

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012****Subject code: 172601****Date: 26/12/2012****Subject Name: Rubber Equipment Design-II****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (i) List the basic requirements for successful operation through Die. (08)
(ii) Which are the important aspects while designing the Die?
(b) Explain in detail about Die Geometry. (08)
- Q.2** (a) “An Extrusion die is an essentially a stream lined channel”. Justify the (04)
(i) statement in detail.
(ii) Define the term (1) Projected area (2) Locking force (3) Sink Mark. (03)
(b) Explain the difference between Pressure & Force with example. (04)
(i)
(ii) A press with a 200 tons force capability .what is the largest square sheet that (03)
can be molded in this press while maintaining a pressure of 1000 Psi?

OR

- (b) Explain the flow of rubber in Plunger-type Transfer Mold. (07)
- Q.3** (a) Explain in detail about Thermal Considerations for Compression Molding. (07)
(b) Short note on ‘Spure’. (07)

OR

- Q.3** (a) Define the term ‘Shrinkage’. Discuss the factors affecting Shrinkage. (07)
(b) Which points should kept in mind while designing the runner in Transfer (07)
Mold? Explain each point in detail.
- Q.4** (a) Write an overview of heating & cooling systems for rubber extruder. (07)
(b) Discuss in detail about the construction of extension barrel for extruder used (07)
in rubber industry.

OR

- Q.4** (a) Explain about pressure drop due to screen pack in rubber extruder. (07)
(b) Discuss about Action of the screw in terms of rubber extruder. (07)
- Q.5** (a) How the Parameters like Screw cooling, Pressure control & timing and (07)
Nozzle temperature & its design play a major part in the quality of a
moulding or the performance of the Injection molding Machine?
(b) For Rubber Injection Molding machine give the comparison between FILO (07)
(first in last out) and FIFO (first in first out) types of injection units.

OR

- Q.5** (a) Discuss in detail about different factors for determining the number of (07)
cavities for injection mould.
- (b) “The successes of the whole Injection moulding operation may depend on (07)
satisfactory mould design”, Explain the statement in detail.
