

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV • EXAMINATION – WINTER • 2014****Subject Code: 142603****Date: 31-12-2014****Subject Name: Rubber Engineering****Time: 02:30 pm - 05:00 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)** How temperature is controlled during calendering? List out the compound related causes which affect accuracy in calendering. **07**
- Q.1 (b)** Answer the following
- i** Give typical causes of accident and method of guarding for calender and multi daylight press respectively. **05**
 - ii** Write down the functions of calender. **02**
- Q.2 (a)** Discuss in detail about the problems associated with extrusion process. **07**
- Q.2 (b)** Answer the following
- i** Which modifications are done in cold feed extruder to overcome the problems encountered with it? **04**
 - ii** How flash of vulcanizate is removed by buffing? **03**
- OR**
- Q.2 (b)** Answer the following
- i** Differentiate screw extruder and ram extruder. **05**
 - ii** How flash of vulcanizate is removed by punching? **02**
- Q.3 (a)** Discuss the major components of mixing mill with their functions. **07**
- Q.3 (b)** Answer the following
- i** Explain various drive systems used in an internal mixer. **04**
 - ii** Write down full form of FCM. Also give its applications. **03**
- OR**
- Q.3 (a)** Discuss in detail about the various stages associated with mixing process. **07**
- Q.3 (b)** Answer the following
- i** List the various process variables which affect performance of an internal mixer. Write on any two. **05**
 - ii** Define the given terms: (i) Nerve (ii) Bank **02**
- Q.4 (a)** Write a short note on types of transfer moulding. **07**
- Q.4 (b)** Answer the following
- i** What do you mean by air marking? Write down the typical causes for it. What is its remedy? **04**
 - ii** Define the given terms: (i) Mould (ii) Flash (iii) Cavity **03**
- OR**
- Q.4 (a)** Discuss general classification of the moulds according to their operations. **07**

- Q.4 (b)** Answer the following
- i** What do you mean by backrinding? Write down typical causes for it. What is its remedy? **04**
 - ii** Define the given terms:(i)Sprue (ii) Runner (iii) Gate **03**
- Q.5 (a)** Discuss the classification of hydraulic press. **07**
- Q.5 (b)** Answer the following
- i** Write in brief about major units of injection moulding machine. **04**
 - ii** Write down the limitations of injection transfer moulding. **03**
- OR**
- Q.5 (a)** Discuss the limitations of hydraulic press. **07**
- Q.5 (b)** Explain advantages and disadvantages of injection moulding **07**
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