| Seat No.: | Enrolment No. |
|-----------|---------------|
| | |

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (OLD) - EXAMINATION - SUMMER 2017

Subject Code: 142603 Date: 01/06/2017

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.

| Q.1 Q.1 | (a) (b) | What do you mean by frictioning? Discuss the frictioning operation with respect to calender. Answer the following | 07 |
|------------|------------|---|----------|
| Q.I | i | Mention the properties and formulation of compound required to carry out the skim- | 03 |
| | ii | coating. Explain the main sources of potential danger, typical causes of accident and method of guarding for internal mixer and multiday light press respectively. | 04 |
| Q.2 Q.2 | (a) (b) | Describe the various components of Mixing Mill with their functions. Answer the following | 07 |
| Q.2 | i ii | Write down the characteristics of under masticated rubber. Which different types of discharge door are used in Internal Mixer? Which one is preferred? Why? | 03 04 |
| | | OR | |
| Q.2 | (b) i ii | Answer the following State the working principle of Tandem Mixing. Write down the advantages and disadvantages of continuous mixing. | 03 04 |
| Q.3 Q.3 | (a) (b) | Write a short note on Vacuum Extruder Answer the following | 06 |
| Ų.J | i ii | Define the following terms: (i) Pitch(ii)Lead(iii)L/D Ratio(iv)Compression Ratio How is flash removed by grinding? | 04 04 |
| | | OR | |
| Q.3 Q.3 | (a) (b) | Differentiate the Cold Feed Extruder and Hot Feed Extruder. Answer the following | 05 |
| | i ii | Explain the following features with respect to Extruder: (i)Hopper (ii)Screw What do you mean by buffing? How is it carried out? | 06 03 |
| Q.4 Q.4 | (a) (b) | Compare the Transfer Moulding process with Injection Moulding process. Answer the following | 07 |
| | i ii | Write in brief about the clamping unit of Injection Moudling machine. Draw a labeled diagram of Transfer Mould. | 04 03 |
| | | OR | |
| Q.4 Q.4 | (a) (b) | Discuss in detail about the types of injection units used in Injection Moulding machine. Answer the following | 07 |
| | i | Write in brief about Compression Moulding process. Give the examples of rubber products prepared by this. | 04 |
| | ii | Write a note on positive type Compression Mould. | 03 |

| Q.5 | (a) | Discuss in detail about the classification of Hydraulic Press. | 07 |
|-----|------------|--|----|
| Q.5 | (b) | Answer the following | |
| | i | Write down the importance of Mould Releasing Agent. Also give its examples. | 03 |
| | ii | Explain the causes and remedies for Backrinding. | 04 |
| | | OR | |
| Q.5 | (a) | Discuss the following features with respect to Hydraulic Press: | 07 |
| | | (i)Main Frame Assembly (ii)Battery Operation | |
| Q.5 | (b) | Answer the following | |
| | i | Write down the importance of Mould Cleaning. List out any two methods used for | 03 |
| | | Mould Cleaning. | |
| | ii | Explain the causes and remedies for under cure. | 04 |
| | | | |