Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- IVth SEMESTER–EXAMINATION – MAY/JUNE- 2012

Subject code: 142603 **Date: 29/05/2012**

Subject Name: Rubber Engineering

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)**	What do you mean by calender bowl deflection? How it can be rectified?	**07**
Q. 1	**(b)**	Answer the following	
	i	Define the term skim-coating. Explain the procedure to carry out the skim-coating.	**04**
	ii	Write down the main sources of potential danger, typical causes of accident and method of guarding for calenders.	**03**
Q. 2	**(a)**	Discuss the problems usually experienced in mixing.	**07**
Q. 2	**(b)**	Answer the following	
	i	Explain the various stages associated with mixing process.	**04**
	ii	Give the limitations of transfer mix.	**03**
		OR	
Q. 2	**(b)**	Answer the following	
	i	Write down the advantages and disadvantages of internal mixer compared to two roll open mill.	**04**
	ii	List the major components of internal mixer.	**03**
Q. 3	**(a)**	Discuss the following features of extruder: (i) Barrel (ii) Head	**06**
Q.3	**(b)**	Answer the following	
	i	Write a short note on ram extruder.	**05**
	ii	How is flash removed by punching?	**03**
		OR	
Q. 3	**(a)**	Write a short note on pin qsm extruder**.**	**06**
Q. 3	**(b)**	Answer the following	
	i	Explain the functions of electric motor and gear box with respect to extruder.	**05**
	ii	How is flash removed by hand trimming?	**03**
Q. 4	**(a)**	Discuss in detail about the classification of transfer moulding.	**07**
Q. 4	**(b)**	Answer the following	
	i	Write a note on straight compression mould.	**04**
	ii	Explain the importance of mould releasing agent with suitable examples.	**03**

PTO..

		OR	
Q. 4	**(a)**	Discuss the semi-positive type compression mould and positive type compression mould respectively.	**07**

Q. 4	**(b)**	Answer the following	
	i	Define the following terms: (i)Transfer Pot (ii) Sprue (iii) Runner (iv) Parting Line	**04**
	ii	List the various methods of mould cleaning.	**03**
Q. 5	**(a)**	Write a short note on pebble mill.	**06**
Q. 5	**(b)**	Answer the following	
	i	Explain the working of plasticizing unit. How is plasticizing action controlled?	**04**
	ii	Differentiate the hydraulic press and mechanical press.	**04**
		OR	
Q. 5	**(a)**	State the hydraulic principle and discuss the classification of hydraulic press.	**07**
Q. 5	**(b)**	Answer the following	
	i	Explain the working principle of clamping unit of injection moulding machine. Also give the features of ideal clamping unit.	**04**
	ii	How is rubber injection moulding differs from plastics injecting moulding machine? Which rubber products can be manufactured by rubber injection moulding?	**03**

****