

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV(NEW) – EXAMINATION – SUMMER 2019

Subject Code:2142603

Date:25/05/2019

Subject Name: Rubber engineering

Time:02:30 PM TO 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.

		MARKS
Q.1	(a) Write down the limitations of transfer mix.	03
	(b) Explain the construction and working of Farrel continuous Mixer (FCM).	04
	(c) Discuss in detail about the various stages of mixing process.	07
Q.2	(a) Compare single gear mixing mill with double gear mixing mill.	03
	(b) Write down the advantages and disadvantages of internal mixer compared to two roll open mill.	04
	(c) Explain following parameters with respect to internal mixer: (i) Rotor Speed (ii) Rotor Geometry.	07
OR		
	(c) Write about the construction and working of Transfer Mix.	07
Q.3	(a) List any three factors affecting the output of extrusion process.	03
	(b) Define the following terms: (i) Friction ratio (ii) Flight (iii) Extrudate (iv) Extrusion.	04
	(c) Explain the differences between the ram extruder and screw extruder.	07
OR		
Q.3	(a) Write down the major function of head for extruder machine.	03
	(b) Which different types of discharge door are used in Internal Mixer? Which one is preferable?	04
	(c) Explain the following features with respect to Extruder: (i) Hopper (ii) Screw.	07
Q.4	(a) Draw different roll configurations of four roll calendar.	03
	(b) Define the term skim-coating. Explain the procedure to carry out the skim-coating.	04
	(c) Discuss in detail about the cooling system provided to calender roll for temperature control.	07
OR		
Q.4	(a) Mention the compound related difficulties to achieve accuracy in calendering.	03
	(b) Write about the device used to control the thickness of rubber sheet.	04
	(c) What do you mean by frictioning? Discuss frictioning operation with respect to calendar.	07
Q.5	(a) Define the term mould. Also give the general classification of mould.	03
	(b) Write down the main sources of potential danger, typical sources of accidents and methods of guarding for single daylight press and multi daylight press respectively.	04
	(c) Compare the Transfer Moulding process with Injection Moulding process.	07

OR

- Q.5** (a) Write a note on positive type Compression Mould. **03**
(b) Write down the importance of Mould Releasing Agent. Also give its examples. **04**
(c) Discuss in detail about the types of injection units used in Injection Moulding machine. **07**
