

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Polymer Science & Technology)
Semester: IV
Syllabus with Effect from: June-2013

Paper Code: PS04CPST09	Total Credit: 4
Title Of Paper: Specialty Polymers	

Unit	Description in detail	Weightage (%)
I	High temperature and fire resistant polymers: Introduction, Improving low performance plastics for high temperature use, Polymers for low fire-hazards, Polymers for high temperature resistance-Fluoropolymers, Aromatic polymers, Poly ethers, Polyphenylenesulphide, Polysulphones, Polyketones and Heterocyclic polymers.	25%
II	Hydrophilic polymers: Natural polymers-Carbohydrates, Proteins, Semi-synthetic polymers, Synthetic polymers- Hydrogel polymers, Polyacrylamide hydrophilic polymers, Polyvinyl alcohol, Polyvinyl pyrrolidone, Superabsorbent polymers.	25%
III	Ionic polymers: Introduction, synthesis, physical properties and applications.	25%
IV	Polymers with electrical & electronic properties: Conducting polymers-conducting mechanisms, Polyacetylene, Polyparaphynelenes, Polypyrroles, Polyaniline, Photoconducting polymers, Polymers in optoelectronics, Polymers with piezoelectric, pyroelectric and ferro electric properties, Photoresists for semiconductor fabrication.	25%

Basic Text & Reference Books:-

- Engineering Polymers, R.W. Dyson, published by Chapman and Hall, New York.
- Specialty Polymers, R.W. Dyson, published by Chapman and Hall, New York.
- Encyclopedia of polymer science and Engineering, Wiley Inter science, New York.
- Comprehensive polymer science Sir, Geoffrey Allen and Sunder L. Aggrawal, Pergamon press, New York.
- Engineering materials Handbook, Vol, 1-3, ASTM International, USA.
- Plastics Materials, J. A. Brydson, Butterworth, London.
- Inorganic Polymers, James E. Mark, Harry R. Allcock, Robert West, Prentice Hall, NJ, USA.

