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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- IV (NEW) EXAMINATION - SUMMER 2015

Date: 26/05/2015 Subject code: 2142605 **Subject Name: Latex Technology** Time: 10.30am-01.00pm **Total Marks: 70 Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. **Q. 1** Answer the following. **(14)** (i) List the techniques used for the improvement of latex yield of Hevea Brasiliensis tree. Write the effect of ZnO on Colloidal stability of Natural latex. (ii) How emulsions can be prepared for latex compounding? (iii) What do you mean by Destabilization of Latex? (iv) Write the importance of Flex resistance test for foam rubber. **(v)** Define the term: "Latex Casting". Write its advantages. (vi) List out the basic parameters of Electrical properties of Colloidal systems. (vii) Draw the schematic diagram for Electrodecantation process. Write its Principle and Q. 2 (a) (07)explain the process in detail. What do you mean by Spontaneous Coagulation? Write the important facts relating to Q. 2 **(b)** (07)the Spontaneous Coagulation of fresh NR latex. Explain the Ammoniation process for Natural latex with schemetic representation. O. 2 (07)**(b)** Discuss about the preparation of aqueous Dispersion of various solid compounding Q. 3 (a) (07)ingredients. Give the basic classes of Accelerators used for latex compounding and explain the (07)**(b)** importance of any one in Latex compounding. Mention the Operating Principle of Colloid mill and write about the various types of Q. 3 (a) (07)Colloid mills with the help of Schematic diagram. Write the function of Surface active substances in Latex compounding and also explain **(b)** (07)their chemistry in detail. Q. 4 (a) Short note on Delayed action gelling system. (07)How the Viscosity of Natural latex can be measured? Explain in brief. **(b)** (04)(c) Write about the working principle and function of Planetary mixer. (03)List the basic methods for Gelation of Latex. Explain about any one in detail. **Q.** 4 (a) (07)Write the significance of Mechanical Stability Time (MST). How it can be measured **(b)** (04)for Natural latex? How the size of ball affect on efficiency of Ball mill? Explain in brief. (03)(c) Write a brief note on kinetics of Brownian motion for Colloids. Q. 5 (04)(a) Write about the characteristics of materials used for Non-Porous mould for latex (03)

Discuss in detail about management of Natural latex allergy in health care facilities.

(07)

(b)

(c)

moulding.

OR

(a)	Give the formula for measurement of Zeta potential for Colloids and mention the	(04)
	factors affecting it.	
(b)	How the film formation occurred in Casting process by using Porous mould?	(03)
(c)	Explain about the symptoms of latex allergy by using products of Natural latex from Hevea Brasiliensis tree.	(07)
	(b)	factors affecting it. (b) How the film formation occurred in Casting process by using Porous mould?
