

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGG – SEMESTER – VII • EXAMINATION – SUMMER- 2017

Subject Code: 3372303**Date:06-05-2017****Subject Name: Designing of Extrusion Dies****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. **14**
1. Define Newtonian and non-Newtonian fluids.
 2. Define die swell and state any one method of reducing it.
 3. What is spider leg effect?
 4. List any two requirements of die material.
 5. State functions of die adaptor.
 6. State the function of bull ring in sheet die.
 7. List out various types of film dies.
 8. Sketch any two type of breaker plate designs.
 9. State difference between sheet and film. Fish tail die is used for which material?
 10. State applications of multi-manifold multilayer dies.
- Q.2** (a) State and explain types of flow. **03**
- OR
- (a) Define : Viscosity, shear stress and visco-elasticity **03**
- (b) State significance of die adaptor. **03**
- OR
- (b) Define melt fracture. State methods of minimizing it. **03**
- (c) Define land length. State its importance in die design. **04**
- OR
- (c) List various factors affecting die design and explain any one. **04**
- (d) Explain in brief die design rules. **04**
- OR
- (d) List various die construction materials and explain any one. **04**
- Q.3** (a) Sketch screen pack, breaker plate and die adaptor assembly. **03**
- OR
- (a) State advantages of spiral fed dies. **03**
- (b) What is die restriction? Explain various die restrictions with neat sketch. **07**
- OR
- (b) Sketch and explain any one blown film die. **07**
- (c) State functions of screen pack and breaker plate assembly. **04**
- OR
- (c) Write in about dies for solid sections. **04**
- Q.4** (a) Draw neat sketch of wire coating die and state functions of various parts. **07**
- OR
- (a) Draw neat sketch of sheet die and label different part. **07**

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| | (b) | State functions of sizing calibrators. State and explain types of sizing calibrators. | 07 |
| Q.5 | (a) | Compare side fed and centre feed dies. | 04 |
| | (b) | Write short note on die geometry. | 04 |
| | (c) | Give classification of extrusion dies with respect to direction of flow. | 03 |
| | (d) | State basic difference between straight through and offset pipe dies. | 03 |
