

**SARDAR PATEL UNIVERSITY**  
**Programme & Subject: M.Sc ( Chemistry)**  
**Semester: III**  
**Syllabus with Effect from: June - 2013**

<b>Paper Code: PS03ECHE01</b>	<b>Total Credit: 4</b>
<b>Title Of Paper: Synthetic Dyes and Pigments</b>	

Unit	Description in detail	Weightage (%)
I	<b>Fundamental of dyes:</b> General, Dye Classification, Theories for dye Structure, Principle Applications., Description of individual of class and synthesis of some commercial dyes.	25%
II	<b>Dying processes of textiles:</b> Pretreatment of textile fibres, dyeing methods for various textiles, Textile finishes and Textile auxiliaries. Non textile dyes: Leather, Fur, Hair, Food, Ink, Photographic, indicator dyes.	25%
III	<b>Dyes for electro optical application:</b> Molecular Orbital design, Synthesis and characteristics of functional dyes. Near infrared absorption (NIR) dyes: Introduction, Cyanine type chromophores, donar-acceptor chromophores, and applications. Colorants for high technology, Photocopying, LCD, Printing, Dye Sensitizer Solar Cells Photodynamic Therapy.	25%
IV	<b>Organic Pigments:</b> Synthesis, Characterization and application. Fluorescent Brightening Agents	25%

**Basic Text & Reference Books:-**

- Advances in colour chemistry series - Vol.3, Modern colorants : synthesis and structure, Edited by A.T. Peters and H.S. Freeman, Blackie Academic & Professional (1995)
- Colour Chemistry : Synthesis, Properties and applications of Organic dyes and pigments Heinrich Zollinger VCH, Germany (1987)
- Critical Reports on Applied Chemistry Vol.7 Developments in Chemistry and technology of organic dyes, Edited by: J. Griffiths, Blackwell Scientific Publications (1984)
- Organic Chemistry in colour, P.F.Gordon, P.Gregory, Springer-Verlag (1983)
- Infrared Absorbing Dyes, Edited by Masaru Matsuoka, Plenum Press (1990)
- The Chemistry of Synthetic dyes and pigments, by H.A.Lubs, Reinhold Publication (1955)
- The Chemistry of Synthetic dyes Vol.I-IX, Edited by K. Venkataraman, Academic Press (1971)
- Textile Auxiliaries, By J. W. Batty
- The production and applications of fluorescent Brightening Agents, Milos Zahradnik, John Wiley & Sons. 1982

