

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA**Lesson plan****Semester: 6th****Subject: Reaction Kinetics and Catalysis**

Lecture	Module	Topic
1	1	Introduction, Significance and Application of the subject in real world
2	1	Classifications of reactions
3	1	Reaction rate
4	1	Variables affecting the rate of reaction
5	1	Order and molecularity of reaction
6	1	determination, theoretical study of reaction rates
7	1	Problems on reaction rates
8	1	The Arrhenius relationship
9	1	Collision theory and activated complex theory
10	1	Class Test-I
11	2	Different types of reactors
12	2	Integral methods of analysis
13	2	Differential methods of analysis
14	2	Design of batch reactors for single ideal reactions,
15	2	Design of semi-batch reactors for single ideal reactions,
16	2	Problems on batch and semi batch reactors
17	2	Design of continuous stirred tank reactors for single ideal reactions,
18	2	Design of plug flow reactors for single ideal reactions,
19	2	Problems on CSTR and PFR
20	3	Reactions in series under isothermal operations
21	3	Reactions in parallel under isothermal operations
22	3	Mixed reactions under isothermal operations
23	3	Problems on single and parallel reactions
24	3	Design of adiabatic reactors
25	3	Design of non-isothermal reactors
26	3	Introduction to enzyme kinetics
27	3	Problems on enzyme kinetics
28	3	Heterogeneous reactions: examples
29	3	Classification of catalysts
30	3	General procedure for manufacture of catalysts
31	3	Catalytic promoters and poisons
32	3	Reactions catalyzed by solid catalysts
33	3	Problems on heterogeneous reactions
34	3	Class Test-II
35	4	Engineering properties of catalysts and their determination
36	4	General mechanism of catalytic reactions
37	4	Adsorption isotherms
38	4	Transport processes in reactions catalyzed by solids
39	4	Design of heterogeneous catalytic reactors
40	4	Problems on catalytic reactors

Signature of the Faculty Member:

Date:

Counter Signature of H.O.D