

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018****Subject Code: 2163602****Date: 05/05/2018****Subject Name: Compounding & Processing of Plastics & Rubbers****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** (a) Write advantages of hot runner injection moulding for plastics. **03**  
(b) Explain in brief the compounding and its importance in rubber industry. **04**  
(c) Describe the process of plastic material injection moulding with neat figure. **07**
- Q.2** (a) Write advantages and disadvantages of single screw extruder. **03**  
(b) Write the causes and remedies of short shot and sink marks defects that occur in injection moulded product. **04**  
(c) Explain extrusion blow moulding technique in detail with neat figure. **07**
- OR**
- (c) Describe in detail injection blow moulding technique with the neat figure. **07**
- Q.3** (a) Write the meaning of breathing step and its importance in compression moulding. **03**  
(b) Explain plunger transfer moulding in detail with neat sketch. **04**  
(c) Explain in detail manufacturing of rubber tube for automobiles with neat sketch. **07**
- OR**
- Q.3** (a) Write in brief about cold feed extrusion process. **03**  
(b) Explain in brief about Water assisted injection moulding along with its advantages. **04**  
(c) Explain in detail the process of thermoforming with neat figure. **07**
- Q.4** (a) Compare compression moulding with transfer moulding. **03**  
(b) Explain in detail the cycle time of injection moulding. **04**  
(c) What do you mean by calendaring? Explain in detail any two types of calendaring process with proper diagram. **07**
- OR**
- Q.4** (a) Write the importance of fillers in compounding. **03**  
(b) Explain in detail the function of antioxidants in plastic materials. **04**  
(c) Explain Reaction Injection moulding in detail with neat figure. Write its advantages and precautions during process. **07**
- Q.5** (a) Write in brief about Flame Retardants. **03**  
(b) Explain in brief the Filament winding technique. Write its advantages. **04**  
(c) Explain Hand layup technique in detail with neat figure. Write its advantages and limitations. **07**
- OR**
- Q.5** (a) What do you mean by Reinforcement? Write its importance in polymer composites. **03**  
(b) Write in brief about the types of calendar roll arrangements with neat sketches. **04**  
(c) Explain rubber injection moulding in detail with neat figure. **07**

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