

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER 2013****Subject Code: 162803****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.
- Q.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.
- Q.3 (a)** Name a few compounds which can be used as carriers for PES dyeing. **07**
Explain the mechanism of carrier action. Give its merits and demerits.
- (b)** Explain the role of cationic surfactants as dye fixing agents with chemistry **07**
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 **07**
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**
- Q.4 (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**
agent with its chemistry, merits and demerits.

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

OR

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