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Dec-22-0172

TE-402 (Textile Chemical Processing-I)

B.Tech-4th (CBCS)

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note: Attempt Five questions in all, selecting one question from each Section A, B, C and D. Section E is compulsory.

SECTION A

1. How does chemical processing of knitted textile differ with woven textiles? Illustrate flow chart of chemical processing of textile materials with brief detail of each process. (10)
2. Elaborate various singeing methods with their advantages and limitations. Compare singeing with biotech based defuzzing operation. (10)

SECTION B

3. Enumerate various impurities present in cotton and detail procedure of their removal from cotton. Mention various precautionary measures involved in scouring of coloured cotton. (10)
4. Describe the hypochlorite bleaching along with involved chemical reactions, recipe, procedure and limitations. (10)

SECTION C

5. Describe the phenomenon involved in heat setting. Mention various types of heat setting with their process control parameters in detail. (10)

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6. Describe the detail procedure of mercerization with chemical recipe and machine diagram. Mention the role of process parameter on quality of mercerized cotton. (10)

SECTION D

7. Describe working of universal calendaring machine with construction of calendaring rollers, various types of calendaring operation along with neat line diagram and their merits. (10)
8. Write detailed note on novel finishing techniques along with their applications, merits and demerits. (10)

SECTION E Compulsory question

9. a. Name the various methods by which desizing efficiency can be determined with brief information of one method.
b. Brief the oxidative desizing.
c. What do you mean by optical whitening agents?
d. Name various bleaching agents with their chemical formula as well as mention names of textile materials on which they are suitable to apply.
e. What do you mean by static charge generation and measures to reduce it?
f. Mention the names of auxiliaries which are being used in peroxide bleaching of cotton with their role.
g. What do you mean by sanforisation treatment?
h. Name anticreasing finishing agents and their chemical formula.
i. Differentiate water repellent and water proof textile materials,
j. Mention the mechanism on which flame retardant finishes works.

(2×10=20)