
6	**Operate the Projectile Loom** 6.1 Observe the construction of weft insertion system of projectile loom 6.2 Observe the working principle of weft insertion system of projectile loom 6.3 Draw the diagram of weft insertion system of projectile loom 6.4 Identify the different parts of weft insertion system of projectile loom 6.5 Operate the projectile loom	1.5
7	**Operate the Rapier Loom** 7.1 Observe the construction of picking system of rapier loom 7.2 Observe the working principle of picking system of rapier loom 7.3 Draw the diagram of picking system of rapier loom 7.4 Identify the different parts of picking system of rapier loom 7.5 Operate the Rapier Loom	5
8	**Operate the Air jet loom** 8.1 Observe the construction of weft insertion of air jet loom 8.2 Observe the working principle of weft insertion of air jet loom 8.3 Draw the diagram of weft insertion of air jet loom 8.4 Identify the different parts of weft insertion of air jet loom 8.5 Operate the Air Jet Loom.	3

9	**Operate the Fabric Inspection Machine** 9.1 Operate the fabric inspection machine 9.2 Inspect the supplied fabric roll and calculate of penalty points	3
	Total	**25**