

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. Sem-IV Examination June- 2011****Subject code:142601****Subject Name: Rubber Compounding Materials****Date:06/06/2011****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). Write the importance of Peptisers. List the name of peptiser used for sulphur modified chloroprene rubber.
- (2). Write the importance of Reinforcing fillers in rubber products? Give examples of Reinforcing fillers.
- (3). Which are the Accelerators used for Butyl Rubber?
- (4). List the name of Activators.
- (5). Write the properties and applications of SRF Black (Semi Reinforcing Furnace Black).
- (6). Write the difference between Organic & Inorganic Blowing Agents.
- (7). Discuss the importance of NanoComposites in Rubber Industries.

Q.2 (a) Explain the evaluation of Compound cost for Rubber Bush. (07)
(b) How many types of manufacturing process for Carbon Black? (07)
Discuss any one in detail.

OR

(b) Discuss in detail about the physical properties of Carbon Black. (07)

Q.3 (a) Discuss the different properties of Accelerators in detail. (07)
(b) Short Note on Factice. (07)

OR

Q.3 (a) Short Note on 'Wax'. (07)
(b) Write in detail about Retarder. (07)

Q.4 (a) Write in detail about Calcium Carbonate as Mineral Filler. (07)
(b) Discuss in detail about White Pigments. (07)

OR

Q.4 (a) Explain the Reinforcing Concept in detail. (07)
(b) Give the difference between Organic & Inorganic Pigments. (07)

Q.5 (a) Answer the following. (10)
(1). List the properties of Antioxidants.
(2). Discuss the different types of Polymer Clay Nanocomposites.
(b) Write the difference between Organic & Inorganic Blowing Agents. (04)

OR

Q.5 (a) Answer the following. (10)
(1). List the important Nanoparticles used in the preparation of Nano composites. Write about any two.
(2). Explain the mechanism of Oxidation.
(b) Which Blowing agent is widely used in Rubber Industry? Write in detail about it. (04)
