

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER-VII • EXAMINATION – SUMMER • 2014

Subject Code: 372302

Date: 12/06/2014

Subject Name: Extrusion Die Design

Time: 10:30 am – 1:00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

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|-------------|---|-----------|
| Q.1 | Give classification of extrusion dies. Draw a neat sketch of any one die:
(1) Pipe die (2) Film die. Label all the parts of die. | 14 |
| Q.2 | (a) Explain general die design rules. | 07 |
| | (b) Explain types of flow regarding polymer rheology with neat sketches. | 07 |
| | OR | |
| | (b) Describe about “Melt fracture”. | 07 |
| Q.3 | (a) Describe velocity profiles of Newtonian and non-Newtonian fluids. | 07 |
| | (b) Explain factors affecting die design. | 07 |
| | OR | |
| Q.3 | (a) Explain function of screen pack and breaker plate. | 07 |
| | (b) Explain materials for extrusion dies. | 07 |
| Q.4 | (a) Explain various factors considered for adaptor design. | 07 |
| | (b) Explain various factors considered for correct breaker plate assembly. | 07 |
| | OR | |
| Q. 4 | (a) Differentiate between pressure die and tubing die of wire coating with neat sketches. | 07 |
| | (b) Sketch and explain any one type of sizing calibration used in pipe extrusion. | 07 |
| Q.5 | (a) Which type of sheet die is used for heat sensitive materials? Draw a neat sketch of that die labeling all the parts. | 07 |
| | (b) Explain stream lining of extrusion dies. | 07 |
| | OR | |
| Q.5 | (a) Draw neat sketch of manifold type sheet die. | 07 |
| | (b) Compare side fed and centre fed tubular film dies. | 07 |
