Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGINEERING – SEMESTER – VII-EXAMINATION – WINTER 2015

Subject Code: 372304 **Date: 10/12/2015**

Subject Name: Blow and Thermoforming Mould Design

Time: 10:30 AM TO 1:00 PM **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Each question carry equal marks (14 marks)**

Q.1		Design and draw plan & sectional elevation of extrusion blow mould assembly for any packaged oil bottle. (Draw plan elevation of product).	**14**
Q.2	(a)	List various thermoform mould making materials used for Proto type tooling and Production Tooling alongwith their properties.	**07**
	(b)	Explain construction and working of parison stick used in injection blow mold design along with few advantages of injection blow mould design.	**07**
		OR	
	(b)	Explain shrinkage and its effect on draft/ taper in thermoform mould design.	**07**
Q.3	(a)	List various types of extruder die head used in extrusion blow mould design and explain any one with neat sketch.	**07**
	(b)	Explain effect of variation of pinch off edge / angle on severance and weld strength with neat sketch.	**07**
		OR	
Q.3	(a)	List various methods of cooling used in blow mould design and explain any one with neat sketch.	**07**
	(b)	Explain concept of venting in blow mould design. Draw neat sketch of any one type of venting.	**07**
Q.4	(a)	Write short note on mould cleaning.	**07**
	(b)	Write short note on base plate and alignment pins with neat sketch.	**07**
		OR	
Q. 4	(a)	What is blow ratio, swell ratio and draw ratio ?	**07**
	(b)	Explain selection criteria of parting line for different shapes of products in blow mould design.	**07**
Q.5		Design and draw a male thermoform mould for disposable tea cups having dia. ‘d’ and height ‘h’ from 1 mm thick sheet for a drape table of area ‘XY’ and height ‘H’.	**14**
		OR	
Q.5	(a)	Discuss about vent/vacuum holes in a thermoforming mould.	**07**
	(b)	Write in brief about ‘surface treatments’ in thermoform mould.	**07**

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