

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-VII Examination-Nov/Dec.-2011

Subject code: 172601

Date: 19/11/2011

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 Answer the following

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1. Which points should be taken in to account for designing injection mold for rubber products?
2. 'The modern Extruder may be viewed as a modular machine' Justify the statement.
3. Write the two advantages of Bimetallic liners in Rubber Extruder Barrel.
4. List the properties needed for mold design in general.
5. List the factors affecting the design and construction of the mold for rubber products.
6. List the important aspects for practical die design.
7. List the five basic parts of an Injection molding machine used in rubber industries.

- Q.2 (a)** Discuss the general design rules for Die used for rubber products. **07**
(b) 'Rubber extruder die is essentially a stream lined channel'-Explain the statement. **07**

OR

- (b)** Short notes on materials for Die construction used for rubber products. **07**

- Q.3 (a)** Which points should be kept in mind while designing a runner in transfer mold? Explain in detail. **07**
(b) Write importance of overflow channel in compression mold for rubber products and explain the different overflow cross sections with advantages and disadvantages. **07**

OR

- Q.3 (a)** Write short note on cryogenic deflashing. **07**
(b) Explain with examples about the importance of pressure considerations in transfer molding. **07**

- Q.4 (a)** Explain in detail about flow mechanisms in Rubber extruder machine. **07**
(b) Write short note on High Intensity Mixing Screw used in rubber industry. **07**

OR

- Q.4 (a)** Explain how cooling process parameters influence heat transfer in rubber extrusion process. **07**
(b) Discuss the pressure style rubber extruders v/s single roll Roller Die. **07**

-----P.T.O.-----

- Q.5 (a)** For Rubber Injection Molding machine give the comparison between FILO (first in last out) and FIFO (first in first out) types of injection units. **07**
- (b)** Discuss the parameters for Rubber Injection Molding machine selection. **07**
- OR**
- Q.5 (a)** Explain in detail about the effects of injection molding machine processing variables; which control the heating and plasticity of the rubber during the first stage of injection. **07**
- (b)** Discuss importance & considerations for shrinkage while manufacturing rubber products by Injection molding. **07**
