Seat No.: _____ Enrolment No._____

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.	Five 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. Describe the method of synthesis of DBS.	**14**
		OR	
Q.3		Explain the phenomenon of surface tension. Derive its dimensions with formula.	**14**
Q.4		Discuss any two of the following: (i) Solubility and Kraft point (ii) Silicon surfactants (iii) De-foaming agents	**14**
		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: (i) CMC (ii) Mild Oxidizing agents (iii) Dispersing and sequestering agents	**14**

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