Seat No.:	Enrolment No.

Subject Code: 152301

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

## **BE - SEMESTER-V • EXAMINATION - SUMMER • 2015**

Date: 02/05/2015

Subject Name: Injection Moulding Technologies Time: 02.30pm-05.00pm Instructions:  1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.		: 70	
Q.1	(a) (b)	Explain injection moulding machine with neat diagram What are the different types of clamping units present and explain it with neat sketch	07 07
Q.2	(a)	Explain Nozzle and internal heated nozzle, Screw and screws for elastomers,	07
	<b>(b)</b>	Screw output Explain determination of injection rate, Determination of power requirement, Pressure requirement for injection, Hydraulic pump, Trimming the process	07
	<b>(b)</b>	OR  Explain the terms Melt temperature, Plasticizing, Screw rpm, Reaction pressure, Mould feeling speed profile, Switch over pressure profile, Optimization of process, Over packing, Injection time, Mould temperature	07
Q.3	(a) (b)	What are all the defects found in injection molded product explain it What is gate? Explain the different types of gate with neat sketch <b>OR</b>	07 07
Q.3	(a) (b)	Explain start up and shut down procedure of injection molding machine Write short notes on open loop and closed loop microprocessor controlled injection molding system	07 07
Q.4	(a) (b)	Draw the PVT diagram and explain it briefly Explain thermoset injection molding process with diagram and explain the materials used	07 07
		OR	
Q.4	(a) (b)	Explain tie bar less machine with a brief working principle Explain gas assisted injection molding with neat diagram	07 07
Q.5	(a)	Explain wear & wear protection of screw, cause of wear, wear protection of plasticizing unit	07
	<b>(b)</b>	Describe, steel selection for wear resistance component, wear protection by repair, wear protection by design  OR	07
Q.5	(a) (b)	Compare automatic and semi automatic injection molding Explain the advantages and disadvantages of injection molding process	07 07

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