

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014

Subject code: 2714008

Date: 12-01-2015

Subject Name: Rubber Bonding and Its Technology

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) Write the Abrasive and Chemical techniques for Plastic surface preparation. (07)

(b) List the Chemical Pre-treatment methods for Rubber to metal Bonding. Discuss any one in detail. (07)

Q. 2 (a) Write the Advantages of Wet Blast Phosphating Plant. (07)

(b) Describe in detail about types of Rubber to metal Bond failure. (07)

OR

(b) Explain the Important Characteristics for Bonding System. (07)

Q. 3 (a) Short note on: Post Vulcanization Bonding system. (07)

(b) Discuss the Role of Autohesion for Bonding of unvulcanized rubbers. (07)

OR

Q. 3 (a) Describe the Recertification procedure for Bonding agent. (07)

(b) Explain the factors affecting bonding between Vulcanized Rubber to Vulcanized Rubber. (07)

Q. 4 (a) Answer the following. (06)

(i) Define the term: Coefficient of Restitution (COR).

(ii) List the techniques for Rubber to Metal Bonding by using Metallic Co-agents.

(b) What do you mean by Bonding Interphase? Discuss about Interfacial Imperfections factors. (08)

OR

Q. 4 (a) How the Metallic Co-agents are beneficial for Physical properties of Rubber? (06)

(b) Justify the Role of Bond Inconsistencies in Product design. (08)

Q. 5 (a) Discuss in detail about the Preventing methods of Undesirable adhesion occurring Under Service Conditions. (07)

(b) Draw the schematic diagram for Silicone Rubber bonding concepts and Explain it in detail. (07)

OR

Q. 5 Describe all the Processing Techniques used for Silicone Rubber Bonding in detail. (14)
