

CBCS SCHEME

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18TX35

Third Semester B.Tech. Degree Examination, July/August 2021 Chemical Processing of Textiles - I

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Briefly explain various preparatory process for cotton and silk before dyeing process. (10 Marks)
b. State the objective of Singeing process. Describe Plate Singeing method. (10 Marks)
- 2 a. Describe Shearing and Cropping Operations. (10 Marks)
b. Write a note on Modern developments in Scouring and the machines used. (10 Marks)
- 3 a. Write the need for desizing of cotton fabrics. Describe the desizing of cotton fabrics by using enzymes. (10 Marks)
b. Give the chemistry of Scouring. With the help of a neat sketch, explain the working of modern vertical Kier used for Scouring process. (10 Marks)
- 4 a. Explain Solvent Scouring process. Discuss its advantages and disadvantages. (10 Marks)
b. Briefly explain Scouring of wool, silk and man – made fibres. (10 Marks)
- 5 a. Give reasons for the following :
i) Bleaching with reductive bleaching agent cannot produce permanent white. (10 Marks)
ii) Sodium chlorite is not suggested for bleaching of protein fibres. (10 Marks)
b. Explain Methylene blue absorption test and fluidity test to express the degradation of cotton after bleaching process. Give the detailed procedure. (10 Marks)
- 6 a. Explain the mechanism of bleaching of cotton by using hydrogen peroxide. Write the effect of catalysts and stabilizers in H₂O₂ bleaching process. (10 Marks)
b. Write the objects of optical whitening. Explain the application of optical whitening agent on cotton and the factors influencing the process. (10 Marks)
- 7 a. With the help of neat sketch, explain the working principle of J – box equipment and its advantages. (10 Marks)
b. With the help of line diagram, explain the working of vapor lock machine used for scouring of P/C fabric. (10 Marks)
- 8 a. Explain the physical and chemical changes taken place in cotton during mercerization process. (08 Marks)
b. Describe the different methods of assessment of degree of mercerization of cotton yarns. (12 Marks)
- 9 a. Explain the mercerisation of cotton yarns in slack and tension form. Draw and explain the working hank mercerisation machine. (10 Marks)
b. With the help of a line diagram, explain the working of chainless mercerizing machine. (10 Marks)
- 10 a. Write a note on Hot Mercerisation process. (10 Marks)
b. Explain Liquid Ammonia mercerisation of cotton. Give its advantages. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.