

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020

Subject Code:2172302 Date:19/0			1/2021	
	Name:Plastics Mold & Die Design 0:30 AM TO 12:30 PM Total Mar ns:	Marks: 47		
	1. At 2. Q. 3. M	tempt any THREE questions from Q.1 to Q.6. 7 is compulsory. ake suitable assumptions wherever necessary. gures to the right indicate full marks.	MARKS	
Q.1		Define: Insert, Bolster, Guide pin Discuss the requirements of a gate Design a Hand Injection mould for the product shown in fig [a]	03 04 07	
Q.2	(a)	Calculate efficiency of round runner , trapezoidal runner and hexagonal runner	03	
	(b) (c)	 Differentiate between integer and insert type of mould Tick the correct one: Material of Bolster is (a) MS (b) EN-24 (c) EN-8 (d) EN 48B (e) none of these Function of push back pin is [a] To eject the product. [b] to protect the core/cavity while mould opening.[c] to protect the core/cavity while mould closing [d] none of these. Shaping operation removes metal in (a) Millimeters Cms Microns (d) None of these For removal of metal burrs from the holes, the operation done is [a] grinding [b] honing [c] reaming [d] polishing Gate has a minimum cross sectional area due to: (a) To increase pressure drop (b) to offer resistance so that impression fills completely.(c) to decrease pressure drop (d) none of these. Sleeve ejection is preferred for (a) short hollow products (b) tall hollow products (c) solid tall products (d) solid short products. Function of Ejector retainer plate is (a) to hold the ejector element (b) to hold the ejector plate (c) to protect the ejector plate (d) none of these. 	04 07	
Q.3	(a) (b)	Draw a Pipe Die and explain its parts Calculate the shot capacity of the injection moulding machine if a product of weight 15 gms is to be moulded in ABS and a 16 impression mould is desired. Assume: Bulk factor of PS = 1.9 Bulk factor of ABS = 1.8 Specific gravity of PS = 1.04 Specific gravity of ABS= 1.0 Discuss Sleeve Ejection in Detail.	03 04	
Q.4	(a) (b)	Discuss the importance of approach section in a Die Discuss about Design of Film Die.	03 04	

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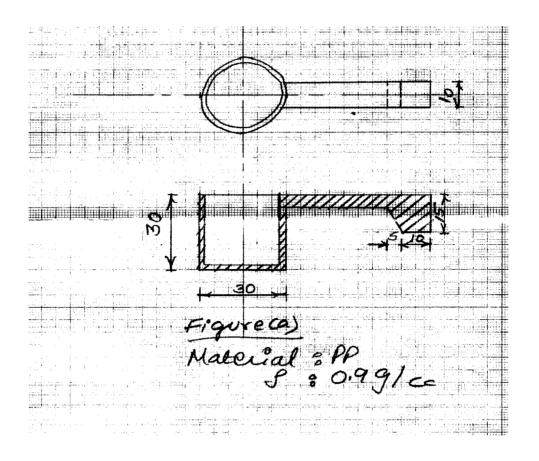
gate and diaphragm gate.

Discuss advantages, disadvantages and applications of Pin Gate;

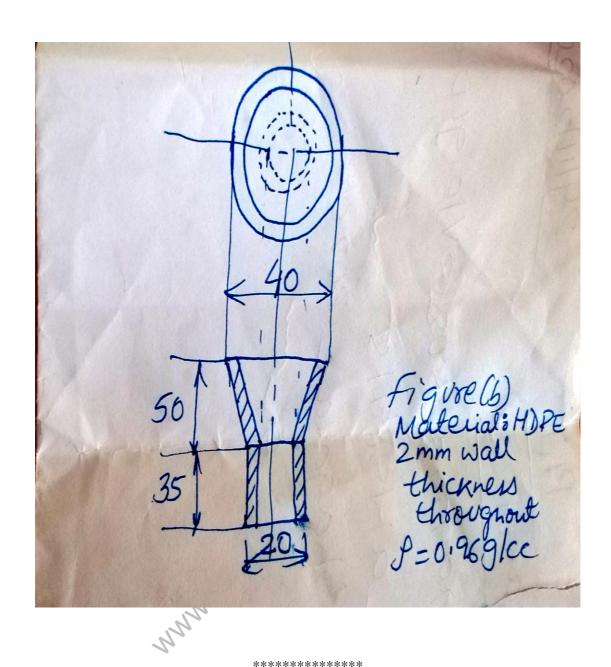
Submarine Gate; Overlap gate; rectangular edge gate; tab gate; ring

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	Q!5 traak	For the product	shown
		Justify.	*****
	(b)	What is the man	ufacturin

Ų:5°	(a)	To the product sno www. 特别包含的 compare that www. 并识别情况的。 Justify.	.cdm	
	(b) (c)	•	04 07	
Q.6	(a) (b)	Rectangular Edge Gate cannot be used for PVC. Why? Calculate the shot capacity of injection machine for the product shown in fig.[a]. Given Data: Bulk factor of $PS = 1.4$ Bulk factor of $PP = 1.9$ Specific gravity of $PS = 1.04$ Specific gravity of $PP = 0.9$	03 04	
	(c)	Write the function of : Lathe ; Shaping machine ; Drilling machine ; Grinding machine ; wire EDM ; milling machine ; honing machine.	07	
Q.7		Draw a Monofilament die and discuss its parts OR		
Q.7		Fill in the blanks: a. Material of ejector rod is b. For hollow products , gate is used. c. Rectangular edge gate cannot be used for materials. d is the disadvantage of a pin gate.	05	







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