Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – IV • EXAMINATION – WINTER 2012

Subject code: 142603 **Date: 29/12/2012**

Subject Name: Rubber Engineering

Time: 02.30 pm - 05.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Answer the following	
	(i)	Write a short note on the types of calendar.	**05**
	(ii)	Define the following terms: (i)Skimming (ii) Frictioning	**02**
Q.1	**(b)**	Discuss in detail about the construction and working of mixing mill.	**07**
Q.2	**(a)**	Answer the following	
	(i)	Write down the main sources of potential danger and typical causes of accidents and method of guarding for mixing mill.	**04**
	(ii)	Differentiate the single geared mixing mill ad double geared mixing mill.	**03**
Q.2	**(b)**	Discuss the advantages and disadvantages of internal mixer.	**07**
		OR	
Q.2	**(b)**	Answer the following	
	(i)	List the major components of internal mixer.	**03**
	(ii)	Write in brief about the tandem mixing.	**04**
Q.3	**(a)**	Answer the following	
	(i)	Differentiate the cold feed extruder and hot feed extruder.	**05**
	(ii)	How is flash removed by trimming?	**02**
Q.3	**(b)**	Discuss in detail about the general classification of mould.	**07**
		OR	
Q.3	**(a)**	Answer the following	
	(i)	Write a short note on vacuum extruder.	**06**
	(ii)	How is flash removed by punching?	**02**
Q.3	**(b)**	Explain the various methods of mould cleaning.	**06**
Q.4	**(a)**	Compare the transfer moulding process with injection moulding process.	**07**
Q.4	**(b)**	Answer the following	
	(i)	Write in brief about the clamping unit of injection moulding machine.	**04**
	(ii)	Draw labeled diagram of transfer mould.	**03**
		OR	
Q.4	**(a)**	Discuss in detail about the various types of injection units used in injection moulding machine.	**07**
Q.4	**(b)**	Answer the following	
	(i)	Explain the compression moulding process. Give the examples of rubber products which are prepared by compression moulding process.	**04**
	(ii)	Write a brief note on positive type compression mould.	**03**
Q.5	**(a)**	Write a short note on Bag-O-Matic press.	**05**
Q.5	**(b)**	Answer the following	
	(i)	Describe the reasons and remedies for backrinding.	**04**
	(ii)	Write a short note on turbo stirrer.	**05**
		OR	
Q.5	**(a)**	Explain the rotating table type press and tilting head type press respectively.	**05**
Q.5	**(b)**	Answer the following	
	(i)	Describe the reasons and remedies for air traps.	**04**
	(ii)	Write a short note on planetary mixer.	**05**

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