

xv) Explain thermoplastic polyurethane elastomers.

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3rd Sem. / Rubber Tech.
Subject : Rubber Materials

SECTION-C

Time : 3 Hrs.

M.M. : 100

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Describe the effect of chemical structure on the performance properties of rubbers.
- Q.4 Starting from latex, describe all the steps in detail for its conversion into dry rubber.
- Q.5 Describe the manufacture and properties of SBR and Butyl rubber.
- Q.6 Describe manufacture, structure, properties and applications of fluoroelastomers.
- Q.7 Describe the process of vulcanization and its necessity.

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1 a) Define Rubber elasticity.
- b) Define latex.
- c) What is Crape rubber?
- d) 'Rubber becomes stiff on cooling'. Why?
- e) Expand SBR.
- f) Define Copolymer with one example.
- g) Define Polyalkene mors..
- h) Write the structure of Chloroprene.
- i) With two examples, define synthetic elastomers.

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- j) Name two main rubbers used for automobile tyres.
- k) State uses of polybutadiene.
- l) Name two inorganic elastomers.
- m) Write down the name of two polyols.
- n) Define thermoplastics.
- o) Define vulcanization.
- p) Give two applications of silicone elastomers.
- q) Define plastics.
- r) Write down structure of silicone elastomers.
- iii) Explain the origin of natural rubber.
- iv) Explain applications of synthetic polyisoprene.
- v) Describe manufacture of nitrile rubber.
- vi) Explain synthesis of polychloroprene rubber.
- vii) Write a note on applications of ethylene-vinyl acetate copolymer.
- viii) Describe preparation of a crylate rubbers.
- ix) State properties and uses of polysulphides.
- x) Explain preparation of polyether rubbers.
- xi) State properties and uses of elastomers based on modified polyethylene.
- xii) Describe the manufacture of silicone elastomers.
- xiii) Write a note on SBS and SIS block copolymers.
- xiv) With two examples, explain the significance of rubber blends.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2 i) Explain requirements for rubber elasticity.
- ii) Explain the effect of structure of rubber on the processing properties of elastomers.

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