LESSON PLAN

Subject Name- Statistical methods & DOE	Branch- Production Engineering
Subject Code- BPEPE 605	Semester- 6th

S/N	Module	Topic(s)	Period/ Hours
1	I	Sampling distribution, Types, Random sampling, Sample size & standard error	1-2
2	I	Point Estimate, hypothesis testing	3
3	I	Hypothesis testing of mean with different conditions	4-5
4	I	differences in mean, chi square as test of independence, test of goodness fit	6-7
5	I	Tutorial	8
6	II	Experiments with single factor, Analysis of variance, Fixed effect model	9-10
7	II	Estimation of model parameters, Comparison of individual treatment means,	11
8	II	Orthogonal contrasts, Schaffer method of comparing contrasts, Comparing pairs of treatment means	12-13
9	II	Tutorial	14
10	II	Model adequacy checking, plot of residuals, Choice of sample size	15-16
11	II	OC curves, Method of CI estimation, Fitting response curves	17-18
12	II	Regression approach orthogonal polynomials	19
13	II	Tutorial	20
14	III	Factorial design, Two factor factorial design	21
15	III	Statistical analysis of fixed effect model, Estimation, Choice of sample size, Random & fixed model, Fitting response curves and surface	22-24
16	III	General factorial design	25

S/N	Module	Topic(s)	Period/ Hours
17	III	2^k Factorial Design, single replicate, Addition of center points to 2^k design	26-27
18	III	Yates algorithm for 2^k design, 3^k design ,Yates algorithm of 3^k design	28-29
19	III	Tutorial	30
20	IV	Response surface methods & design	31
21	IV	Methods of steepest Ascent, Analysis of 2nd order model	32-33
22	IV	Fitting response surface, evolutionally operation	34-35
23	IV	Tutorial	36
24	IV	Taguchi contribution to experimental design: Quality engineering, Philosophy, Taguchi approach to parametric design	37-39
25	IV	Tutorial	40