Seat No.: Enro	olment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 2152301

Subject Name: Injection Molding Technologies

BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Date:17/12/ 2015

	'ime: struct	10:30am to 1:00pm Total Marks: 7	0
11		 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 	
Q.1	(a) (b)	Define Injection Molding. List advantages and disadvantages of it. Explain basic principles of Reciprocating screw machines in detail with neat sketch.	07 07
Q.2	(a)	Compare: Injection Molding of Thermoplastic with Injection Molding of Thermosets.	07
	(b)	Explain the processing cycle of plunger type machines.	07
	(b)	OR Define nozzle. List the types of nozzles used in injection molding. Explain any one with neat sketch.	07
Q.3	(a)	Draw neat sketch of screw used in injection molding and Explain its various terminology.	07
	(b)	Give causes and remedies of the following defects: (1) Short-shots (2) warpage (3) weld line OR	07
Q.3	(a)	(1) For PVC which type of screw tip is used? Why? Explain it with neat sketch. (2) Define and Explain about L/D ratio.	04 03
	(b)	For screw Compare: Hydraulic Motor Drive with Electric Motor Drive	07
Q.4	(a)	(1) Calculate the clamping force a press with a hydraulic clamp has a 600 mm diameter clamping cylinder and hydraulic line pressure is 2000kg/cm ² .	03
	(b)	(2) List advantages and disadvantages of Toggle clamps. Define MFI. For Injection Molding process generally which range of MFI grade plastic material is used? Explain the procedure of MFI Test with neat sketch. OR	04 07
Q.4	(a)	List various directional control valves used in Injection Molding machine. Explain	07
	(b)	any one with neat sketch. Explain about pressure profile in cavity with suitable graph.	07
Q.5	(a)	Define: (1) Injection shot capacity (2) plasticizing capacity (3) back pressure (4) maximum day light (5) compression ratio (6) injection pressure (7) minimum day light.	07
	(b)	List various functions carried out by the microprocessor of Injection molding machine. Also Explain about close loop and open loop control system. OR	07
Q.5	(a) (b)	Explain about Gas Assist Injection molding process. Explain about material selection criteria for Injection molding process.	07 07
