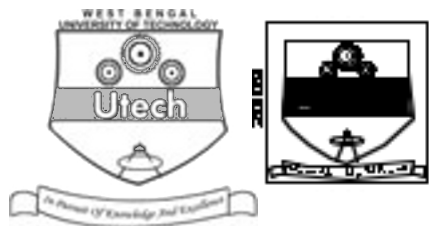


TEXTILE WET PROCESSING - II (SEMESTER - 4)

CS/B.TECH(APM)/SEM-4/APM-404/09



1.
Signature of Invigilator

2.
Signature of the Officer-in-Charge

Reg. No.

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Roll No. of the Candidate

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CS/B.TECH(APM)/SEM-4/APM-404/09
 ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009
TEXTILE WET PROCESSING - II (SEMESTER - 4)

Time : 3 Hours]

[Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

- This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
- In **Group – A**, Questions are of Objective type. You have to write the answers in the space provided marked '**Answer Sheet**'.
 - For **Groups – B & C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
- Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
- Read the instructions given inside carefully before answering.
- You should not forget to write the corresponding question numbers while answering.
- Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
- Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
- You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
- Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

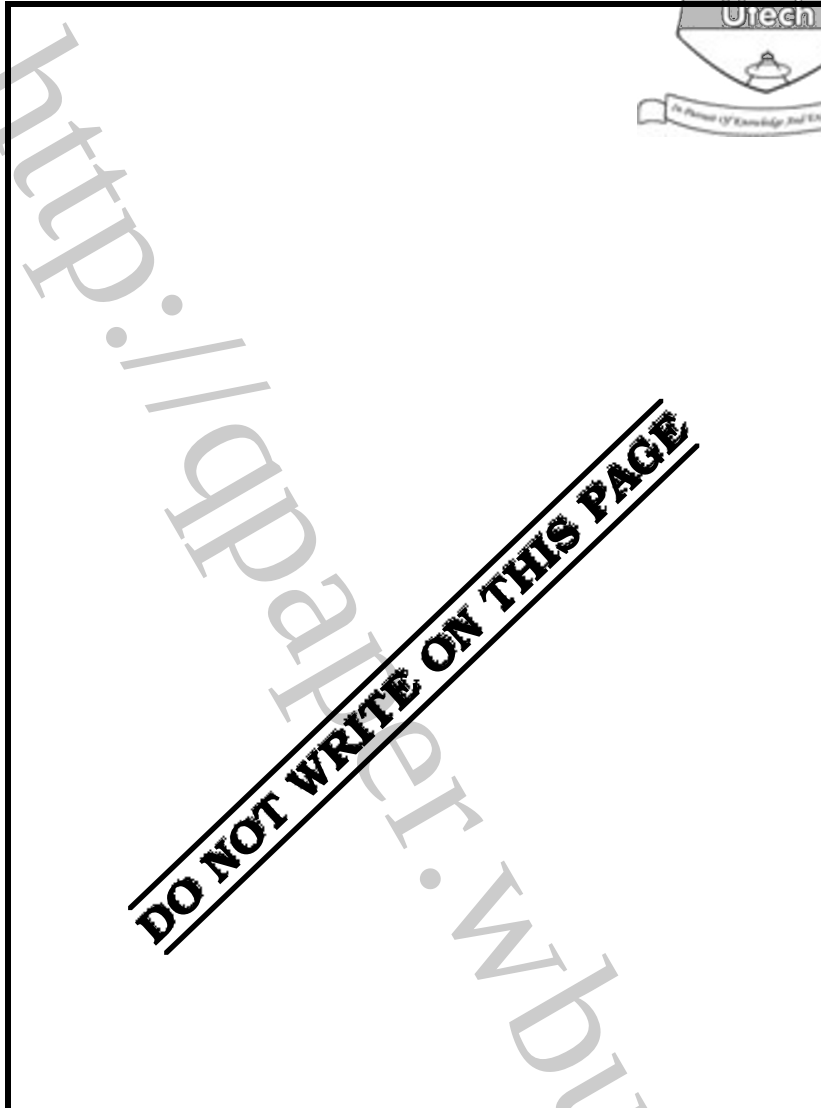
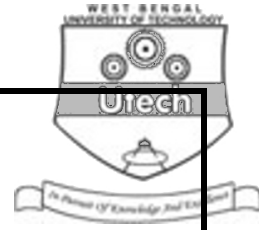
FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

Question Number	Group – A										Group – B			Group – C			Total Marks	Examiner's Signature
Marks Obtained																		

.....
Head-Examiner/Co-Ordinator/Scrutineer

4624 (12/06)





ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE - 2009

TEXTILE WET PROCESSING - II

SEMESTER - 4



Time : 3 Hours]

[Full Marks : 70

GROUP - A

(Objective Type Questions)

1. State the functions of the following chemicals and auxiliaries used in textile printing and finishing : 10 × 1 = 10
- i) Natural gum and Gum-Arabic.
 - ii) Polyacrylic acid emulsion.
 - iii) Urea.
 - iv) Rongolite-C (Sodium or Zinc sulphoxylate formaldehyde)
 - v) Fixer-CCL (Melamin formaldehyde resin)
 - vi) Poly-oxo-ethylene emulsion.
 - vii) Dimethyl-poly-siloxane.
 - viii) Di-ammonium phosphate.
 - ix) DMDHEU (Dimethyl-di-hydroxyethylene urea).
 - x) Acramin-SLN (Polyacrylate emulsion).

GROUP - B

(Short Answer Questions)

Answer any *three* of the following.

3 × 5 = 15

2. Discuss different styles of textile printing with examples. 5
3. Discuss the role of thickener in print paste. Briefly mention different types of thickness giving example for each. 3 + 2
4. Briefly discuss the effects of calendering of textile fabrics by using different types of calendering machines. 5



5. Why creases formed in cotton textiles ? How crease formation can be prevented for cotton fabric by different approaches of crease resistant finish? 2 + 3
6. Distinguish flame retardant and flame proof textiles. Define the terms "flame spread time", "After-glow" and "char length", used for evaluating performance of flame retardant textiles. 2 + 3
7. Discuss the different types of chemical softeners and their characteristics, advantages and disadvantages of one over other. 5

GROUP - C

(Long Answer Type Questions)

Answer any *three* questions.

3 × 15 = 45

8. a) Distinguish between dyeing and printing. 2
- b) Name the different methods of printing. 3
- c) Describe the working of a roller printing or a rotary screen printing machine, with a neat labelled schematic diagram. 10
9. a) With the help of schematic diagram, explain the fundamental mechanism of screen printing and state the various factors responsible in controlling hydrodynamic pressure in the print paste during printing. 10
- b) Discuss the role of different ingredient and thickener usually used in textile printing in general with special reference to printing of cotton fabric with any particular dye or pigment. 5
10. a) Why and when softeners are required to be applied on textile materials ? How chemical softener does its function on textiles ? 2 + 2
- b) What are the required essential properties of a chemical softener ? 3
- c) Name the various classes of softeners and give example for each. 4
- d) What are 'Silicone softener' and what are the advantages of silicone softeners over anionic or cationic softeners ? 4



11. Discuss the method and finish formulations for any *three* of the following textile chemical finishers : 3 × 5



- i) Enzymatic softening or Biopolishing of cotton.
 - ii) Organdie finish of cotton or Silky finish of polyester.
 - iii) Easy care or Crease resistant finish of cotton.
 - iv) Fire retardant finish of cotton.
 - v) Moth proofing of Wool or Silk.
 - vi) Water repellent finish of polyester fabric.
12. a) What are the various water pollution parameters of effluent water to be monitored for control of water pollution ? 5
- b) Classify and describe the various methods of treatment of textile effluent water, as primary, secondary and tertiary treatments, stating their role in effluent treatments. 10
13. a) What are BOD and COD of effluent water ? 5
- b) Describe a model textile water treatment plant with labelled diagram, mentioning sequential treatments and unit operations, stating the mechanism of each treatment / unit operation, to control water pollution. 5 + 5

END