Subject Code:2142603

**Instructions:** 

Subject Name: Rubber engineering

Time:10:30 AM to 01:00 PM

1. Attempt all questions.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-IV(New) EXAMINATION - SUMMER 2016

Date:08/06/2016

**Total Marks: 70** 

		2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.	
			MARKS
Q.1		Short Questions	14
	1	Define the term 'incorporation'.	
	2	What do you mean by close mixing?	
	3	Write down the full form of FCM.	
	4	List any two rubber products prepared by extrusion process.	
	5	Give any one difference between ram extruder and screw extruder.	
	6	What do you mean by cambering?	
	7	Mention any two compound related problems which affect the efficiency of calendaring process.	
	8	What do you mean by pebbling?	
	9	Write down the key function of guide pin.	
	10	Give the classification of press on the basis of it's daylight.	
	11	Which different moulding methods are used to prepare rubber products?	
	12	Give the types of injection moulding process.	
	13	List the typical causes of accident in case of mixing mill.	
	14	How flash removal operation of vulcanizate is carried out by hand trimming?	
Q.2	(a)	Write down the limitations of transfer mix.	03
	<b>(b)</b>	Explain the given features with respect to internal mixer:(i)Rotor Speed (ii) Rotor Design	04
	(c)	Give detail comparison between mixing mill and kneader.  OR	07
	(c)	Discuss in detail about the different stages associated with mixing process.	07
Q.3	(a)	What are the remedies to avoid the cured lump problems in extruder head?	03
	<b>(b)</b>	Write about key features of cold feed extruder.	04
	<b>(c)</b>	What do you mean by frictioning? Which methods are available for	07
		frictioning? Discuss any one in detail.  OR	
Q.3	(a)	How the screw speed and die opening affect the output of extruder?	03
<b>V.</b>	(a) (b)	Write about key features of hot feed extruder.	03
	(c)	Discuss in detail about the roll temperature control in case of	07
	(*)	calendaring process.	
			<b>PTO</b>

<b>Q.4</b>	(a)	Give conventional classification of mould. Write on any one.	03
	<b>(b)</b>	Explain the reasons and remedies for air trap.	04
	(c)	Discuss in detail about transfer moulding process.	07
		OR	
Q.4	(a)	Write down an importance of mould releasing agent. Also give its examples.	03
	<b>(b)</b>	Explain the reasons and remedies for backrinding.	04
	(c)	Give the types of compression mould. Explain any two with labeled diagram.	07
Q.5	(a)	List the major components of press.	03
	<b>(b)</b>	Differentiate the hydraulic press and mechanical press.	04
	(c)	Discuss in detail about the types of injection units used in injection moulding machine.	07
		OR	
Q.5	(a)	Write in brief about operating sequence of Bag-O-Matic press.	03
	<b>(b)</b>	Give the classification of hydraulic press. Write on any two.	04
	(c)	Discuss in detail about the advantages of rubber injection moulding machine.	07

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