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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Textile Engg.) (2011 Onwards) (Sem.-4)

TEXTILE CHEMICAL PROCESSING-I

Subject Code : BTTE-404

M.Code : 71647

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**1. Answer the following :**

- (a) Discuss reasons behind 'scorching effect' on singed textiles.
- (b) Explain influence of salts (NaCl, CaCl₂ etc) on efficiency of enzyme desizing.
- (c) Discuss mechanism of conversion of oils and fats to soluble products during scouring of cotton.
- (d) Explain with chemistry why soda ash is added in hypochlorite bleaching bath.
- (e) Explain problems associated with conventional chain mercerisation process.
- (f) Explain nature of sewing thread used to join pieces of fabrics for carbonisation in jigger.
- (g) Explain influence of heat setting temperature on stiffness of heat set polyester.
- (h) Explain nature of softness developed with anionic and non-ionic softeners on cotton.
- (i) Explain why steaming is essential before calendaring.
- (j) Explain with chemistry, why cotton textiles are liable to form crease marks when folded?

SECTION-B

2. With a neat schematic diagram, describe gas singeing of cotton with emphasis to tangential, right angled and direct singeing methods and their importance. (3+2)
3. Discuss influencing parameters of enzyme desizing. Describe enzyme desizing method for grey cotton highlighting enzyme inactivation. (5)
4. Discuss hydrogen peroxide bleaching of wool. Explain function of chemicals used in this process. (3+2)
5. With a neat labeled schematic diagram, discuss scouring of cotton in kier. Explain importance of uniform packing in kier as well as other conditions for quality scouring. (3+2)
6. Explain mechanism of softening of textiles during decatizing process. Describe the decatizing process for different textiles. (2+3)

SECTION-C

7. Discuss change in various properties of carbonised fabric. Describe batch method of carbonisation for polyester-cotton blended fabric in jigger. Explain various precautions to be taken during carbonization. (3+4+3)
8. Explain importance of sanforizing process. With a neat labelled schematic diagram, describe sanforizing of cotton showing path of the fabric through different parts of the machine. Discuss function of different parts of a sanforizing machine. (2+5+3)
9. Explain reasons behind selection of DMDHEU for anti-crease finishing of cotton. Discuss chemistry of cross-linking of DMDHEU with cotton. Critically explain with chemical reactions, why HCHO is released from finished fabric. (2+3+5)

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC case against the Student.