

Registration Number

--	--	--	--	--	--	--	--

INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Salem & Varanasi

Post Diploma in Textile Processing

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : **03**

Time:3 Hours

Course Code & Title : **PDTP301 : Technology of Printing -II**

Maximum Marks:100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. List any 4 end uses of printed fabrics.
2. Differentiate between discharge and resist style of printing.
3. Give the recipe of discharge printing on silk fabric.
4. Why acid dyes are suitable for printing silk material?
5. What are the chemicals commonly used in the discharge process?
6. Write about the pre-treatment or post-treatment processes necessary for successful printing on the polyester/Cotton blends?
7. What are the machines used in transfer printing process?
8. State the merits and demerits of digital printing.
9. What is the primary distinguishing feature of Kalamkari printing,
10. What is Bagru printing and Sangneri print known for, and in which region of India are they practiced?

PART-B

(6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Write short notes on various discharging agents used. (6)
B. Elaborate the chemistry involved in resist style of printing. (10)
(OR)
C. Identify suitable dyes for discharge printing. Also recommend suitable printing equipments/machines required. (6)
D. Describe the method of producing white discharge effect on cotton dyed fabrics. (10)
12. A. What are the key steps involved in the process of printing silk with acid and (6)

metal complex dyes.

- B. Describe the methods and chemicals used to achieve white discharge effects on silk fabric. How does this process work to remove color from specific areas of the fabric? (10)

(OR)

- C. Compare the advantages and disadvantages of using acid dyes v/s metal complex dyes for silk printing. (6)

- D. Write the process sequence of silk printing with acid dye to get colour discharge effect. (10)

13. A. Explain the discharge style of printing with disperse dyes on polyester. (6)

- B. Explain the step-by-step process of direct printing with disperse dyes on polyester. Also state the fixation methods used to ensure colorfastness and durability. (10)

(OR)

- C. Discuss the challenges to be managed when printing on polyester/cotton blends. (6)

- D. What are the key factors to be considered when printing on polyester/cotton blends with pigments. (10)

14. A. Discuss in detail about transfer printing. (6)

- B. Explain the unique challenges and considerations of printing knitted fabrics compared to woven fabrics? (10)

(OR)

- C. Elaborate the steps involved in the transfer printing process? (6)

- D. Give an overview of various ink-jet systems of digital textile printing. (10)

15. A. Describe batik printing technique, including the tools, materials, and processes involved. (6)

- B. Write short notes on Ajrakh printing. (10)

(OR)

- C. Explain the step-by-step process of creating Tie & Dye patterns. (6)

- D. Discuss the method of flock printing. (10)

Registration Number

--	--	--	--	--	--	--	--

INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Salem & Varanasi

Post Diploma in Textile Processing

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03

Time:3 Hours

Course Code & Title : **PDTP302 : Technology of Finishing**

Maximum Marks:100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. Why does cotton clothing undergo creasing? How can the crease formation be prevented?
2. What are the properties imparted on cotton after mercerization?
3. Compare between condensed phase and gas phase flame retardants.
4. Define Biopolishing.
5. Enlist the mechanisms responsible for soil release from textiles.
6. What are the problems posed by static electricity in textiles?
7. Classify the different types of Heat setting with examples.
8. List out the drawbacks in foam finishing of textiles
9. What is the mechanism of softening effect using softener finish on textiles?
10. Enlist the different properties obtained on textiles using nano finishing.

PART-B

(6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Brief about the Pad chain mercerization process with a neat sketch (6)
B. Describe in detail about the non formaldehyde based resin finishing on textiles (10)
(OR)
C. Give a brief note on yarn mercerization process with neat sketch. (6)
D. Enumerate in detail about the chemistry of easy care and durable press finishing on cotton. (10)
12. A. Brief about the mechanism of UV protection finishing on textiles. (6)
B. Describe in detail about the chemistry of durable flame retardant finishes used on cotton. (10)

(OR)

- C. Brief about the fluorocarbon based water repellents used on textiles. (6)
- D. Enumerate in detail about the chemistry of controlled release type of antimicrobial finishes used on textiles
13. A. Brief about the soil release finishes used on cotton. (6)
- B. Describe in detail about the chemistry and application of antistatic finishes used on textiles. (10)
- (OR)**
- C. Brief about the mechanism of pilling behavior and fiber properties responsible for pilling. (6)
- D. Enumerate about the 'Dual action' mechanism of soil repellent finishes with suitable sketch. (10)
14. A. Brief about the techniques used for application of foam finishes on textiles. (6)
- B. Describe in detail about 'Sanforising' process with diagram. (10)
- (OR)**
- C. Brief about Schreiner and embossing calendaring process with neat sketch. (6)
- D. Describe the working process of Raising machines with neat sketch. (10)
15. A. Give a brief note on the cationic and silicone softeners with mechanism. (6)
- B. Describe in detail about the nano finishing on textiles. (10)
- (OR)**
- C. Brief about the mechanism of weight reduction on Polyester using alkali. (6)
- D. Enumerate in detail about the various microencapsulation techniques used in textile finishing. (10)

Registration Number

--	--	--	--	--	--	--	--

INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Salem & Varanasi

Post Diploma in Textile Processing

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03

Time:3 Hours

Course Code & Title : **PDTP303 Chemistry of Intermediate & Dyes**

Maximum Marks:100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define "unit process".
2. Give an example of nitro dyes.
3. Define Halogenation.
4. Indigo dye is obtained from which plant?
5. Write down the structure of Congo red
6. Why Vat dyes are not used for dyeing silk?
7. Name two activating groups.
8. Define Esterification.
9. Why FBA agents are used?
10. Define pigments.

PART-B

((6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. With suitable reactions explain: i.) Sulphonation ii.) Nitration of benzene (6)
B. Give a brief introduction of natural and synthetic dyes? (10)
- (OR)**
- C. Explain diazotization with suitable example. (6)
D. Enlist the constituents which are obtained during the fractional distillation of coal tar at various temperature ranges. (10)
-
12. A. How Nitroso dyes differ from Nitro dyes explain with suitable structure? (6)
B. Classify dyes on the basis of their chemical structure. (10)

(OR)

- C. Write down the structure of Picric acid and Congo red dye. (6)
- D. Explain the different types of bonds formed between dyes and fibres with neat structure. (10)
13. A. Explain solubilised vat dyes with suitable structure. (6)
- B. Define FBA along with its mechanism in detail. (10)
- (OR)**
- C. How will you synthesize Indigotin? (6)
- D. Explain in detail the process of applying hot brand reactive dyes on cotton fibre? (10)
14. A. Write down the structure of: i.) H- acid ii.) J- acid (6)
- B. Write down the important intermediates from i.) Benzene ii.) Salicylic acid. (10)
- (OR)**
- C. Write down the structure of BON acid (6)
- D. Write down the important intermediates from i.) Nitrobenzene ii.) Aniline. (10)
15. A. Write down the structure of Methylene blue. (6)
- B. How will you synthesize Methylene blue, explain with suitable reactions? (10)
- (OR)**
- C. Write down the structure of Rhodamine B. (6)
- D. How will you synthesize Rhodamine B, explain with suitable reactions? (10)

Registration Number

--	--	--	--	--	--	--	--

INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Salem & Varanasi

Post Diploma in Textile Processing

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03

Time:3 Hours

Course Code & Title : **PDTP304 Ecology and Pollution Control
in Textile Industry**

Maximum Marks: 100

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

1. What are the components of the Environment?
2. What are the different segments of the earth's environment?
3. Define - Pollutants.
4. Classify air pollutant with suitable example.
5. Name the process in textile industry that produce alkali waste.
6. What is DO? Give the optimum DO level in water.
7. What is sludge? How to remove sludge?
8. What is the importance of coagulant? Give an example.
9. Define - Eco-standard.
10. Define noise pollution. How to measure noise?

PART-B

(6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Discuss in brief four segments of environment. (6)
B. Give detail description on pollution in textile industry. (10)
(OR)
C. Explain the Greenhouse effect and its consequences. (6)
D. Define Acid rain. Explain the causes, effects of acid rain on environment. (10)
12. A. Write a short note on air pollution in textile industry. (6)
B. Explain the effects of CO, SO_x and hydrocarbon on human being. (10)
(OR)
C. Explain the air quality standard. Give the air quality standard in India. (6)

- D. Tabulate indoor and outdoor air pollutant. Explain it. (10)
13. A. What are the various steps to reduce waste water consumption in textile industries? (6)
B. Write a short note on Organic and Inorganic waste pollutants. (10)
- (OR)**
- C. How will you determine BOD and COD? (6)
D. Give the various sources of wastewater in wet processing. How to minimize the formation of waste water? (10)
14. A. Write a short note on activated sludge treatment. (6)
B. Write the methods of removal of color from dye house effluent? Explain briefly. (10)
- (OR)**
- C. Discuss tolerance level of an effluent in wet processing of textile industry. (6)
D. Give detail description of design and working of effluent treatment plant. (10)
15. A. Explain in detail various Eco Standards and Eco labels for textiles. (6)
B. Explain the effect, sources and control measures of Noise pollution in textile industry. (10)
- (OR)**
- C. Write the objectives of ISO14000. (6)
D. Explain the new challenges towards achievements of strict standards in textile processing industry. (10)
