Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) EXAMINATION – WINTER 2017

Subject Code: 2182307 **Date: 07/11/2017**

Subject Name: Advanced Plastic Mould Design

Time:02:30 PM TO 05:30 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1	(a)	Define Split mould. Why do we use split moulds?	03
	(b)	Discuss cooling of shallow inserts	04
	(c)	Design a fully automatic injection mould for the product shown in fig[a]	07
Q.2	(a)	Define : waterways, locking heel, O ring	03
	(b)	Discuss stripping of internal threads design	04
	(c)	Determine the pitch and the pitch circle diameter for the interconnecting groove design , given the following information: Diameter of insert : 30mm ; Gap between inlet and outlet grooves : 4mm ; number of impressions : 14 ; depth of groove : 5mm.	07
		OR	
	(c)	For the product shown in fig[a], draw a fully automatic injection machine mould. Use graph paper	07
Q.3	(a)	Fill in the blanks: a. _____core cooling is preferred if we have deep cores. b. Sprue puller is preferred for nylons c. Material of O ring is _____	03
	(b)	Write C program for shot capacity	04
	(c)	Discuss various transmission systems for unscrewing moulds with sketches	07
		OR	
Q.3	(a)	What is shrinkage? Why should mould be designed considering shrinkage?	03
	(b)	Write a C program for cooling period of Cycle	04
	(c)	What is a sprue puller? Discuss various types with applications	07
Q.4	(a)	Write MOC for split cavity , O ring, locking heel	03
	(b)	Write C program for no.of impressions	04
	(c)	Discuss Heat Pipes	07
		OR	
Q.4	(a)	Differentiate between finger cam and dog leg cam for Split moulds	03
	(b)	Where do we use a angled lift split mould?	04
	(c)	Discuss in detail about cooling of DEEP cores	07
Q.5	(a)	Core withdrawal systems using hydraulics	03
	(b)	Discuss Core withdrawal system using Rack & Pinion	04
	(c)	Discuss in detail about Heat Pipes	07

OR

Q.5	**(a)**	Draw cooling layout for cavity in case of round caps , 8 impression mould.	**03**
	(b)	Discuss in detail Collapsible cores	**04**
	(c)	List various methods of actuation of Split mould and discuss any one in detail	**07**

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