

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

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|--|------------------------|
| <b>Paper Code: PS03ECHE01</b>                        | <b>Total Credit: 4</b> |
| <b>Title Of Paper: Synthetic Dyes &amp; Pigments</b> |                        |

| Unit | Description in detail  | Weightage (%) |
|------|--|---------------|
| I    | Fundamental of dyes: General, Important chemical chromophors of dyes, Dyes Class for principle applications, Description of individual of class and synthesis of some commercial dyes.   | 25%           |
| II   | Dyeing processes of textiles: Pretreatment of textile fibres, dyeing methods for various textiles, Textile finishes and Textile auxiliaries.<br>Non textile dyes: Leather, Fur, Hair, Food, Ink, Photographic, indicator dyes.   | 25%           |
| III  | Dyes for electro optical application: Molecular Orbital design, Synthesis and characteristics of functional dyes. Near infrared absorption (NIR) dyes: Introduction, Cyanine type chromophores, donar-acceptor chromophores, applications.<br>Colorants for high technology, Color and constitution relationships in Azoacetoacetanilide pigments. | 25%           |
| IV   | Organic Pigments: Synthesis, Characterization and application.<br>Some other aspects related to dyes: Non matagenic dyes, colourants for high technology 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

