

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – III • EXAMINATION – WINTER • 2013

Subject code: 734003

Date: 28-11-2013

Subject Name: Powder & Particulate Technology

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.

- (a) Write the importance of Partitioning agent in Powdered rubber preparation. Discuss the effect of type and quantity of Partitioning agent on powdered rubber properties. **(07)**
- (b) How Powdered Rubber is advantageous in adhesives and dough applications relative to Bale rubber? Explain in detail. **(07)**

Q. 2 (a) “Particle –matrix Compatibility relates to the ability of the Polymer to coat and adhere to the filler.” Justify the Statement. **(07)**

(b) Discuss about the Economics of Powdered Rubber systems. **(07)**

OR

Q. 2 (b) “Better Environmental conditions are possible by Powdered Rubber Technology.” Justify the statement. **(07)**

Q. 3 Write in detail about the equipment used for Powder preblend operation and explain the preblend process. **(14)**

OR

Q. 3 List the basic steps for the conversion of Powdered Rubber Preblend into usable compounded rubber. Explain processing of Preblend for mixing. **(14)**

Q. 4 Draw the Schematic diagram of Compactor unit for Powder Preblend and explain the extrusion of Preblend. **(14)**

OR

Q. 4 List the type of Extruders for Powder Preblend and discuss their advantages. **(14)**

Q. 5 Describe the Test method for assessment of dust in solid rubber chemicals with diagram of apparatus. **(14)**

OR

Q. 5 Discuss the Cabot Torn Surface method and correlate with T/50 test for dispersion of compounding ingredients with Powdered rubber by giving schematic representation. **(14)**
