

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.E. SEMESTER : V**  
**ENVIRONMENTAL SCIENCE & TECHNOLOGY**

**Subject Name: Basics of Mass Transfer**

**Subject Code: 153502**

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam(E)	University Exam(P)	Mid Sem Exam(Theory) (M)	Practical (Internal)
3	0	3	6	70	0	30	50

Sr No	Course Contents
1	Basics of Mass Transfer
2	Diffusivity and mass transfer in Multiple system
3	Mass Transfer Coefficients and Two film theory
4	Various regimes of mass transfer with chemical Reactions in Multiphase Systems & Methods for discerning the controlling regime.

**REFERENCE BOOKS:**

1. Mass Transfer Operations, R E Treybal, Mc Graw Hill, 1980
2. Unit Operations of Chemical Engineering, Warren McCabe, Jubian Smith and Peter Harriot, Mc Graw Hill, 7<sup>th</sup> Ed., 2004
3. Transport Processes & Unit Operations in Chemical Engineering ,Gean Koplis, Prentice Hall, 2003
4. Coulson and Richardson's Chemical Engineering Volume 1 - Fluid Flow, Heat Transfer and Mass Transfer , Coulson, J.M.; Richardson, J.F.; Backhurst, J.R.; Harker, J.H. Elsevier, 6<sup>th</sup> Ed., 1999
5. Coulson and Richardson's Chemical Engineering Volume 2 – Particle Technology and Separation Processes, B J Blackhurst & J H Harker, Elsevier, 5<sup>th</sup> Ed., 2002
6. Coulson and Richardson's Chemical Engineering Volume 3 – Biochemical Reactors & Process Control, B J Blackhurst & J H Harker, Elsevier, 3<sup>rd</sup> Ed., 1994
7. Coulson and Richardson's Chemical Engineering Volume 4 – Solutions to the Problems in Chemical Engineering from Vol- 1, B J Blackhurst & J H Harker, Elsevier, 2001
8. Coulson and Richardson's Chemical Engineering Volume 5 – Solutions to the Problems in Chemical Engineering from Vol- 2 and Vol-3, B J Blackhurst & J H Harker, Elsevier, 2001
9. Chemical Enginnering Design Volume 6, R K Sinnott, Coulson and Richardson's Chemical Engineering Elseiver, 4<sup>th</sup> Ed, 2005