

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2172605****Date:18/05/2019****Subject Name:Rubber Adhesion & Adhesion Science****Time:02:30 PM TO 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** Answer the following. (14)

- (i) Define the term: (i) Cohesive, (ii) Primer.
- (ii) What do you mean by Mastics?
- (iii) Give the difference between Solvent based and Latex based adhesive.
- (iv) In which solvents NBR rubber is soluble?
- (v) Why the Solution SBR is differing than Emulsion SBR?
- (vi) List the name of resin which is used in Butyl and Polyisobutylene adhesive.
- (vii) Write the chemical name and structure of TDI.

**Q. 2** (a) Give the comparison of Water based Vs. Solvent based Vs Hot melts adhesives. (07)**Q. 2** (b) Describe in detail about the testing methods which are used to check rubber to metal bonding. (07)**OR**

(b) Write the advantages and disadvantages of adhesive bonding. (07)

**Q. 3** (a) Discuss in detail about mixing and processing techniques for Butyl rubber Adhesive. (07)

(b) Short note on: "Pressure sensitive adhesives." (07)

**OR****Q. 3** (a) Short note on: "Reclaimed rubber adhesive". (07)

(b) Describe the resin functions in rubber based adhesives. (07)

**Q. 4** (a) Short note on: "Nitrile rubber adhesives." (07)

(b) List the applications of SBR solvent based adhesives. Explain any one in detail. (07)

**OR****Q. 4** (a) Short note on: "Heat activated Nitrile Rubber Adhesive". (07)

(b) Describe in detail about types of SBR which are used for adhesives purpose. (07)

**Q. 5** (a) Discuss the effects of compounding variables on Neoprene AF based adhesives. (07)

(b) Describe in detail about the vulcanizing Natural rubber adhesive. (07)

**OR**

**Q. 5** (a) Describe in details about application methods of neoprene adhesives. (07)

(b) List the responsible features for the effectiveness of Isocyanate based adhesive. (07)

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