



THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF TEXTILE AND APPAREL TECHNOLOGY
BACHELOR OF INDUSTRIAL STUDIES
FINAL EXAMINATION – 2005 / 2006
TTI5146 INDUSTRIAL GARMENT WASHING AND FINISHING
DURATION - THREE HOURS

018

0930 - 1230

DATE: 31 March 2006

TIME: ~~09.00~~ - 12.00 HOURS

Total Number of Questions = 09

Number of questions to be answered = 06

Answer question 1, which is compulsory and five (05) additional questions.

Question 1 carries twenty-five (25) marks and questions 2 to 09 carry fifteen (15) marks each.

01 Compulsory question

- (a) Garments are washed and/or finished to impart textural, visual and handle effects. State the aims of imparting such effects.
 - (b) What are the precautions we have to take when "Loading and initial rinsing" is carried to a load of garments at the beginning of a washing/finishing process?
 - (c) Distinguish between "Hydro Extractor and Tumble dryer".
 - (d) What is "Dipole Effect"?
 - (e) What are the two essential features that have to be kept in mind prior to any stain removal procedure?
 - (f) What is a "Chromophore"?
 - (g) Why is good leveling Acid Dyes are of poor wash fastness?
 - (h) What are the reasons of good wash fastness of Vat Dyes?
 - (i) What are the functions of a "Buffer" in enzyme washing.?
 - (j) Why Aluminium Silicate is preferred to Silica in sand blasting?
 - (k) What is "Bio-polishing"?
 - (l) What is "Dip Dyeing"?
02. a) Explain the operational principle of a horizontal drum type washing machine.
b) Write a short description about different types of brushing equipment available for brushing of garments.
03. Write an essay on "Soil removal of garments in aqueous solution" giving suitable illustrations to show the function of detergent molecules.
04. a) Explain the term "Micelle Formation".
b) Explain why a good washing agent must have the combination of wetting, dispersing and emulsifying properties.
05. a) Explain in brief why dyes and pigments are coloured?
b) Elaborate the terms "Substantivity" and "Affinity"

06. a) What is a "Vat Dye"?
- b) Explain in brief the two different methods of vat dye application.
- c) Explain, why vat dyed denim garments are considered as very suitable for abrasion treatments.
07. a) Describe in-detail the method of "Stone Washing".
- b) What are the disadvantages of stone washing?
08. a) Explain the method of "Enzyme Washing" giving most suitable temperature and pH ranges for acid cellulase and neutral cellulase..
- b) What are the advantages of replacing pumice stones by cellulase in stone washing?
09. Write short Notes on:
- a) Abrasion with Laccase
 - b) Peach Finish
 - c) Heavy Destroy Wash
 - d) Monkey Wash
 - e) Drip Dyeing