

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER –VI • EXAMINATION – SUMMER 2015

Subject Code: 3362301**Date: 30 -04 - 2015****Subject Name: Design for Blow & Thermoforming Moulds****Time: 10:30 AM TO 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. 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. List blow mould materials.
 2. What is pinch off area in a blow mould?
 3. Define Blow Ratio and Swell Ratio.
 4. What are welding edges and flash pockets?
 5. What is the importance of alignment pins in a blow mould?
 6. State any two thermoforming mold materials.
 7. What is the importance of vent holes in a thermoforming mould?
 8. List the materials used for making plugs for thermoforming mould.
 9. What is chamfer and radii in thermoforming moulds?
 10. What is a mould release agent?
- Q.2** (a) Draw only sectional elevation of a blow mold assembly assuming suitable dimensions for a hollow product. **07**
- OR
- (a) Describe significance of mould cooling and explain various mould cooling methods for blow mould. **07**
- (b) List various properties required for blow mould materials. **04**
- OR
- (b) Explain the difference between extrusion blow moulding and injection blow moulding. **04**
- (c) Explain importance of mould parting line in a blow mould. **03**
- OR
- (c) Discuss various flash removal methods for blow molded product. **03**
- Q.3** (a) List the types of mould materials for prototype and production tooling for thermoforming moulds. **03**
- OR
- (a) State sheet clamping mechanisms for thermoforming moulds. **03**
- (b) Define venting. Explain various venting mechanisms for blow moulds. **07**
- OR
- (b) Explain various pinch off designs for blow moulds. **07**
- (c) List the ancillary elements used in a blow mould and explain any one. **04**
- OR
- (c) Write a short note on mould cleaning methods for blow moulds. **04**
- Q.4** (a) Sketch any two plug shapes. **03**

OR

- (a) Explain importance of mould cooling for a thermoforming mould. **03**
- (b) Explain the surface treatment methods for thermoforming moulds. **04**

OR

- (b) Write a short note on vacuum holes in thermoforming mould. **04**
- (c) What is preform? Explain various preform designs. **07**

Q.5

- (a) Draw sectional elevation and plan of a female thermoforming mould for an ice-cream cup having top diameter 70mm and bottom diameter 60mm. Height of the product is 40mm. The size of sheet is 400 mm X 400 mm and drape of the table is 100 mm. **10**
- (b) List the mould material requirements for a thermoforming mould. **04**
