

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**DIPLOMA ENGG. – DLM - SEMESTER– VII • EXAMINATION – WINTER 2012**

**Subject code: 372302****Date: 10-01-2013****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.

- |             |                                                                                                                                  |           |
|-------------|----------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Q.1</b>  | (a) List and explain various types of flow of fluids.                                                                            | <b>07</b> |
|             | (b) State various factors affecting extrusion die design.                                                                        | <b>07</b> |
| <b>Q.2</b>  | (a) Classify various types of extrusion dies with respect to melt flow direction and explain any one in detail with neat sketch. | <b>07</b> |
|             | (b) Draw any one type of pipe die with nomenclature.                                                                             | <b>07</b> |
|             | <b>OR</b>                                                                                                                        |           |
|             | (b) Draw any one type of wire coating die with nomenclature.                                                                     | <b>07</b> |
| <b>Q.3</b>  | (a) Describe various materials of construction for extrusion dies.                                                               | <b>07</b> |
|             | (b) Write short note on melt fracture phenomenon.                                                                                | <b>07</b> |
|             | <b>OR</b>                                                                                                                        |           |
| <b>Q.3</b>  | (a) Explain about die restriction.                                                                                               | <b>07</b> |
|             | (b) Write short note on die swell phenomenon.                                                                                    | <b>07</b> |
| <b>Q.4</b>  | (a) Explain various factors to be considered for adaptor design.                                                                 | <b>07</b> |
|             | (b) Explain function of screen pack and breaker plate with neat sketch.                                                          | <b>07</b> |
|             | <b>OR</b>                                                                                                                        |           |
| <b>Q. 4</b> | (a) State various factors to be considered for breaker plate design.                                                             | <b>07</b> |
|             | (b) Discuss land length / orifice thickness ratio with respect to different viscosity plastics materials.                        | <b>07</b> |
| <b>Q.5</b>  | (a) Compare side fed and centre fed tubular film dies.                                                                           | <b>07</b> |
|             | (b) Explain significance and advantages of rotating dies.                                                                        | <b>07</b> |
|             | <b>OR</b>                                                                                                                        |           |
| <b>Q.5</b>  | Give classification of various types of flat film and sheet dies. Draw sectional elevation of any one type of sheet die.         | <b>14</b> |

\*\*\*\*\*