

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER– IV(NEW) EXAMINATION – SUMMER 2023**

**Subject Code:3142603****Date:13-07-2023****Subject Name:Rubber Engineering & its Economics****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.
4. Simple and non-programmable scientific calculators are allowed.

|            |  | MARKS     |
|------------|--|-----------|
| <b>Q.1</b> | (a) Write down the main sources of potential danger, typical causes of accident and method of guarding for internal mixer. | <b>03</b> |
|            | (b) Give the advantages and disadvantages of batch mixing.   | <b>04</b> |
|            | (c) Discuss the following features with respect to mixing mill: (i) Ancillary Requirements (ii) Safety Devices.            | <b>07</b> |
| <b>Q.2</b> | (a) Write a brief note on extruder as strainer.  | <b>03</b> |
|            | (b) Differentiate the ram extruder and screw extruder.   | <b>04</b> |
|            | (c) Discuss in detail about the problems associated with extrusion process.  | <b>07</b> |
| <b>OR</b>  |  |           |
| <b>Q.3</b> | (c) Write a short note on Vacuum Extruder.   | <b>07</b> |
|            | (a) Define the term mould. Also give the general classification of mould.  | <b>03</b> |
|            | (b) How the flash removal is carried out by grinding?  | <b>04</b> |
|            | (c) List the different types of compression mould. Discuss any two in detail.  | <b>07</b> |
| <b>OR</b>  |  |           |
| <b>Q.3</b> | (a) Write down the causes for following moulding problems: (i) Backrinding (ii) Under cure.                                | <b>03</b> |
|            | (b) Write down the causes and remedies for following moulding problems: (i) Poor Knitting (ii) Pebbling.                   | <b>04</b> |
|            | (c) Discuss the classification of injection moulding machine with respect to its position.                                 | <b>07</b> |
| <b>Q.4</b> | (a) Define the following terms (i) Coating (ii) Embossing (iii) Sheeting.  | <b>03</b> |
|            | (b) What do you mean by topping? Which methods are available for it?   | <b>04</b> |
|            | (c) With labeled diagrams, explain the Farrel Continuous Mixer (FCM).  | <b>07</b> |
| <b>OR</b>  |  |           |
| <b>Q.4</b> | (a) Draw various configurations of three roll calender.  | <b>03</b> |
|            | (b) What do you mean by cambering? Explain the cambering of three roll calender with figure.                               | <b>04</b> |
|            | (c) With labeled diagrams, explain the Transfer Molding Process.   | <b>07</b> |
| <b>Q.5</b> | (a) Define the terms: - (1) Marginal Cost (2) Variable Cost (3) Fixed Cost.  | <b>03</b> |
|            | (b) Write a short note on Market Based Economy.  | <b>04</b> |
|            | (c) Discuss the Role of Production Engineer in Rubber Industry.  | <b>07</b> |
| <b>OR</b>  |  |           |
| <b>Q.5</b> | (a) Define the terms: - (1) Inventory (2) mixed economy (3) Monopoly.  | <b>03</b> |
|            | (b) Describe the concept of Mix Economics.   | <b>04</b> |
|            | (c) Describe the Role of Quality Assurance Engineer in Rubber Industry.  | <b>07</b> |

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