

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-VII Examination-Nov/Dec.-2011****Subject code: 172605****Date: 29/11/2011****Subject Name: Rubber Adhesion & Adhesion Science****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.**14**

1. Give difference between Adhesion & Cohesion.
2. How the quality of an adhesive judged?
3. Discuss the different groups of reaction sensitive adhesives.
4. Write about Anaerobic adhesives.
5. Give the difference between Storage life & Working life in terms of adhesives.
6. How the Water based Adhesives are made? Give examples.
7. List the properties of Resin or Rubber Latexes for adhesives.

Q.2 (a) List the advantages & disadvantages of Water base, Solvent base & Hot-melt adhesives. 07**(b) List the physical factors influencing Adhesive action. Discuss any two in detail. 07****OR****(b) List the chemical factors influencing Adhesive action. Discuss any three in detail. 07****Q.3 (a) Write about suitable accelerators & combinations to obtain vulcanization at room temperature for latex adhesives. 04****(b) Write the General & Specific applications for cements containing Nitrile Rubber. 04****(c) Discuss in detail about Properties & Testing of Neoprene adhesives. 06****OR****Q.3 (a) Write about Tackifying Resins & Reinforcing agents for Non vulcanizing adhesives. 04****(b) 'Nitrile rubber cements may be employed for adhering a wide variety of surfaces & types of material.' Justify the statement. 04****(c) Write in detail about methods of Applications & end uses of Neoprene adhesives. 06****Q.4 (a) Write the disadvantages of Polyisocyanates & Discuss the combination of several features which are characteristic of the materials for effectiveness of Isocyanate based adhesives. 07****(b) Write about the preparation of Alkyl 2-Cyanoacrylates & Discuss the formulation of Cyanoacrylate adhesives. 07****OR****Q.4 (a) Write a Short note on 'In Situ Polyurethane Polymerisation based adhesive systems.' 07****(b) Discuss the general precautions & techniques for using the Cyanoacrylate adhesives. 07**

- Q.5** (a) Short note on Testing for Rubber to Metal bonding. **07**
(b) Discuss in detail about Dry bonding systems. **07**
- OR**
- Q.5** (a) Short note Broad-purpose adhesives regarding Rubber to Metal bonding. **07**
(b) Discuss in detail about applications of Coated Fabrics. **07**
