

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**DIPLOMA ENGINEERING – SEMESTER – 7 • EXAMINATION – SUMMER - 2017**

**Subject Code: 3372301****Date: 02-05-2017****Subject Name: ADVANCED PLASTIC PROCESSING TECHNIQUES****Time: 2:30PM TO 5:00PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

- Q.1** Answer any seven out of ten. દશમાંથી કોઈપણ સાતના જવાબ આપો. **14**
1. Write any two advantages of stretch blow molding over conventional blow molding.
  2. List various miscellaneous blow molding process.
  3. List out types of various barrier material.
  4. List names of various vented screw extruder.
  5. Define: - Counter rotating and Co-rotating.
  6. Define: - RIM
  7. Which gas used in gas assisted injection molding process. Why?
  8. Define co-extrusion process.
  9. Write any two advantages of structural foam injection molding.
  10. List various adhesives (bonding material) used in co-extrusion.
- Q.2** (a) Brief explain sandwich injection molding process with neat sketch. **03**  
OR
- (a) Write merits of RIM process. **03**  
(b) Explain co-extrusion process with neat sketch. **03**  
OR
- (b) Explain dip/displacement blow molding process. **03**  
(c) Explain internal bubble cooling with neat sketch. **04**  
OR
- (c) Compare single screw and twine screw extruder. **04**  
(d) Draw flow diagram of RIM process and explain it. **04**  
OR
- (d) Write the feature of RIM process. **04**
- Q.3** (a) What are the purposes of vented screw extruder? **03**  
OR
- (a) Write the advantages of heat shrink film. **03**  
(b) List out types of material and additives used in RIM process. **03**  
OR
- (b) Give disadvantages of rim process. **03**  
(c) Explain the five layer of co-extrusion structure. **04**  
OR
- (c) Compare single stage and two stage injection structure blow molding. **04**  
(d) Write a short note on flow molding process. **04**  
OR

	(d) Write injection molding machine requirements for injection of reinforce thermoplastic.	<b>04</b>
<b>Q.4</b>	(a) Write the application of co-extruded products.	<b>03</b>
	OR	
	(a) Define :- fishing net, cling film, corrugated sheet,	<b>03</b>
	(b) Describe any one structural foam injection molding process.	<b>04</b>
	OR	
	(b) Write the application of RIM process.	<b>04</b>
	(c) Explain neck ring process with neat sketch.	<b>07</b>
<b>Q.5</b>	(a) Explain manufacturing process of nylon braided pipe with neat sketch.	<b>04</b>
	(b) Explain gas-assisted injection molding process with neat sketch.	<b>04</b>
	(c) List various steps for metal injection molding.	<b>03</b>
	(d) Explain extrusion stretch blow molding process.	<b>03</b>

\*\*\*\*\*