

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- VIII (New) EXAMINATION – WINTER 2019****Subject Code: 2182311****Date: 29/11/2019****Subject Name: Advanced Plastic Mould Design****Time: 02:30 PM TO 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.

		MARKS
Q.1	(a) Define : Split Mould, Undercut, finger cam	03
	(b) Fill in the blanks:	04
	1. To open a LHT, we should turn it _____	
	2. Heat Pipes work on the Principle of _____	
	3. Material of Guide Pin is _____	
	4. Material of O ring is _____	
	(c) For the product shown in fig[a], design a fully automatic injection machine mould. Show calculations of feed system and mention about ejection system.	07
Q.2	(a) Write about types of undercuts giving examples.	03
	(b) What is the difference between finger cam and Dog leg Cam.	04
	(c) For the product shown in fig[a] , draw a fully automatic injection mould using calculations done . use graph paper.	07
	OR	
	(c) Write a C program for Shot Capacity.	07
Q.3	(a) Draw Z circuit for cooling of integer cavity plates.	03
	(b) Determine the Pitch and Pitch circle diameter for the interconnecting groove design , given the following information: Diameter of Insert, D = 35mm Gap between inlet and outlet grooves, X=4mm No.of impressions:12 Depth of groove , m=3.5mm	04
	(c) Discuss in detail, stripper plate ejection highlighting actuation methods.	07
	OR	
Q.3	(a) Discuss cooling of shallow Cores. Show with a drawing	03
	(b) Discuss about Heat Pipes.	04
	(c) Discuss in detail, cooling methods for DEEP Cores.	07
Q.4	(a) What is projected area?	03
	(b) Discuss about stripping core design for threaded components.	04
	(c) Discuss with diagrams, auto actuation methods of rotating and withdrawing cores for unscrewing moulds.	07
	OR	
Q.4	(a) Discuss Heat Rods.	03
	(b) Write C program for cooling period of cycle	04

(c) Discuss actuation methods for Split moulds.

07
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- Q.5** (a) Discuss Air Ejection. **03**
 (b) Discuss about Sprue Pullers **04**
 (c) For the product shown in fig[b], draw cooling for both Core and Cavity. **07**

OR

- Q.5** (a) Discuss about cooling of multi impression moulds **03**
 (b) Tick the correct one: **04**
1. For cooling cores of Deep products like buckets, best cooling is achieved from [a] Baffle Cooling [b] Helical Channel Cooling [c] Bubbler cooling [d] None of these
 2. For nylon 6 product having 1.5mm thread depth, which mould can be used?
 [a] stripping mould
 [b] unscrewing moulds with fixed core
 [c] unscrewing mould with core withdrawl
 [d] none of these.
 3. Cavity cooling for multiimpression moulds
 Requires [a] u circuit [b] Z circuit [c] balanced Z circuit [d] none of these
 4. For PVC, The gate that cannot be used is [a] Pin Ejection [b] Rectangular edge gate [c] Submarine Gate [d] All of these
- (c) Discuss in detail, about Collapsible Cores. **07**

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