

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER- IV EXAMINATION – WINTER 2013

Subject Code: 142601**Date: 19/12/2013****Subject Name: Rubber Compounding Materials****Time: 02:30-05:00****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)** Explain in detail about the process oil used as a plasticizer in rubber compound. (07)
- (b)** Write Short note on “Factice”. (07)
- Q.2 (a)** Discuss about White Pigment. (07)
- (b)** Write in detail about Organic Pigments. (07)
- OR
- Q.2 (b)** Define the term “Activators”. Which ingredients are used as activators in rubber industry? Discuss all in detail. (07)
- Q.3 (a)** Discuss in detail about the manufacturing process of Carbon black by Thermal process. (07)
- (b)** Write in detail about the desirable properties of Antioxidants. (07)
- OR
- Q.3 (a)** Explain the mechanism of Oxidation. (07)
- (b)** List the different grades of Carbon Black. Write the properties & applications of any three grades. (07)
- Q.4 (a)** Define the term “Fillers”. Write about organic fillers. (07)
- (b)** Short note on “Delayed action accelerators.” (07)
- OR
- Q.4 (a)** List the factors for interaction of particulate fillers with Elastomers. Explain all the factors in detail. (07)
- (b)** Write in detail about “Dinitroso Pentamethylene Tetramine” used as blowing agent. (07)
- Q.5 (a)** Calculate the Specific gravity of compound used for manufacturing of microcellular sheet. (07)
- (b)** Write about Accelerators for Chloroprene & Butyl Rubber. (07)
- OR
- Q.5 (a)** Describe in detail about Flame Retardants & Antistatic agents. (07)
- (b)** Short note on “Silica.” (07)
