

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

Subject Name: Special Topics in Glass & Ceramics – I
Subject Code: 173608

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	30	30	20

Sr. No	Course contents
1.	Structure – Property Relationships in Ceramic products. Crystalline structure, grain growth & connection with electrical, optical, mechanical or magnetic properties.
2.	Electronic & magnetic ceramics, Ceramic membranes, nanoceramics
3.	Different type of Cements (Pozzalona, Portland, High Alumina cement etc) : Raw materials, manufacturing & testing. Chemistry of curing of cement
4.	Concrete: Introduction, Gap grade, Continuous grade, light / normal / heavy concrete etc. Properties & uses of concretes

Reference Books:

1. Introduction to Ceramics, Kingery W.D.
2. Fundamentals of Ceramics Barsoum,
3. Physical Ceramics for Engineers, Vlack V., Addison-Wesley Pub. Co, 1964
4. Chemistry of Cement, Taylor, Academic Press, 1964
5. Concrete Technology, Neville, Pearson, 1987
6. Advanced Concrete Technology : Constituent Elements, J Newman and S Choo, Butterworth-Heinemann, 2003
7. Elements of ceramics, Norton F.H, Longman higher education, 2nd Ed, 2001
8. Introduction to Ceramics, Barsoum, Institute Of Physics Publishing (gb) 2002
9. Introduction to Ceramics, Kingery W.D., Wiley New York :, 2nd Ed, 1976
10. Material Science, Smith, McGraw Hill Higher Education, 4th Ed, 2005
11. Industrial Ceramics, Singer & Singer, Oxford & Ibh (From Technip), 1st Ed., 2008
12. Textbook of physical Geology, Mukherjee, CBS Publishers & Distributors-New Delhi 1st Ed., 2011
13. Textbook of Mineralogy, Tyrrel, W, CBS, 4th Ed., 2006