Coat No:	Enrallment No
Seat No.:	Enrollment No.

Subject code: 162603

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION - WINTER • 2014

Date: 01-12-2014

Subject Name: Rubber Equipment Design-I Time: 02:30 pm - 05:00 pm **Total Marks: 70** Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. Draw the Labelled diagram of Mixing Mill. Write the specification of Mixing **Q.1** (a) (07)Mill widely used in Rubber Industry. Short Note on "Streamlines & Velocity profiles in Rolling Nips." **(b)** (07)Discuss in detail about Antifriction Bearings of Calender Machine. **Q.2** (a) (07)**(b)** Discuss the Construction & Operation of Calender Machine. (07)**(b)** Explain the Calculation of Calender Roll separating Force. (07)**Q.3** Explain in detail about the "Tempered water system' in Internal Mixer. (a) (07)Discuss in detail about Ram Construction for Internal Mixer. **(b)** (07)Q.3 (a) Discuss in detail about different parts of Internal Mixer. (07)Explain about the function of wing. Write the effect of trailing and leading (07)**(b)** angle of wing in Internal Mixer. Explain the Hydraulic Principle. Write in detail about Hydraulic Press. 0.4 (07)(a) Describe in detail about Pressure Accumulator. (07)**(b)** Explain in detail about designation of Mechanical Presses with example. **Q.4** (07)(a) **Q.4** Answer the following. **(b) (i)** The weight of a 450mm plunger of an accumulator is 5500 Kg. What (03)additional weight is to be placed upon it to develop a hydraulic pressure of 52 Kg/cm²? List the parameters for designation of Mechanical Press. (02)(ii) Which points should be taken into account for selecting a Press? (02)(iii) **Q.5** Discuss in detail about "Materials used for High Pressure Vessels". (07)(a) (Autoclave) Short Note on Delta-ring Closures. (07)**(b)** OR Which types of Stresses are produced in the wall of the Shell due to pressure **Q.5** (a) (08)in Autoclave? Explain in detail. Write the importance of Jacket for Autoclave. How many methods are used (03)**(b)** for providing Jackets? Explain with figure. Write about the Autofrettage construction for Autoclave. (03)(c)
