

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER • 2014****Subject Code: 162803****Date: 23-05-2014****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: **10**
- i. State various classes of surfactants.
 - ii. Amphoteric surfactants behave as cationic agents in-----medium.
 - iii. -----surfactant exhibits germicidal properties.
 - iv. Which element imparts hydrophilicity to non ionic surfactants?
 - v. Define HLB.
 - vi. Define critical micelle concentration.
 - vii. What is the difference between soap and detergent?
 - viii. Give one popular example of wetting agent.
 - ix. Give two examples of hydrophilic moieties.
 - x. QA salts have lower hydrophilicity than primary ammonium salts. TRUE / FALSE
- (b) Write a short note on angle of contact. **04**
- Q.2** (a) Describe chemistry and applications of leveling agents. **07**
- (b) Discuss chemistry and applications of cationic dye fixing agents. **07**
- OR**
- (b) Discuss chemistry and applications of phosphate esters. **07**
- Q.3** Discuss techno chemical aspects of various sulphonate based surfactants. **14**
- Describe the method of synthesis of DBS.
- OR**
- Q.3** Explain the phenomenon of surface tension. Derive its dimensions with formula. **14**
- Q.4** Discuss any two of the following: **14**
- (i) Solubility and Kraft point
 - (ii) Silicon surfactants
 - (iii) De-foaming agents
- OR**
- Q.4** Describe the chemistry, properties and application of cationic surfactants. **14**
- Q.5** Discuss in detail nonionic surfactants with their chemistry, properties and textile applications. **14**
- OR**
- Q.5** Discuss any two of the following: **14**
- (i) CMC
 - (ii) Mild Oxidizing agents
 - (iii) Dispersing and sequestering agents
