

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 372304

Date: 18/06/2014

Subject Name: Blow and Thermoforming Mould 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.

- Q.1** (a) Design and draw plan and sectional elevation of extrusion blow mould assembly for a shampoo bottle. Draw product drawing also. Assume suitable dimensions of product. **14**
- Q.2** (a) Explain design consideration for vent and vacuum holes in thermoforming mould. **07**
- (b) Write various types of blow mould materials along with their characteristics. **07**
- OR
- (b) Describe significance of mould cooling and explain various mould cooling methods for blow mould. **07**
- Q.3** (a) Explain in brief about pinch-off section of blow mould design. **07**
- (b) State various properties required for thermoforming mould material. **07**
- OR
- Q.3** (a) Explain in brief about blow ratio and swell ratio **07**
- (b) Write short note on 'Surface treatment in thermoform mould'. **07**
- Q.4** Assuming suitable dimensions of any plastic disposable product, determine no. of impressions which can be accommodated in a female thermoform mould. Also draw plan and sectional elevation of this mould. **14**
- Data : size of drap table = $500 \times 500 \text{ mm}^2$, height of drap table = 75 mm, sheet thickness = 1 mm
- OR
- Q.4** (a) Write short note on parison stick construction for injection blow mould. **07**
- (b) Explain about shrinkage in thermoforming and its effect on draft/taper in thermoform mould design. **07**
- Q.5** (a) Discuss design considerations for selection of parting line in blow mould design. **07**
- (b) Explain any one type of extruder die head used for parison forming. **07**
- OR
- Q.5** (a) Discuss about venting needed in blow mould design with neat sketch. **07**
- (b) Write short note on preform mould construction for injection blow mould. **07**
