

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGG.- VIIth SEMESTER-EXAMINATION – JUNE/JULY- 2012

Subject code: 372302

Date: 29/06/2012

Subject Name: Extrusion Die Design

Time: 02:30 pm – 05:00 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 | Classify extrusion die. Draw neat sketch of sectional elevation of Pipe die. Label all the parts of die. | 14 |
| Q.2 | (a) Explain factors affecting die design. | 07 |
| | (b) Explain types of flow regarding polymer rheology with neat sketches. | 07 |
| | OR | |
| Q.3 | (b) Describe velocity profiles of Newtonian and non-Newtonian fluids. | 07 |
| | (a) Explain materials for extrusion dies. | 07 |
| | (b) Describe die geometry. | 07 |
| | OR | |
| Q.3 | (a) Explain general die design rules. | 07 |
| | (b) Derive equation for output of Newtonian fluid through tubular cross section. | 07 |
| Q.4 | (a) Explain function of screen pack and breaker plate assembly. | 07 |
| | (b) Explain various factors considered for correct breaker plate assembly. | 07 |
| | OR | |
| Q. 4 | (a) Explain various factors considered for adaptor design. | 07 |
| | (b) Compare side fed and centre fed tubular dies. | 07 |
| Q.5 | (a) Give types of sizing calibrators. Explain any one of them. | 07 |
| | (b) Draw neat sketch of wire coating pressure die. Label all the parts of die. | 07 |
| | OR | |
| 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 advantages of rotating die. | 07 |
