

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

Subject Name: Technology of Pigments

Subject Code: 163604

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam(E)	University Exam(P)	Mid Sem Exam(Theory) (M)	Practical (Internal)
4	0	3	7	70	0	30	50

Sr. No	Course contents
1.	Physicochemical aspects of pigments. High performance pigments. Dioxazine pigments, diketopyrrole pigments, perylene pigments & other condensed heterocyclic pigments. quinonphthalone pigments, azamthine pigments, thiazine pigments.
2.	Lake pigments, Condensation pigments, arylide pigments, benzimidazolone pigments, vat pigments, quinacridone pigments.
3.	Heterocyclic analogues of conventional pigments, luminescent pigments.
4.	Physical modifications of pigments, crystal engineering, Dispersion characteristics & use of surfactants in pigment dispersions, Suitability of pigments for applications in plastics, pharmaceutical preparations. Pigments in inks & paints. Interference pigments, nano pigments. Structure property considerations for pigments. Thermal characteristics of pigments.
5.	Methods of application of Pigments & their uses. Equipment used for dyes & Pigments Evaluation & large scale use. Selection criteria of pigments for specific applications

Reference Books:

1. Industrial Inorganic Pigments, G Buxbaum and G Pfaff, John Wiley & Sons, 2006
2. Industrial Organic Pigments : Production, Properties & Applications, W Herbst, K Hunger and G Wilker, Wiley-VCH, 2004
3. High Performance Pigments, E B Faulkner and R J Schwartz, Wiley-VCH, 2009
4. Color Chemistry: Synthesis, Properties and Applications of Organic Dyes and Pigments, Heinrich Zollinger, Wiley-VCH, 2nd Ed, 1991
5. Colour Chemistry, R M Christie, RSC, 2001
6. Fundamental Processes of Dye Chemistry, Fierz, David, Blangey, Interscience Publishers, 1955
7. Industrial Organic Chemistry, Arpe H.J. VCH, Weinheim, Weissermal K. 1993
8. Organic Synthesis, Smith M.B., Tata McGraw Hill, New York, 2nd Ed., 2004
9. Chemistry of Synthetic Dyes – Vol I, Venkatraman K., Academic Press, New York, 2009
10. Chemistry of Synthetic Dyes – Vol II, Venkatraman K., Academic Press, New York, 2009

11. Chemistry of Synthetic Dyes – Vol III, Venkatraman K., Academic Press, New York, 2009
12. Chemistry of Synthetic Dyes – Vol IV, Venkatraman K., Academic Press, New York, 2009
13. Chemistry of Synthetic Dyes – Vol V, Venkatraman K., Academic Press, New York, 2009
14. Chemistry of Synthetic Dyes – Vol VI, Venkatraman K., Academic Press, New York, 2009