THE TEXTILE ASSOCIATION (INDIA)
GMTA EXAMINATION – 2019
SECTION – D PAPER – D.4
ANALYTICAL CHEMISTRY IN TEXTILES

Date: 24.12.2019 Marks: 100 Time: 2.00 pm to 5.00 pm

Instructions:
1. Attempt any Six questions out of which Q.1 is Compulsory
2. Answer each next question on new page
3. Figures to the right indicate full marks
4. Illustrate your answers with neat sketches & flow charts wherever necessary
5. Use of non-programmable electronic pocket calculator is permissible
6. Mobile and any other communication devices are not allowed in the Examination hall.
7. Assume suitable data wherever necessary

Q1 a Discuss the importance of statistical analysis in analytical Chemistry. 10
   b Explain precision, accuracy, significant figure and confidence limit in textile analytical chemistry. 10
Q2 a Write a note on ‘Application of NMR spectroscopy in Textiles’. 08
   b Discuss Infrared spectroscopy in relation to analysis of fibers. 08
Q3 a Describe the electromagnetic spectrum in relation to UV and Visible spectroscopy 08
   b State the difference between IR and Raman Spectra. 08
Q4 a Discuss the Gas Chromatography linked to mass spectroscopy (GCMS) in the analysis of aryl amines. 08
   b What is chromatography? Describe high performance liquid chromatography (HPLC). 08
Q5 a Describe the method of estimation of TDS of water. 08
   b Write a note on ‘Paper Chromatography’ 08
Q6 a Describe the method of estimation of PH of salt solution 08
   b Discuss potentiometric titration in the analysis of textile Chemicals 08
Q7 a Discuss thermal analysis of Nylon 66 fiber. 08
   b Write a note on ‘Use of differential scanning calorimetry in fiber analysis’. 08
Q8 a Write a note on ‘Gas chromatography’. 08
   b Write a note on ‘Gel permeation chromatography in polymer analysis’. 08

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