

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Engineering - SEMESTER-VII • EXAMINATION – WINTER 2013****Subject Code: 372304****Date: 05-12-2013****Subject Name: Blow and Thermoforming Mould 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.

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|-------------|---|-------------------------------------|
| Q.1 | Design and draw plan and sectional elevation of extrusion blow mould assembly for a hollow container plastic product. Draw product drawing also. Assume suitable dimensions of product. | 14 |
| Q.2 | (a) Explain about venting of thermoform mould.
(b) Explain in brief about pinch-off section of blow mould design. | 07
07 |
| OR | | |
| Q.3 | (b) Write short note on 'Surface treatment in thermoform mould'.
(a) Discuss various properties required for blow mould material.
(b) Explain any one type of extruder die head used for parison forming. | 07
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| OR | | |
| Q.3 | (a) Explain significance of blow mould cooling with neat sketch of any one type of cooling used in blow mould design.
(b) Discuss design considerations for selection of parting line in blow mould design. | 07
07 |
| Q.4 | (a) Explain about various provisions made for venting in blow mould design. Draw neat sketch of any one.
(b) Write short note on 'parison stick design'. | 07
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| OR | | |
| Q. 4 | (a) Explain preform mould construction for injection blow mould.
(b) List various ancillary elements for blow mould and explain any one. | 07
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| Q.5 | 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.
Data : size of drape table= $500 \times 500 \text{ mm}^2$, height of drape table= 75 mm, sheet thickness= 1 mm | 14 |
| OR | | |
| Q.5 | (a) Explain about various properties required in a mould material to be suitable for thermoforming mould design.
(b) Explain about shrinkage in thermoforming and its effect on draft/ taper in thermoform mould design. | 07
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