

Semester 3

Course code : STA301

Course Name : Survey Sampling and Design of Experiments-1

Teaching Plan: STA301

Name of the teacher: Dr. Rijusmita Sarma

Dr. Pranjal Sarma

Dr. Jumi Kalita

Session: Jan--May

Syllabus	Period	Course	Method (including experiential- E /participative learning-P)	Aids Used	Assessment method
Unit I JK	Jan	Complete enumeration, controlled experiments, observational studies and sample surveys, Concept of population and sample, complete enumeration versus sampling, principal steps in a sample survey, sampling and non-sampling errors.	<ul style="list-style-type: none"> • Lecture, • Oral question- P • problem solving- E 	Blackboard/ Chalk	Class test, Sessional Test, Oral quiz
Unit II JK	Feb	Types of sampling: non-probability and probability sampling, basic principle of sample survey	<ul style="list-style-type: none"> • Lecture, • Oral question- P • problem solving- E 	Blackboard/ Chalk	
	March	Simple random sampling with and without replacement, definition and procedure of selecting a sample,	<ul style="list-style-type: none"> • Lecture, • Oral question- P • problem solving- E 	ICT	
	April	Estimates of : population mean, total and mean square. Determination of sample size- preliminary formulas only.	<ul style="list-style-type: none"> • Lecture, • Oral question- P • problem solving- E 	Blackboard/ Chalk	
	May	Revision	<ul style="list-style-type: none"> • Oral question- P • problem solving- E 	Blackboard/ Chalk	
Unit II PS	January	Technique of stratified sampling, estimates of population mean and total. Technique, estimates of	<ul style="list-style-type: none"> • Lecture, • Oral question- P • problem solving- E 	Blackboard/ Chalk	

		population mean and total.		
	February	variances of these estimates (with derivation), proportional and optimum allocations and their comparison with SRS (with derivation),	<ul style="list-style-type: none"> Lecture, Oral question- P problem solving- E 	ICT
	March	Determination of sample size (in case of proportional allocation only). Systematic Sampling:	<ul style="list-style-type: none"> Lecture, Oral question- P problem solving- E 	Blackboard/ Chalk
	April	Variations of these estimates ($N=n \times k$). Comparison of systematic sampling with SRS (with derivation).	<ul style="list-style-type: none"> Oral question- P 	Blackboard/ Chalk
	May	Practical on Stratified sampling, Revision	<ul style="list-style-type: none"> problem solving- E 	Blackboard/ Chalk
Unit IV RS	Jan	Basic principles of Design, Basic designs	<ul style="list-style-type: none"> Lecture, Oral question- P problem solving- E 	Blackboard/ Chalk
	Feb	One way and two way ANOVA with Practical	<ul style="list-style-type: none"> Lecture, Oral question- P problem solving- E 	ICT
	March	Completely Randomized Design (CRD), Practical	<ul style="list-style-type: none"> Lecture, Oral question- P problem solving- E 	Blackboard/ Chalk
	April	Randomized Block Design (RBD)– layout, model and statistical analysis (without derivations)	<ul style="list-style-type: none"> Lecture, Oral question- P problem solving- E 	Blackboard/ Chalk
	May	Practical of RBD, Revision	<ul style="list-style-type: none"> problem solving- E 	Blackboard/ Chalk