

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- IVth SEMESTER-EXAMINATION – MAY/JUNE- 2012****Subject code: 142603****Date: 29/05/2012****Subject Name: Rubber Engineering****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 (a) What do you mean by calender bowl deflection? How it can be rectified? **07**

Q. 1 (b) Answer the following

- i** Define the term skim-coating. Explain the procedure to carry out the skim-coating. **04**
- ii** Write down the main sources of potential danger, typical causes of accident and method of guarding for calenders. **03**

Q. 2 (a) Discuss the problems usually experienced in mixing. **07**

Q. 2 (b) Answer the following

- i** Explain the various stages associated with mixing process. **04**
- ii** Give the limitations of transfer mix. **03**

OR

Q. 2 (b) Answer the following

- i** Write down the advantages and disadvantages of internal mixer compared to two roll open mill. **04**
- ii** List the major components of internal mixer. **03**

Q. 3 (a) Discuss the following features of extruder: (i) Barrel (ii) Head **06**

Q.3 (b) Answer the following

- i** Write a short note on ram extruder. **05**
- ii** How is flash removed by punching? **03**

OR

Q. 3 (a) Write a short note on pin qsm extruder. **06**

Q. 3 (b) Answer the following

- i** Explain the functions of electric motor and gear box with respect to extruder. **05**
- ii** How is flash removed by hand trimming? **03**

Q. 4 (a) Discuss in detail about the classification of transfer moulding. **07**

Q. 4 (b) Answer the following

- i** Write a note on straight compression mould. **04**
- ii** Explain the importance of mould releasing agent with suitable examples. **03**

PTO..**OR**

Q. 4 (a) Discuss the semi-positive type compression mould and positive type compression mould respectively. **07**

- Q. 4 (b)** Answer the following
- i** Define the following terms: (i) Transfer Pot (ii) Sprue (iii) Runner (iv) Parting Line **04**
 - ii** List the various methods of mould cleaning. **03**
- Q. 5 (a)** Write a short note on pebble mill. **06**
- Q. 5 (b)** Answer the following
- i** Explain the working of plasticizing unit. How is plasticizing action controlled? **04**
 - ii** Differentiate the hydraulic press and mechanical press. **04**
- OR**
- Q. 5 (a)** State the hydraulic principle and discuss the classification of hydraulic press. **07**
- Q. 5 (b)** Answer the following
- i** Explain the working principle of clamping unit of injection moulding machine. Also give the features of ideal clamping unit. **04**
 - ii** How is rubber injection moulding differs from plastics injecting moulding machine? Which rubber products can be manufactured by rubber injection moulding? **03**
