Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION - WINTER • 2014

Subj	Subject Code: 172601 Date: 25-11-2		14
Subj	ect Na	ame: Rubber Equipment Design-II	
	Time: 10:30 am - 01:00 pm Total Marks		70
Instru	ctions:	ttempt all questions.	
	2. N	Iake suitable assumptions wherever necessary. igures to the right indicate full marks.	
Q.1	(a)	Answer the following.	(14)
	(i)	Explain the term Convection & Conductivity related to Extruder .	
	(ii)	How the extruder output can be calculated?	
	(iii)	A press with a 400 tons force capatibility. What is the biggest largest square sheet that can be molded in the press while maintaing a pressure of 1000 Psi?	
	(iv)	What do you mean by Parting Line? Write its importance.	
	(v)	Write the function of Die.	
	(vi)	Which are two main considerations while designing a runner layout in Transfer Mold?	
	(vii)	What do you mean by Locking force & Projected area in terms of Injection Molding Machine?	
Q.2	(a)	Discuss the General Rules for Die Design.	(07)
	(b)	Which Points should be kept in mind while configuring the flow channel in Die?	(07)
		OR	
	(b)	Answer the following.	
	(i)	"An Extrusion die as essentially Stream lined channel which gives an appropriate shape to the rubber compound." Justify the statement.	(04)
	(ii)	Write the difference between Cross Head Die & Off Set Die. OR	(03)
Q.3	(a)	Discuss in detial about boundary layer effects in Extrusion Cooling.	(04)
	(b)	Explain in detail about Screw Design for Hot and Cold Feed Extruder.	(07)
	(c)	Define the term (i) Compression Ratio (ii) Starts (iii) Lead.	(03)
		OR	∠0 =\
Q.3	(a)	List the Elements of Extruder. Write any three in detail.	(07)
	(b)	Write in detail about High Intensity Mixing Screw.	(07)
Q.4	(a)	What do you mean by crosslinking factors? Explain the other factors which affect the compression moulding.	(07)
	(b)	Explain the flow behaviour in Transfer Molding.	(07)
		OR	
		P.T.O	

- Q.4 (a) Discuss in detail about Thermal Considerations for Compression (07) Molding.
 - (b) Explain the pressure consideration related to Transfer Molding. (07)
- Q.5 (a) How the Parameters like Screw cooling, Pressure control & timing and Nozzle temperature & its design play a major part in the quality of a moulding or the performance of the Injection molding Machine?
 - (b) Discuss in detail about different factors for determining the number of (07) cavities for Injection Mould.

OR

- Q.5 (a) For Rubber Injection Molding machine give the comparison between (08) FILO(first in last out) and FIFO (first in first out) types of injection units.
 - (b) Explain in detail about the Runner design in Injection Moulding (06) Machine.
