Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY DIPLOMA ENGINEERING – SEMESTER – III-EXAMINATION – WINTER 2015

Subject Code: 3372303 Subject Name: Designing Of Extrusion Dies Time: 10:30 AM TO 1:00 PM

Date: 08/12/2015

Total Marks: 70

14

Instructions:

1.

- 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.

- Define : 1)shear rate 2)viscosity
- 2. Write Equation for output of Newtonian fluid through tubular cross section.
- 3. List out types of polymer flow related to rheology.
- 4. Draw relation between shear stress and shear rate for various Newtonian and Non-Newtonian fluids.
- 5. List out constructional materials for extrusion dies.
- 6. Define Die swell.
- 7. Classify various film dies.
- 8. Write function of spider.
- 9. Write purpose buldge.
- 10. List out various types of sheet die.
- Q.2 Draw neat sketch of sectional elevation of Pipe die. Label all the parts of die. 14 OR Draw neat sketch of sectional elevation of Film die. Label all the parts of die. 14 Q.3 (a) Explain various types of flow regarding rheology with diagrams. 07 OR Explain Land length and its importance in die design (a) 07 (b) Write factors to be considered for adaptor design 07 OR Write factors to be considered for correct breaker plate assembly 07 (b) Write short note on sheet die used for heat sensitive material. 07 **Q.4** (a) OR List wire coating die and explain any one with neat sketch (a) 07 Explain general die design rules. (b) 07 List types of blown film die and explain any one. 07 Q.5 (a) Classify extrusion dies with respect to melt flow direction with neat sketch 07 (b) and give their applications.
