

**MAHARASHTRA STATE BOARD OF VOCATIONAL EDUCATION EXAMINATION, MUMBAI**  
**EXAMINATION – JULY 2017**

CERTIFICATE COURSE IN WET PROCESSING OF MAN-MADE TEXTILES (402152)

TIME ALLOWED – 3 Hrs.

MARKS – 100

SUBJECT – INTRODUCTION TO TEXTILES AND APPLIED CHEMISTRY (**THEORY-I**)

**Instruction : All questions are compulsory.**

- Q.1) A] Fill in the blanks.** 05
- 1) ----- is the only natural filament fibre. (cotton /silk / wool)
  - 2) ----- is the basic raw material required to make a textile material.  
(fibre / fabric / yarn)
  - 3) In silk ----- amount of silk gum is present. ( 10% / 30% / 15%)
  - 4) More the degree of polymerization more is the -----.  
(elongation / strength / absorbency)
  - 5) ----- processes is used to increase the strength of yarn to avoid  
the damage during the weaving.  
(desizing / singeing / sizing)
- B] State true or false. (any 5)** 05
- 1) The member (unit) of the polymer are called as monomer.
  - 2) Melt spinning process is used for viscose.
  - 3) Wool fiber is known as the king of fibre.
  - 4) Wool is natural cellulosic fibre.
  - 5) Viscose rayon is semi-synthetic fibre.
  - 6) Polyester is dyed with disperse dyes.
  - 7) Natural fibers can be melt-spun.
- C] Define following terms. (any 5)**
- |                   |            |                 |    |
|-------------------|------------|-----------------|----|
| 1) Saponification | 2) Polymer | 3) Cotton count | 05 |
| 4) Wetting agent  | 5) Density | 6) COD          |    |
- D] Match the pairs.** 05
- | Column 'A'   | Column 'B'                              |
|--|---|
| 1) Cotton  | a) hexamethylene di-amine & adipic acid |
| 2) Nylon 66  | b) cellulose                            |
| 3) NaCl  | c) magnesium chloride                   |
| 4) MgCl <sub>2</sub>                                   | d) sodium sulphate decahydrate          |
| 5) Na <sub>2</sub> SO <sub>4</sub> .10H <sub>2</sub> O | e) sodium chloride                      |

- Q.2) **Attempt any two of the following.** 16
- 1) What is textile fibre? Give the classification of textile fibres.
  - 2) Explain the stages of yarn manufacturing in brief.
  - 3) Write the important physical & chemical properties of cotton.
  - 4) Write the important physical & chemical properties of nylon.
- Q.3) **Attempt any two of the following.** 16
- 1) Explain the difference between weaving and knitting.
  - 2) Enumerate any four fabric faults.
  - 3) Explain the difference between S twist and Z twist yarns.
  - 4) Explain the difference between warp and weft knitting.
- Q.4) **Answer in detail. (any two)** 16
- 1) Explain the terms: Normality and molarity.
  - 2) With examples explain the difference between solution, emulsion and dispersion.
  - 3) Define pH & state its importance in processing.
  - 4) What are different types of emulsions? Give their uses in processing.
- Q.5) **Write short notes on following. (any four)** 16
- 1) Detergency
  - 2) Types of water
  - 3) Process control measures in dyeing
  - 4) Process control measures in printing
  - 5) Rubbing fastness
- Q.6) **Attempt any two.** 16
- 1) Define quality and its importance.
  - 2) What is barium activity no? how it is measured?
  - 3) State recommended norms for effluents.
  - 4) Explain grey scales for change in colour and staining.

Sr.No. 40215212

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SUBJECT – WET PROCESSING OF TEXTILES (**THEORY-II**)

**Instruction : All questions are compulsory.**

**Q.1)A] Fill in the blanks. (any 5) 05**

- 1) ----- is the universal bleaching agent. ( $H_2O_2$  /  $NaOCl$  /  $NaClO_2$ )
- 2) Localized application of dyes is known as -----.  
(dyeing / printing / coloration)
- 3) Heat-setting is mainly used for ----- fibres. (natural / synthetic)
- 4) Cotton is mercerized with ----- . ( $Na_2CO_3$  /  $NaOH$  /  $HCl$ )
- 5) ----- is the universal bleaching agent. ( $H_2O_2$  /  $NaClO_2$  /  $NaOCl$ )
- 6) Reactive dyeing is done in -----pH. (alkaline / neutral / acidic)

**B] State true or false. (any 5) 05**

- 1) Scouring of the wool is done with the help of sodium hydroxide.
- 2) Stenter machine is also known as heart of finishing.
- 3) % shade is the amount dye taken for dyeing for every 100 gm of textile material.
- 4) Mercerization of cotton reduces dye-uptake in dyeing.
- 5) Burnt-out style of printing is only for blended fabric.
- 6) Higher the MLR higher the depth of dyeing.

**C] Briefly give the purpose of (any 5)**

- |                   |              |             |
|-------------------|--------------|-------------|
| 1) Desizing       | 2) Testing   | 3) Scouring |
| 4) Silk degumming | 5) Bleaching | 6) Scouring |

**05**

**Column 'A'**

- 1) NaOH
- 2) Vat dye
- 3) Poly / Cotton dyeing
- 4) Stabilizer
- 5) Mercerization

**Column 'B'**

- a) Insoluble in water
- b) Deconvolution of cotton
- c) Sodium silicate
- d) Alkali
- e) 2 bath dyeing method

**Q.2) Explain any two of the following. 16**

- 1) Fire retardant finish on textiles.
- 2) Classification of finishing processes.
- 3) With a neat & well labeled diagram, explain gas-singeing machine.
- 4) Weight reduction of PET.

**Q.3) Explain any two of the following. 16**

- 1) Sanforising
- 2) Heat-setting
- 3) Scouring of wool
- 4) Calendaring

**Q.4) Attempt any two of the following. 16**

- 1) Give the classification of colouring matter in detail.
- 2) Explain about jet-dyeing machine.
- 3) Give the methods of yarn dyeing? Explain any one of them.
- 4) State the different fastness properties with their significance.

**Q.5) Write short notes on. (any four) 16**

- 1) Degumming of silk
- 2) Style & methods of printing
- 3) Eco-friendly processing
- 4) Milling of wool
- 5) Thickeners in printing

**Q.6) Attempt any two of the following. 16**

- 1) Explain any one continuous method of dyeing.
- 2) Discuss "Winch dyeing M/C" with its advantages & disadvantages.
- 3) With a neat & well labeled diagram, explain "Transfer printing" machine.

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SUBJECT – DYEING AND PRINTING OF TEXTILES (**PRACTICAL-I**)

**Instructions : 1) Attempt all questions.**

**2) Illustrate your answers with neat sketches wherever necessary.**

**3) Figures to the right indicate full marks.**

- Q.1) Attempt all. 60**
- a) Carry out hot brand reactive dyeing of given cellulosic material.  
Weight of the fabric = ----- gm.  
% shade = ----- MLR = 1 : -----.
- b) Carry out disperse dyeing of given polyester material by carrier method.  
Weight of the fabric = ----- gm.  
% shade = ----- MLR = 1 : -----.
- c) Carry out printing of given cellulosic fabric with pigment colour.
- Q.2) Answer the following. 20**
- 1) Describe dyeing of cotton with vat in dye.  
2) Describe printing of polyester / cotton blend fabric.
- Q.3) Oral. 10**
- Q.4) Term work. 10**

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SUBJECT – BLEACHING AND FINISHING OF TEXTILES (**PRACTICAL-II**)

**Instructions : 1) Attempt all questions.**

**2) Illustrate your answers with neat sketches wherever necessary.**

**3) Figures to the right indicate full marks.**

- |             |  |           |
|-------------|--|-----------|
| <b>Q.1)</b> | Scouring, bleaching and optical whitening of polyester.<br>Scouring agent: sodium hydroxide, sodium carbonate, soap<br>Bleaching agent: sodium chlorite<br>Optical whitening agent: leucophor PC   | <b>40</b> |
| <b>Q.2)</b> | <b>Finishing on cotton. (Attempt any two)</b><br>1) Cationic soft finish : auxisoftener KI<br>2) Wash & wear finish<br>Resin : melamine formaldehyde<br>Catalyst: ammonium chloride<br>Softener: auxisoftener KI<br>3) Water repellent<br>Water repellent agent: wax emulsion<br>4) Delustering finish<br>Delustering agent: barium chloride, sodium sulphate, TiO <sub>2</sub> & starch | <b>30</b> |
| <b>Q.3)</b> | Answer the following.<br>1) Write down a note on bleaching of cotton by H <sub>2</sub> O <sub>2</sub> .<br>2) Write down a short note on wash and wear finish of PET/<br>Cotton fabric.  | <b>10</b> |
| <b>Q.4)</b> | <b>Oral.</b>   | <b>10</b> |
| <b>Q.5)</b> | <b>Term work.</b>  | <b>10</b> |