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INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Salem & Varanasi

Post Diploma in Textile Processing

APRIL/MAY-2024 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. Classify finishing process and list the importance of finishing process.
2. Chlorine retention is one of the limitations of using DMU in wrinkle resistance finish-Justify the statement.
3. Identify how the ventricle fabrics work on waterproofing of the material.
4. List different mechanism of antimicrobial finishing.
5. List various anti pilling finishing agents used for fabrics.
6. State shortly about mechanism of soil retention.
7. What is the purpose of microencapsulation?
8. What are the objects of heat setting?
9. Identify the drawback of foam finishing operation.
10. Identify the precaution to be considered in Nano finishing process.

PART-B

((6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Describe the eco friendly method of liquid ammonia mercerization. (6)
B. Explain various methods of durable press resin finishing of fabrics. (10)
- (OR)
- C. Explain the concept involved in chainless mercerizing of cotton fabrics. (6)
D. Explain in detail about wash and wear finish. (10)
12. A. Explain the concept of aroma finishing in textiles. (6)
B. Analysis the concept of pyrolysis enumerates the various principle of flame retardant finishing of cotton. (10)

(OR)

- C. What is the precaution to be taken during the bio-finishing? (6)
- D. Analyze the environmental impact of using antimicrobial finish in textile production. (10)

- 13. A. Explain in detail about chemical and mechanical anti pilling treatments of textiles. (6)
- B. Analyze the mechanism of soil retention and soil release finishing of fabrics. (10)

(OR)

- C. Analyze the process involved in the development of polyester fabric with antistatic finishing with hydrophilic property using plasma treatment. (6)
- D. Analyze the principle of application and evaluation of UV protection finishes of fabrics. (10)

- 14. A. Discuss in detail about the raising of textile materials. (6)
- B. Describe the principle and mechanism of heat setting process. (10)

(OR)

- C. Discuss in detail about the peach finish of textile materials. (6)
- D. Explain the working mechanism of sanforising process and identify how its differs from calendaring process. (10)

- 15. A. Can finishing softeners affect the properties of fabric? (6)
- B. Differentiate between the mechanism of softening and stiffening process and enumerate the chemicals used for these processes with the suitability. (10)

(OR)

- C. Mention the factors influencing the choice of weight reduction techniques and their impact on fabric properties. (6)
- D. Explain various techniques of microencapsulation with its application. (10)

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APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03

Time:3 Hours

Course Code & Title : PDTP303 Chemistry of Intermediates & Dyes

Maximum Marks: 100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is meant by Unit Process? Give example.
2. Name some raw materials used in manufacturing synthetic dyes.
3. What are auxochrome?
4. Justify the dye-fibre interaction for acid dye and wool fibre.
5. Write down the structure of an Indigoid dye.
6. What are white dyes?
7. BON acid is an important intermediate for naphthols, why?
8. Name some intermediates prepared from phenol.
9. Write the structure of RhodamineB.
10. Give the intermediate used in the manufacture of Indantherene Blue.

PART-B

((6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Write note on the pros and cons of natural dyes. (6)
B. Explain in detail the fractional distillation of coal tar. (10)
(OR)
C. Explain the process of Diazotization. (6)
D. Describe in detail the process of (i) Sulphonation (ii) Nitration (10)
12. A. Write down the structure of Xanthene class of dyes and tri phenyl methane dyes. (6)
B. Classify dyes based on their chemical structure. (10)

(OR)

- C. Classify dyes based on their application. (6)
- D. Explain in detail the various dye- fibre interaction mechanisms with neat examples. (10)

13. A. Write notes on the structure and properties of sulphur dyes. (6)
- B. Explain the application of anthraquinone vat dye on cotton with neat illustration of dye –fibre chemistry. (10)

(OR)

- C. Discuss on the chemistry of disperse dyes and their properties. (6)
- D. Explain the synthesis of fluorescent brightening agents and their application. (10)

14. A. Explain the chemical structure of nitro benzene. (6)
- B. Describe the process of synthesis of important intermediates from (i) Salicylic acid and (ii) Anthracene. (10)

(OR)

- C. Write the structure of H acid and J acid. (6)
- D. Write the structure of BON acid and discuss the process of synthesis of Naphthols from the same. (10)

15. A. Give the structure of intermediates used in the synthesis of Indigotin. (6)
- B. Explain the process of synthesis of Fast Red TR base. (10)

(OR)

- C. Write down the structure of Auromine. (6)
- D. Explain the process of synthesis of Caledon Jade Green. (10)

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APRIL/MAY-2024 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

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. Classify the segments of environment.
2. Define pollution.
3. Name any two gaseous pollutants responsible for ozone layer depletion.
4. What is greenhouse effect?
5. Define COD.
6. What are types of water pollutants?
7. Give any two points for control of soil pollution.
8. Define acid rain.
9. What are the sources of noise pollution?
10. What is the expansion of ISO?

PART-B

((6+10) ×5=80 Marks)

Answer all the questions in detail

11. A. Identify the pollutants added in air by various textile processes. Suggest the remedies for reducing techniques. (6)
B. Explain the environmental pollution. (10)
- (OR)
- C. State the effect of toxic chemicals used in dyeing process. (6)
D. Discuss the few classes of dyes responsible for health hazards. (10)
12. A. Classification the air quality standard. (6)
B. State the scope of environment and ecofriendly textile. (10)

(OR)

- C. What is photochemical smog? Describe its ill effects. (6)
- D. Explain the natural sources of air pollution. (10)
13. A. Write the sources water pollutants. (6)
- B. Name any biological treatment of waste water treatment. Explain (10)
- (OR)**
- C. Discuss the activated sludge process. (6)
- D. State the importance of material recycling in textile industries. (10)
14. A. Discuss the waste water discharged from various processes. (6)
- B. Describe the way for reduction of waste in textile industry. (10)
- (OR)**
- C. Give any two methods of removable of colour from textile dyes. (6)
- D. Explain the public awareness and factors of textile industries. (10)
15. A. Write a short note on hazards and accidents in textile industry. (6)
- B. How can the chemicals and dyes are used in the textile industry. (10)
- (OR)**
- C. What is the basic requirement of ISO series? (6)
- D. Discuss the basic features of the environmental act 1986. (10)
