



17342

16172

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) *All questions are compulsory.*
 - (2) *Answer each next main question on a new page.*
 - (3) *Illustrate your answers with neat sketches wherever necessary.*
 - (4) *Figures to the right indicate full marks.*
 - (5) *Assume suitable data, if necessary.*
 - (6) *Use of Non-programmable Electronic Pocket Calculator is permissible.*
 - (7) *Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.*

Marks

1. Answer any ten :

(10×2=20)

- a) Classify adhesives.
- b) Enlist the ingredients of a sizing paste.
- c) Write the general process sequences for woven fabric processing.
- d) Explain importance of stitching.
- e) What are the objectives of desizing ?
- f) Enlist the various impurities that are removed during scouring.
- g) Give the classification of desizing.
- h) Explain the term solvent scouring.
- i) Write mechanism of desizing.
- j) Write the chemical formulae of sodium chlorite, calcium hypochlorite, sodium chlorate, sodium hypochlorite.
- k) Explain the functioning of stabilizer in hydrogen peroxide bleaching.
- l) Define : (i) caustisization (ii) mercerization.
- m) Explain the term deconvolution count.
- n) Enlist the chemicals used in mercerization.
- o) Which are impurities removed during scouring of wool ?

2. Answer any four :

(4×4=16)

- a) Explain congealing properties of starches. Write its significance.
- b) Compare four point and ten point system for fabric inspection (four points).
- c) Explain the factors which affect the action of enzymes during desizing.
- d) Explain the mechanism of bio-scouring.
- e) Enlist and explain the factors affecting hydrogen peroxide bleaching.
- f) Name different methods of degumming of silk. Explain any one.

P.T.O.



Marks
(4×4=16)

3. Answer any four :

- a) Write stepwise procedure of determining the iodine value or acid value of softners.
- b) What are the different types of faults observed in grey fabrics ?
- c) Compare the batch wise and continuous method of desizing (four points).
- d) Which are the precautions to be taken during the scouring of knitted and coloured woven goods ?
- e) Explain various charges taking place in cotton due to mercerization.
- f) Compare the preparatory process sequence of woolen fabrics and worsted fabrics.

4. Answer any four :

(4×4=16)

- a) Write down the size paste formulation for any two : 100% cotton, 100% polyester, 50/50 P/c blended fabric.
- b) With a labelled diagram, explain the working of a 4 cutter shearing and cropping machine.
- c) Write the procedure of evaluating the efficiency of desizing.
- d) With a labelled diagram explain the working principle of Kier machine.
- e) What are the factors affecting the efficiency of mercerization ?
- f) What is carbonization ? Give the procedure for the carbonization of woolen fabric.

5. Attempt any two :

(2×8=16)

- a)
 - i) Compare between roller, plate and gas singeing machine.
 - ii) With a labelled diagram, explain working principle of gas singeing machine.
- b)
 - i) Compare between hydrogen peroxide and NaOCl bleaching.
 - ii) Describe bleaching of coloured woven goods.
- c)
 - i) Describe liquid ammonia mercerization.
 - ii) State merits and demerits of liquid ammonia mercerization.

6. Answer any two :

(2×8=16)

- a)
 - i) With a labelled diagram, explain the construction and working principle of a soft flow machine used for scouring. **5**
 - ii) Write the evaluation procedure for determination of scouring efficiency. **3**
- b)
 - i) With one example each, explain the batch wise, semi-continuous and continuous method of bleaching. **6**
 - ii) List the developments in bleaching with respect to energy savings. **2**
- c)
 - i) Write the procedure of evolution of efficiency of mercerization by barium activity number. **4**
 - ii) Name the machines used for yarn mercerization, woven fabric mercerization and knitted fabric mercerization. **4**
