

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– IV (New) EXAMINATION – WINTER 2019****Subject Code: 2142603****Date: 16/12/2019****Subject Name: Rubber engineering****Time: 10:30 AM TO 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.

		MARKS
<b>Q.1</b>	(a) Draw various configurations of three roll calendar.	<b>03</b>
	(b) List out any two operations carried out by calendar.	<b>04</b>
	(c) What do you mean by frictioning? Discuss the frictioning operation with respect to calendar.	<b>07</b>
<b>Q.2</b>	(a) What do you mean by Mixing? Write down any two applications of Farrel Continuous Mixer (FCM).	<b>03</b>
	(b) Write down the limitations of Transfer Mix.	<b>04</b>
	(c) List out the operating variables for internal mixer. Discuss any three in detail.	<b>07</b>
	<b>OR</b>	
	(c) Compare single geared mixing mill with double geared mixing mill.	<b>07</b>
<b>Q.3</b>	(a) What do you mean by buffing? How is it carried out?	<b>03</b>
	(b) Write a short note on kneader.	<b>04</b>
	(c) Explain 'Fish Tail Head' of extruder.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Write a brief note on extruder as a strainer.	<b>03</b>
	(b) Define the following terms: (i) Die (ii) Head (iii) L/D Ratio (iv) Compression Ratio	<b>04</b>
	(c) Write a short note on Vacuum Extruder.	<b>07</b>
<b>Q.4</b>	(a) What do you mean by 'pebbling' in terms of moulding? Write their cause and remedy.	<b>03</b>
	(b) Short note on 'mould releasing agents'.	<b>04</b>
	(c) Explain the classification of mould according to their operations.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Define the terms: (i) Cavity (ii) Sprue bush (iii) Runner.	<b>03</b>
	(b) Explain the reasons and remedies for air trap.	<b>04</b>
	(c) Explain the reasons and remedies for under cure.	<b>07</b>
<b>Q.5</b>	(a) Write down the causes and remedies of sponging.	<b>03</b>
	(b) Explain the working of reciprocating type injection unit.	<b>04</b>
	(c) Write a short note on Bag-O-Matic press.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Consistent part quality is difficult to achieve in Case of transfer moulding- why?	<b>03</b>
	(b) Give the advantages of injection moulding process.	<b>04</b>
	(c) Write a short note on planetary mixer.	<b>07</b>

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