

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV • EXAMINATION – SUMMER 2013

Subject Code: 142603**Date: 14-06-2013****Subject Name: Rubber Engineering****Time: 10:30am – 01:00pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Discuss in detail about the cooling system provided to calender roll for temperature control. **07**
- (b) i Write down the main sources of potential danger, typical causes of accident and methods of guarding for hydraulic press and multidaylight press respectively. **04**
- ii How flash and spew removal is carried out by hand trimming and machine trimming respectively? **03**
- Q.2** (a) Discuss in detail about the major components of internal mixer with their functions. **07**
- (b) i With suitable formulation, explain open mill mixing. **04**
- ii Compare single gear mixing mill with double gear mixing mill. **03**
- OR**
- (b) i Write a short note on transfer mix. **05**
- ii Explain the term incorporation. **02**
- Q.3** (a) Discuss in detail about the problems encountered in extrusion process. **07**
- (b) i Explain the following terms: (i) Extruder Chocking (ii) Dead Spot **04**
- ii Write down the practical significance of mould releasing agent. Also give two examples of mould releasing agents commonly used in rubber industry. **03**
- OR**
- Q.3** (a) Write a short note on Pin QSM extruder. Also give its applications. **07**
- (b) i Explain the standard extruder head and universal extruder head respectively. **05**
- ii Write brief note on automatic mould. **02**
- Q.4** (a) With labeled diagrams, explain the straight compression moulding process. **06**
- (b) i Write down the causes and remedies for following moulding problems: **06**
- (i) Distortion (ii) Delaminating
- ii Define the following terms: (i) Runner (ii) Gate **02**
- OR**
- Q.4** (a) With labeled diagrams, explain the true transfer moulding. **06**
- (b) i Write down the causes and remedies for following moulding problems: **06**
- (i) Flash (ii) Starvation
- ii Define the following terms: (i) Core (ii) Cavity **02**
- Q.5** (a) Describe the construction and working of reciprocating type injection unit with its limitations. **07**
- (b) i Write a note on the factors which may favour the use of hydraulic press. **04**
- ii Explain in brief about the heating arrangement of press. **03**
- OR**
- Q.5** (a) Discuss in detail about the types of injection moulding process. **07**
- (b) i Describe the guide lines for press selection. **04**
- ii Write a brief note on rotating table type press. **03**
