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Total Number of Pages: 02

B.Tech.
PTX5J003

5th Semester Regular Examination 2017-18
Process Control in Textile Chemistry Processing

BRANCH: TEXTILE

Time: 3 Hours

Max Marks: 100

Q.CODE: B546

Answer Question No.1 and 2 which are compulsory and any four from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: *multiple type and dash fill up type* (2 x10)

- a) Warranty of a wash-n-wear fabric is categorised into
a)Technology b)Psychology
c)Ethical d)Contractual
- b) Cotton is to be scoured for medical application at a pressure of
a)7-8 kg/cm² b)7-8 g/cm²
c)7-8 kg/m² d)7-8 kgf/cm²
- c) Full name of "NFPA" is
a)National Firefighters product b)National Fire Protection Association
Association
c)National Firefighters Protection d)National Firefighters Protection Association
Analysis
- d) Ciba-Geigy's scale is associated with
a)Whiteness c)Creasing
c)stiffness d)smoothness
- e) Standard blue wool used for the assessment of
a)Washing fastness b)Perspiration fastness
c)Rubbing fastness d)Light fastness
- f) TEGEWA Scale used to assess the efficiency of _____ processwhile _____
method used to analyze the degree of heat setting.
- g) BAN value for full mercerized cotton is _____ and for semi mercerized cotton is
_____.
- h) _____ and _____ of AATCC test standard used to assess the efficiency of resin
treated fabric.
- i) In soxhletextracter _____ and _____ solvent used for polyester and cellulose
respectively.
- j) Reagent used for color fastness to perspiration and color fastness to dry cleaning is
_____ and _____ respectively.

Q2 Answer the following questions: *Short answer type* (2 x10)

- a) Distinguish between wicking test and spot test involved in absorbcency testing of textiles.
- b) What are the tests to be followed to analyze the degradation of cotton after scouring process?
- c) Explain mathematically the "Barium Activity Number" for unmercerised cotton.
- d) Define the term "copper number α cellulose degradation".
- e) How Deconvolution count used to assess the efficiency of mercerization?
- f) How degree of bleaching can be assessed by different tests?
- g) Write down the different national and international standards organization for methods of testing dyed textiles.
- h) Where FIA system is used and in which principle it is working?
- i) What are the advantages and disadvantages of formaldehyde used in textile finishing?

- j) Compare standard ($L^* = 43.31, a^* = 47.63, b^* = 14.12$) with sample ($L^* = 46, a^* = 48.63, b^* = 13.25$) using CIE $L^*a^*b^*$ colour space model.
- Q3** a) Write down various functions of quality control in textile processing department. Discuss process control in desizing process. (10)
b) Explain in detail "copper number" for cellulose degradation. (5)
- Q4** a) Explain the importance of "Kubelka-Munk theory" with equation. Also elaborate briefly the various functions of CCM. (10)
b) What do you mean by Tristimulus Colorimeter? Distinguish between Hunter L, a, b and CIE $L^*a^*b^*$ colour space. (5)
- Q5** a) Differentiate "launder-o-meter" and "crock-meter". And define shortly how they are useful for the assessment of different colour fastness of dyed textiles? (10)
b) Sketch a flow chart indicating quality control tests carried out in each process involved in textile processing department. (5)
- Q6** a) Why is printing paste influencing printing of textile? Discuss analysis of printing paste formulation with suitable examples. (10)
b) Define shortly the parameters affecting in jigger dyeing machine. (5)
- Q7** a) Write down various test methods of AATCC standard used for colour fastness and discuss one AATCC test method briefly. (10)
b) Explain briefly colour fastness of dyed fabric to sublimation using Indian test standard. (5)
- Q8** a) Briefly explain ASTM TM D-2863 with neat diagram. (10)
b) How "degree of heat setting" can be assessed? Describe one method. (5)
- Q9** a) What are the different parameters that can be considered for the improvement of quality of finishing in textile industry? Elaborate it. (10)
b) How "Score Method" is useful for damage control in textile processing? (5)