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INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Salem & Varanasi

Post Diploma in Textile Processing

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 01

Time:3 Hours

Course Code & Title : **PDTP102 Technology of Preparatory Processing of Textiles**

Maximum Marks:100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. Write the object of Scouring.
2. What is the role of sodium nitrate in Sodium chlorite bleaching?
3. Write chemical composition of Silk fibre.
4. Define Milling.
5. What type of impurities contains synthetic material?
6. Differentiate between crabbing and potting.
7. Write the working principle of Winch dyeing machine.
8. What is the function of Scutcher in processing?
9. Define Copper number.
10. Write two examples of sequestering agent.

PART-B

((6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Draw & explain the morphological structure of Cotton fiber. (6)
B. Write the factors effecting bleaching of cotton with Sodium chlorite. Write in detail the method of bleaching cotton with sodium chlorite with recipe and functions of chemicals used. (10)
 - (OR)
 - C. Why preparatory treatment is necessary before dyeing & printing? (6)
D. Explain the spotting, stitching, mending & mercerization process. (10)
12. A. Write about the chemical composition of raw wool fibre. (6)

- B. Which method of Degumming is most suitable and Why. (10)
- (OR)**
- C. Draw & explain morphology structure of Silk fibre (6)
- D. Explain with suitable diagram scouring of wool fibre with Emulsion Scouring method. (10)
13. A. Explain the term setting of wool material. (6)
- B. Write in detail the process of bleaching woollen goods with hydrogen peroxide with recipe & objectives of chemicals used. (10)
- (OR)**
- C. Write the need of preparation for Synthetic material. (6)
- D. Draw a neat diagram of crabbing machine and explain its working for wool fabric. (10)
14. A. Write the sequence of processing of cotton material to be printed. (6)
- B. Discuss in detail with neat diagram the working of modern Kier boiling machine. (10)
- (OR)**
- C. Define Singeing. Explain working of Gas singeing machine with neat diagram. (6)
- D. Discuss the working principle of winch dyeing machine with neat figure. (10)
15. A. Write the objectives of auxiliaries in textile wet processing. Give a short note on Surfactant and OBA with examples. (6)
- B. Write the advantages of continuous process of bleaching. Explain the working of J-Box range with neat diagram. (10)
- (OR)**
- C. Write in detail the various Garments processing machine. (6)
- D. What are the defects & damages occurred in Scouring and Bleaching (10)

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APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 01

Time:3 Hours

Course Code & Title : **PDTP103 Technology of Dyeing I**

Maximum Marks:100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. Distinguish between a Dye and Pigment.
2. Classify the dye classes with respect to its application.
3. Mention the general properties of sulphur dyes.
4. List the steps involved in sulphur dyeing.
5. Elucidate the general properties of vat dyes.
6. Write the name of papers used in vat dyeing of cotton to check caustic and hydro.
7. Classify the metal complex dyes.
8. Enumerate the process condition for wool carbonization.
9. List the advantages of jumbo jigger.
10. List the banned amines in processing.

PART-B

((6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Explain Auxochrome and chromophore with examples. (6)
B. Elaborate in detail the exhaust and padding techniques of dyeing. (10)
(OR)
C. What are the criteria for selection of dyes? (6)
D. Explain the term percentage shade, percentage exhaustion, percentage expression and affinity. (10)
12. A. Explain the application of dyeing of cotton with azoic colour. (6)
B. Enumerate the problem involved in sulphur dyeing and suggest suitable measure to overcome the problems. (10)

(OR)

- C. What are the after treatments of cotton dyed with direct dyes? (6)
- D. Explain the chemistry and method of applying sulphur dyes on cellulosic materials. (10)
13. A. Discuss the chemistry and method of application of vat dyes on cotton fabrics. (6)
- B. Explain in detail dyeing of cellulosic materials using solubilized vat dyes (10)

(OR)

- C. Classify vat dyes in accordance with their chemical constitution. (6)
- D. Explain the chemistry and application of bi functional & mono functional reactive dyes. (10)
14. A. Explain the application of metal complex dyes on silk fabrics. (6)
- B. What is meant by isoelectric point? Explain in detail the dyeing of wool fabrics with chrome dyes. (10)

(OR)

- C. Classify acid dyes. (6)
- D. Explain in detail the dyeing of silk fabrics using acid dyes. (10)
15. A. Explain the concept of banned dyes. (6)
- B. Elaborate the construction and working principle of cabinet hank dyeing machine. (10)

(OR)

- C. Explain different types of padding mangles. (6)
- D. Explain the working of jigger machine with neat diagram. (10)

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APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 01

Time:3 Hours

Course Code & Title : **PDTP104 Introduction to Textile
Manufacture**

Maximum Marks: 100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. What are the important characteristics of woven fabric?
2. Define the term folded yarn.
3. State any two machines used in Blowroom line.
4. What are the objectives of combing process?
5. Draw the flowchart for weaving preparatory process.
6. Define warping process in weaving.
7. Draw the design, draft and peg plan of twill weave in minimum repeat size.
8. State any two loops form in knitted fabric.
9. What are the salient feature of shuttle-less looms?
10. Define the term weaver's beam.

PART-B

((6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Draw the flowchart of textile fibre used in textile industries. (6)
B. Define the textile term: Fibre, Mixing, Blend, Yarn, Warp, Weft, EPI, PPI, Fabric and Weave. (10)
- (OR)
- C. Classify of various types of single and folded yarn and their characteristics. (6)
D. What is the difference between woven, knitted and non-woven fabrics? (10)
12. A. Explain the working of any one opener in blowroom with neat diagram. (6)
B. Explain construction and working of carding machine with neat sketch and its objects. (10)

(OR)

- C. Write the difference between carded yarn and combed yarn. (6)
- D. What are the objectives of winding process? Explain the cone winding with diagram. (10)

- 13. A. Discuss the various types of defect in yarn. With example. (6)
- B. Explain the working principle of ring frame and its objects. (10)

(OR)

- C. Explain the construction and working process of pirn winding machine (6)
- D. What are the objectives of warping process? Explain the working process of beam warping machine with diagram. (10)

- 14. A. Differentiate between woven and knitted fabrics. (6)
- B. Draw the design, draft and peg plan of warp rib, weft rib and matt rib. (10)

(OR)

- C. Draw the design, draft and peg plan of regular and irregular satin and sateen weaves with minimum repeat size. (6)
- D. Explain the construction and working of circular knitting machine with neat sketch. (10)

- 15. A. Differentiate shuttle loom and shuttle less loom. (6)
- B. Classify various types of shuttle loom and shuttle-less loom. (10)

(OR)

- C. Explain the passage of warp yarn through loom with diagram. (6)
- D. Write the various types of fabric defects with their causes. (10)
