

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**DIPLOMA ENGINEERING – SEMESTER – III • EXAMINATION – SUMMER 2015**

**Subject Code: 3332305****Date: 18 -05 - 2015****Subject Name: TECHNOLOGY FOR INJECTION MOULDING****Time: 2:30 pm to 5:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. 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. **14**
1. Define Nozzle.
  2. What is injection moulding?
  3. What is a barrel?
  4. List the types of injection moulding machine.
  5. What is the function of the screw?
  6. List any four applications of injection molding.
  7. List any four thermoplastic materials used for injection moulding.
  8. What are the post moulding operations of injection moulding.
  9. What is the function of scrap grinder.
  10. What is predrying of a maerial. List any two materials requiring predrying.
- Q.2** (a) List the parts of injection unit in an injection moulding machine. **03**
- OR
- (a) Compare hydraulic drive and electric drive system. **03**
- (b) Explain the importance of hopper loader in injection moulding **03**
- OR
- (b) Why is chilling plant used in injection moulding? **03**
- (c) Explain the injection moulding cycle diagram. **04**
- OR
- (c) List the screw tips for injection moulding and draw any one. **04**
- (d) Draw the standard screw of injection moulding machine and label its parts. **04**
- OR
- (d) Explain heating and cooling of injection screw. **04**
- Q.3** (a) List the types of nozzles and explain anyone with a neat sketch. **07**
- OR
- (a) Draw a reciprocating screw type injection moulding machine and label its parts. **07**
- (b) Explain with a neat figure anyone type of toggle clamping device. **07**
- OR
- (b) List the problems in injection moulding and give causes and remedies of any two of them. **07**
- Q.4** (a) What is the importance of magnetic separators in injection moulding machine? **03**
- OR
- (a) Explain the function of heat exchanger in injection moulding. **03**
- (b) List and explain any one type of injection barrel. **04**

OR

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|------------|-----|---|-----------|
|            | (b) | Explain the startup process for injection moulding.                               | <b>04</b> |
|            | (c) | List the advantages and disadvantages of injection moulding.                      | <b>07</b> |
| <b>Q.5</b> | (a) | What is the importance of hopper drier in injection moulding?                     | <b>03</b> |
|            | (b) | List the differences between hydraulic and toggle system.                         | <b>04</b> |
|            | (c) | List the process steps for a reciprocating screw type injection moulding machine. | <b>07</b> |

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