Seat No.:	Enrolment No.

Subject Code: 162803

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION - SUMMER 2013

Date: 28-05-2013

Subject Name: Chemistry and Applications of Textile Auxiliaries Time: 10.30 am - 01.00 pm **Total Marks: 70 Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. **Q.1** (a) Answer the following objective questions. **07** i) Define HLB. ii) Anionic surfactant produces long chain _____ when dissolved in water. iii) Name the chemistry of powerful wetting agents. iv) Carriers for PES dyeing are Surface active agents, true or false? v) Name the two sequestering agents. vi) Leveling agents improve the migration of dyes, true or false? vii) What is NP-9.5 chemically? (b) Discuss the role of dispersing agents with chemistry, properties, 07 mechanism of action and its significance in dyeing. 0.2 (a) Enlist the textile auxiliaries based on surface active agents. Classify surface 07 active agents and discuss their general important properties. (b) Define and classify anionic surfactants. Describe the method for 07 preparation of TRO with its properties, chemistry and application. OR (b) Explain the phenomenon of leveling. Discuss the leveling agents for Nylon 07 dyeing with acid dyes. (a) Name a few compounds which can be used as carriers for PES dyeing. Q.3 Explain the mechanism of carrier action. Give its merits and demerits. **(b)** Explain the role of cationic surfactants as dye fixing agents with chemistry and properties. OR Q.3 (a) Discuss the terms HLB, emulsifiers and wetting agents with their 07 significance. **(b)** Describe the method for preparation of ethoxylates, its classification and applications. **Q.4** (a) Explain the terms soap and detergent .Discuss the chemistry, properties 07 and applications of Dodecyl benzene sulphonate. (b) With suitable examples, justify the role of mild oxidizing agents and 07 sequestering agents in textile wet processing. OR (a) Discuss the terms wetting and wetting agents with suitable examples. 07 **Q.4** (b) Describe a class of anionic surfactant which is suitable as powerful wetting 07 0.4 agent with its chemistry, merits and demerits.

- Q.5 (a) Explain the need for defoaming agents with the mechanism of defoaming 07 and the examples of widely used defoaming agents.
 - (b) Discuss the mechanism of leveling in PES dyeing with suitable leveling 07 agents for polyester dyeing.

OR

- Q.5 (a) Discuss the chemistry, properties and textile applications of cross linking 07 agents.
 - (b) What is the special need for mercerizing wetting agents? Explain the 07 chemistry, properties and working principle of mercerizing wetting agents.
