

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. SEMESTER : V
CHEMICAL TECHNOLOGY

Subject Name: Chemistry of Intermediates & Colorants – III

Subject Code: 153608

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam(E)	University Exam(P)	Mid Sem Exam(Theory) (M)	Practical (Internal)
3	0	2	5	70	0	30	50

Sr. No.	Course contents
01.	Chemistry of disperse dyes with special emphasis on environmental safety. Dispersant free disperse dyes. Replacement of anthraquinone disperses dyes – Heterocyclic diazo & coupling components. Styryl & extended styryl disperse dyes.
02.	Chemistry of reactive dyes with special emphasis on environmental issues. High fixation, low salt, highly substantive reactive dyes. Neutral fixing & acid fixing reactive dyes. Heterocyclic reactive systems & multifunctional reactive dyes. Reactive basic dyes
03.	Fluorescent whiteners & dyes. Basic concepts of fluorescence, fluorophoric systems such as stillborns, coumarins, carbostyryls, pyrazolines, naphthalimides & other heterocyclic systems. Heterocyclic analogues of conventional dyes
04.	Introduction to functional dyes – Laser dyes, liquid crystal, dyes, dyes in electro photography, dyes for inkjet printing, dyes in photography.
05.	Nonlinear optical properties of dyes & infrared absorbing dyes, Developments in colour & chemical constitution. Elements of properties of dyes in relation to functional manifestations.

Reference Books:

- Advances in Color Chemistry Vol I ,Peters A.T., Blackie, 1995
- Advances in Color Chemistry Vol II,. Peters A.T, Blackie, 1995
- Advances in Color Chemistry Vol III,. Peters A.T, Blackie, 1995
- Colorants for Non – Textile Applications ,Freeman, Elseiver, 2000
- Modern Colorants : Synthesis and Structure ,A T Peters and H S Freeman, Springer, 1995
- Fundamental Processes of Dye Chemistry ,Fierz, David, Blangey,Interscience Publishers, 1955
- Industrial Organic Chemistry, Arpe H.J.VCH, Weinheim, Weissermal K.1993
- Organic Synthesis, Smith M.B., Tata McGraw Hill, New York, 2nd Ed., 2004
- Chemistry of Synthetic Dyes, Lubs H.A.,Robert E Krieger Publishing Company New York, 1995
- Chemistry of Synthetic Dyes, Lubs H.A., Robert E Krieger Publishing Company New York, 1st Ed.,1995
- Chemistry of Synthetic Dyes – Vol I, Venkatraman K., Academic Press, New York, 2009

12. Chemistry of Synthetic Dyes – Vol II, Venkatraman K., Academic Press, New York, 2009
13. Chemistry of Synthetic Dyes – Vol III, Venkatraman K., Academic Press, New York, 2009
14. Chemistry of Synthetic Dyes – Vol IV, Venkatraman K., Academic Press, New York, 2009
15. Chemistry of Synthetic Dyes – Vol V, Venkatraman K., Academic Press, New York, 2009
16. Chemistry of Synthetic Dyes – Vol VI, Venkatraman K., Academic Press, New York, 2009
17. Color Chemistry: Syntheses, Properties and Applications of Organic Dyes and Pigments ,Heinrich Zollinger, Wiley-VCH,2nd Ed, 1991