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DEPARTMENT OF STATISTICS

TEACHING PLAN FOR SEMESTER 1

NAME OF FACULTY: DHIMAN DUTTA

PAPER: STSA CC-2

LECTURES ALLOTED: 35

ALLOTED SYLLABUS: (Units – I, II)

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction
2	Deterministic and random experiments
3	Sample space
4	Basic concepts and definitions 1
5	Basic concepts and definitions 2
6	Classical approach of Probability 1
7	Classical approach of Probability 2
8	Problems based on Classical approach of Probability 1
9	Problems based on Classical approach of Probability 2
10	Problems based on Classical approach of Probability 3
11	Problems based on Classical approach of Probability 4
12	General counting methods 1
13	General counting methods 2
14	Limitations of classical approach

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15	Probability and set theory 1
16	Probability and set theory 2
17	Empirical approach of Probability 1
18	Empirical approach of Probability 2
19	Algebra of Events 1
20	Algebra of Events 2
21	Axiomatic definition of Probability 1
22	Axiomatic definition of Probability 2
23	Rationale behind the axioms
24	Construction of Probability Function: Finite sample space 1
25	Construction of Probability Function: Finite sample space 2
26	Construction of Probability Function: Countably Infinite sample space 1
27	Construction of Probability Function: Countably Infinite sample space 2
28	Basic theorems on Probability 1
29	Basic theorems on Probability 2
30	Basic theorems on Probability 3
31	Basic theorems on Probability 4
31	Matching and occupancy problems 1
32	Matching and occupancy problems 2
33	Basic theorems on Probability 5
34	Basic theorems on Probability 6
35	Practical: Set 1
36	Practical: Set 1
37	Practical: Set 1
38	Practical: Set 1

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39	Conditional Probability
40	Theorems on Conditional Probability 1
41	Theorems on Conditional Probability 2
42	Problems on conditional probability 1
43	Problems on conditional probability 2
44	Independent Events 1
45	Independent Events 2
46	Practical: Set 2
47	Practical: Set 2
48	Practical: Set 2
49	Practical: Set 2
50	Discussion

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DEPARTMENT OF STATISTICS

TEACHING PLAN FOR SEMESTER - I(Hons)

NAME OF FACULTY: OINDRILA BOSE

PAPER: PROBABILITY & PROBABILITY DISTRIBUTIONS – I (CC2)

LECTURES ALLOTED: 25

ALLOTED SYLLABUS: UNITS 3 & 4

TOPIC/SUBTOPIC: PROBABILITY & PROBABILITY DISTRIBUTIONS - I	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introductory lecture
2	Random variable – Definition and numerical examples
3	Discrete and Continuous random variables
4	Idea of probability mass function(PMF) and probability density function(PDF)
5	Numerical problems on PMF and PDF
6	Discussion on different types of series and sums useful for numerical problems on PMF and PDF
7	Cumulative distribution function(CDF) and discussion of different numerical problems on it
8	Properties of CDF with proof
9	Properties of CDF with proof (Contd.)
10	Discussion of practical problem set on Application

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	based problems on probability distributions
11	Expectation : Definition, discussion of different numerical problems on Expectation for both discrete and continuous random variables
12	Different results and theorems on Expectation
13	Moments : Definition of raw moments and central moments, explaining the relation between them
14	Discussion of different numerical problems on Moments – for discrete random variables
15	Discussion of different numerical problems on Moments – for continuous random variables
16	Dispersion: Definition, different measures of dispersion, calculation and interpretation of the measures
17	Discussion of different results and numerical problems on Dispersion
18	Skewness: Definition, types of skewness, different measures of it, calculation and interpretation of them
19	Discussion of different results and numerical problems on skewness
20	Kurtosis: Definition, types of kurtosis, different measures of it and interpretation of them
21	Quantiles : Definition, mentioning some special types of quantiles – Deciles, Percentiles, Quartiles etc. and calculation of them
22	Discussion of different numerical problems on the different types of quantiles and measures associated

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	with them
23	Discussion of practical problem set on Finding moments, quantiles from a given probability distribution
24	Probability Inequalities (Markov's and Chebychev's): Statements and proofs of the theorems
25	Discussion of the practical problem set on the application of those probability inequalities

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DEPARTMENT OF STATISTICS

TEACHING PLAN FOR SEMESTER -I

NAME OF FACULTY : Dr. Parthasarathi Bera

LECTURES ALLOTED: 35

Paper –Descriptive Statistics CC-1

ALLOTED SYLLABUS:

Unit 1& 4

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction, Explain What is Statistics?
2	Explain Function, scope and limitations of Statistics
3	Explain Population, Sample, Quality, Quantitative, Qualitative, Variable, Discrete variable and Continuous variable.
4	Cross sectional and time-series data
5	Scales of measurement: nominal, ordinal, interval and ratio.
6	Presentation of data: tabular and graphical
7	Practical(Exercise no.-1Diagrammatic Presentation of data: Divided bar diagram and Pie diagram)
8	Frequency distributions, cumulative frequency distributions
9	Graphical representations. Stem and leaf displays.
10	Practical(Exercise no.-2 Problem based on

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	construction of Frequency distributions, cumulative frequency Graphical representations. Stem and leaf
11	Analysis of Categorical Data: Contingency table
12	independence and association of attributes
13	Practical exercise no. -3(Independence and association of attributes)
14	measures of association - odds ratio, Pearson's and Yule's measure
15	Practical Exercise no.-4(Measures of association - odds ratio, Pearson's and Yule's measure)
16	Goodman-Kruskal gamma.
17	Practical Exercise no. -5(Goodman-Kruskal gamma association)

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DEPARTMENT OF

TEACHING PLAN FOR SEMESTER

NAME OF FACULTY : STATISTICS

PAPER : CC1

LECTURES ALLOTED: 33

ALLOTED SYLLABUS: Units 2 and 3

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Central Tendency and its measures
2	Different types of means and their properties
3	Median and its properties
4	Formula for median in case of grouped frequency distribution
5	Mode and its properties
6	Formula for mode in case of grouped frequency distribution
7	Practical problems
TOPIC/SUBTOPIC:	
8	Dispersion and its measures
9	Range and Quartile deviation
10	Mean deviation and its properties

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11	Standard deviation and its propertes
12	Relative measures of dispersion
13	Gini's coefficient and Lorenz curve
14	Practical problems
15	Moments and their properties
16	Measures of Skewness and their properties
17	Measures of Kurtosis and their properties
18	Box plot and outliers
19	Practical problems
20	Bivariate data and Scatter diagram
21	Correlation coefficient and its properties
22	Concept of regression, least square principle
23	Fitting of exponential and polynomial curves
24	Correlation ratio
25	Correlation index and intra-class correlation
26	Practical problems
27	Rank Correlation
28	Practical problems

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DEPARTMENT OF STATISTICS

TEACHING PLAN FOR SEMESTER 3

NAME OF FACULTY: DHIMAN DUTTA

PAPER: STSA CC-7

LECTURES ALLOTED: 45

ALLOTED SYLLABUS: Units – III, IV

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction
2	Introduction to Statistical Computing
3	Basic Structure of C Programs 1
4	Basic Structure of C Programs 2
5	Character Set
6	C Tokens – Identifiers, Keywords
7	Data Types
8	Constants
9	Practical – Computing Mean
10	Variables
11	Symbolic Constants
12	Practical – Computing moments of a frequency distribution 1
13	Practical – Computing moments of a frequency distribution 1
14	Underflow and overflow of data
15	Practical – Computing Correlation Coefficient

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16	Arithmetic Operator
17	Operators
18	Precedence of Operators, Implicit and Explicit Type Conversions
19	Practical – Computing Rank Correlation
20	Library Functions 1
21	Library Functions 2
22	Practical – Computing Median
23	Input and Output Operations
24	Practical – Matrix Addition
25	Practical – Fitting of Binomial Distribution
26	Practical – Fitting of Poisson Distribution
27	Practical – Matrix Multiplication 1
28	Practical – Matrix Multiplication 2
29	Practical – Matrix Multiplication 3
30	Decision making and Branching
31	Branching: The if – else statement 1
31	Branching: The if – else statement 2
32	The switch Statement
33	Looping structure
34	The “for” loop
35	Nested Loop
36	Practical – Computing Determinant of a matrix 1
37	Practical – Computing Determinant of a matrix 2
38	Practical – Computing Inverse of a matrix 1
39	Practical – Computing Inverse of a matrix 2

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40	The “while” statement
41	The “do-while” statement
42	Practical – Lagrange Interpolation
43	Practical – Trapezoidal Rule
44	Practical – Sampson’s 1/3rd rule
45	Arrays 1
46	Arrays 2
47	Character arrays and Strings 1
48	Character arrays and Strings 2
49	Practical – Newton-Raphson Method
50	Practical – Iteration Method
51	User defined functions 1
52	User defined functions 2
53	User defined functions 3
54	User defined functions 4
55	Practical – Random number Generation

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DEPARTMENT OF STATISTICS

TEACHING PLAN FOR SEMESTER – III(Hons)

NAME OF FACULTY: OINDRILA BOSE

PAPER: STATISTICAL DATA ANALYSIS USING R (SEC-A)

LECTURES ALLOTED: 20

ALLOTED SYLLABUS: SEC-A (Units 1 – 4)

TOPIC/SUBTOPIC: STATISTICAL DATA ANALYSIS USING R	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction of R as a Statistical software
2	Installation of R, commandline environment and overview of the capabilities of R, brief mention of open source philosophy
3	R as a calculator – The four basic Arithmetic operators, use of parentheses, the exponent operator
4	Quotient and remainder operator for integers, assignment operators and evaluation of simple expressions using R
5	Logical operators in R
6	Standard functions in R – sin, cos, exp, log etc
7	Complex numbers in R, explaining different features of a complex number using different functions in R
8	use of c( ) and seq( ) functions to construct vectors in R

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9	Use of rep( ) function and colon operator to construct vectors in R
10	Missing values in R(NA values), Mentioning Inf and NaN in R
11	Extracting a subset from the vector(by index, by property)
12	In built Mathematical functions in R
13	In built Statistical functions in R
14	Discussion of how all these functions map over vectors with suitable examples
15	R as a graphing calculator – Introduction to plotting, use of plot( ), lines( ) and points( ) functions and explaining different graphics parameters
16	abline( ) function, drawing scatter plot in R
17	Performing simple linear regression and interpretation of its output
18	Drawing Pie Diagram in R
19	Drawing Boxplot in R
20	Drawing different types of Barplot in R
21	Drawing Histogram in R, use of different binning points, drawing the density curve on a histogram
22	Introduction to creation of matrices in R
23	Basic operations of matrix in R
24	Extraction of submatrices and modification of the

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	elements of a matrix
25	Loading data from a file : Use of read.table( ) and read.csv( ) functions, mention of head=TRUE and head=FALSE
26	Dataframes and operations related to them, explanation of the difference between matrices and dataframes
27	Problems on discrete and continuous probability distributions

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DEPARTMENT OF

TEACHING PLAN FOR SEMESTER

NAME OF FACULTY : Dr Parthasarathi Bera

PAPER : CC-5

LECTURES ALLOTED:

ALLOTED SYLLABUS:

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	INTRODUCTION, ELEMENTARY MATRICES, DIFFERENT TYPES OF MATRIX,
2	Explanation of Echelon Matrix Exercise no.-1 Practical Problem on Echelon Matrix and others
3	Different Matrix Operations
4	Explanation of Orthogonal Matrix Exercise no.-2 Practical Problem on Orthogonal Matrix and others.
5	Introduction, What is Vector? Different between Set and Vector, two dimensional vectors and three dimensional vectors and illustrations, and their operations.
6	Generalization of dimensions of vectors

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TOPIC/SUBTOPIC:	
7	Linear independent and dependent set of vectors and it,s respective result
8	Explanation of Spanning sets vectors and Basis
9	What is Orthonormal set of Vectors. And Schmidt orthogonalization process.
10	Exercise no.- 3 Practical Problems on Vectors.

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DEPARTMENT OF

TEACHING PLAN FOR SEMESTER 3

NAME OF FACULTY : Sankha Bhattacharya
PAPER : Demography and Vital Statistics
LECTURES ALLOTED: 60
ALLOTED SYLLABUS:

TOPIC/SUBTOPIC: Unit-1	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Coverage and content errors in demographic data
2.	Use of balancing equation and Chandrasekaran-Deming formula to check completeness of registration data
3.	Adjustment of age data
4.	Use of Myer and UN indices,
5.	Population composition, dependency ratio.
TOPIC/SUBTOPIC: Unit 2	
6.	Source of data on vital statistics.
7.	Errors in census and registration data.
8	Measurement of population. Rates and ratios of vital events.
9	Crude death rate, Specific death rate

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10	Standardized death rate
11.	Cause of death rate, Case fatality rate.
12.	Infant mortality rate, MMR, NMR and PMR.
13.	Life Table (Assumption, construction, description)
14.	Abridged life table
15	Central mortality rate, Force of Mortality
16)	~~Mo~~ Measurement of morbidity
17.	CBR, GFR, SFR, TFR .
18)	CRNI, GRR, NRR
19)	Population estimation.
20)	Population Projection, (Rhode's method)

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DEPARTMENT OF

TEACHING PLAN FOR SEMESTER

NAME OF FACULTY : SHIRSENDU MUKHERJEE

PAPER : CC5

UNIT: 3,4

LECTURES ALLOTED: 25

ALLOTED SYLLABUS:

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Quadratic forms- Introduction
2	Classification of quadratic forms with examples
3	Effect of a non-singular transformation on quadratic forms
4	Canonical form of a quadratic form
5	Practical problems
6	Eigen values and eigen vectors
TOPIC/SUBTOPIC:	
7	Nature of eigen values of different matrices
8	Spectral decomposition theorem and related results
9	Practical problems

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10	Row space, Column space and Null space of a matrix

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
11	Rank of a matrix
12	Standard theorems on rank
13	Rank of sum and product of matrices
14	Partitioning of matrices and simple properties
15	Practical problems
TOPIC/SUBTOPIC:	

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DEPARTMENT OF

TEACHING PLAN FOR SEMESTER

NAME OF FACULTY : SHIRSENDU MUKHERJEE

PAPER : CC7

UNIT: 1,2

LECTURES ALLOTED: 15

ALLOTED SYLLABUS:

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction to Numerical Analysis, Interpolation, Weierstrass' theorem
2	Lagrange's interpolation formula and related results
3	Error in Lagrange's interpolation formula
4	Difference operator Δ and related problems
5	Newton's forward and backward interpolation formulae
6	Shift operator E and related problems
TOPIC/SUBTOPIC:	
7	Numerical differentiation and its applications
8	Numerical Integration- Trapezodial and Simpson,s 1/3rd rules
9	Numerical solution of equations- Iteration method, Newton-Raphson method

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10	Condition and rate of convergence of Iteration and N-R method
11	Extension of iteration method for two unknowns
12	Stirling's approximation to factorial n

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DEPARTMENT OF STATISTICS

TEACHING PLAN FOR SEMESTER 5

NAME OF FACULTY: DHIMAN DUTTA

PAPER: STSA CC-11& CC-12

LECTURES ALLOTED: 40+16 = 56

ALLOTED SYLLABUS: CC11 (Units – II, III) & CC-12 (Units – I, IV)

TOPIC/SUBTOPIC:STATISTICAL INFERENCE II	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction
2	Introduction to Statistical Inference
3	Point Estimation – Closeness, Mean Squared Error
4	Unbiasedness
5	Examples of Unbiased Estimators
6	Minimum Variance Unbiased Estimator 1
7	Results and Examples related to MVUE
8	Cramer Rao Inequality 1
9	Cramer Rao Inequality 2
10	Minimum Variance Bound Estimator
11	Limitations of C-R Inequality
12	Sufficiency 1
13	Sufficiency 2
14	Factorization Theorem
15	Examples related to Factorization Theorem

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16	Sufficiency in multi-parameter distributions
17	Rao-Blackwell Theorem 1
18	Rao-Blackwell Theorem 2
19	Necessary and sufficient condition for MVUE
20	Consistency
21	Asymptotic Efficiency
22	Introduction to Methods of Estimation
23	Maximum Likelihood Estimation – Single Parameter Case
24	Maximum Likelihood Estimation – Multi-Parameter Case
25	Properties of MLE
26	Method of moments
27	Practical – Set 1
28	Practical – Set 1
29	Practical – Set 1
30	Practical – Set 1
31	Theory of Hypothesis Testing 1
31	Theory of Hypothesis Testing 2
32	Randomized and non-randomized tests
33	MP test and UMP test
34	Neyman – Pearson Lemma 1
35	Neyman – Pearson Lemma 2
36	Application of N-P Lemma 1
37	Application of N-P Lemma 2
38	Construction of MP test
39	Application of N-P Lemma 3

40	p-values
41	Simple null versus two-sided alternative hypothesis
42	UMPU test
43	Practical – Set 2
44	Practical – Set 2
45	Likelihood Ratio Tests 1
46	Likelihood Ratio Tests 2
47	Examples of Likelihood Ratio Tests 1
48	Examples of Likelihood Ratio Tests 2
49	Examples of Likelihood Ratio Tests 3
50	Practical - Set 3
51	Practical - Set 3
52	Interval Estimation
53	Methods of finding interval estimators – Pivotal Quantity Method
54	Methods of finding interval estimators – Confidence Belts
55	Shortest-length Confidence Intervals
56	Asymptotic confidence intervals
57	Confidence Sets
58	Relation between Interval Estimation and Testing of Hypothesis
TOPIC/SUBTOPIC:LINEAR MODELS AND REGRESSION	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction
2	Gauss-Markov Set up
3	Theory of Linear Estimation 1
4	Theory of Linear Estimation 2

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5	Estimability of linar parametric functions
6	Method of least squares
7	Gauss-Markov Theorem
8	Estimation of error variance
9	Orthogonal splitting of total variation
10	Valid error
11	Binary Regression 1
12	Binary Regression 2
13	Binary Regression 3
14	Count Data Regression 1
15	Count Data Regression 2
16	Count Data Regression 3

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DEPARTMENT OF STATISTICS

TEACHING PLAN FOR SEMESTER – V(Hons)

NAME OF FACULTY: OINDRILA BOSE

PAPER: OPERATIONS RESEARCH (DSE-B1)

LECTURES ALLOTED: 36

ALLOTED SYLLABUS: UNITS 3 & 4

TOPIC/SUBTOPIC: OPERATIONS RESEARCH	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction to Transportation Problem
2	Formulation of Transportation problem
3	Basic theorems associated with Transportation Problem, finding initial solution using North West Corner Method – Discussion of its algorithm with numerical examples
4	Finding initial solution using North West Corner Method – Discussion of its algorithm with numerical examples
5	Finding initial solution using Least Cost Method – Discussion of its algorithm with numerical examples
6	Finding initial solution using Vogel's Approximation Method - Discussion of its algorithm with numerical examples
7	Finding optimal solution using MODI method –

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	Discussion of its algorithm
8	Numerical problems on MODI method
9	Special cases in Transportation Problem with suitable numerical examples(Multiple optimum solutions, unbalanced transportation problem)
10	Special cases in Transportation Problem with suitable numerical examples (Degeneracy in transportation problem, Maximization problem)
11	Discussion of Practical Problem set on Allocation Problem using Transportation Model
12	Discussion of Practical Problem set on Allocation Problem using Transportation Model(Contd.)
13	Introduction to Assignment Problem
14	Introduction to Hungarian Method and explanation of theorems associated with it
15	Discussion of the algorithm of Hungarian Method with a numerical example
16	Special cases of Assignment problem with suitable numerical examples
17	Discussion of practical problem set on Allocation Problem using Assignment Model
18	Discussion of practical problem set on Allocation Problem using Assignment Model(Contd.)
19	Introduction to Game Theory
20	Discussion of some famous Game Theory problems

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21	Explanation of different Competitive situations
22	Characteristics of competitive games
23	Rectangular game, Two person zero-sum game
24	minimax-maximin principle
25	Numerical problems on maximin-minimax principle
26	Discussion of practical on Problems based on game matrix
27	Discussion of practical on Problems based on game matrix(Contd.)
28	Solution to rectangular game using graphical method
29	Discussion of practical problem set on Graphical solution to m×2 and 2×n rectangular game
30	Discussion of practical problem set on Graphical solution to m×2 and 2×n rectangular game(Contd.)
31	Dominance and modified dominance property to reduce the game matrix
32	Solution to rectangular game with mixed strategy
33	Discussion of practical problem set on Mixed strategy
34	Discussion of practical problem set on Mixed strategy(Contd.)
35	Revision and doubt clearing of both the units
36	Discussion of previous years' question papers

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DEPARTMENT OF STATISTICS

TEACHING PLAN FOR SEMESTER-V

NAME OF FACULTY : Dr. Parthasarathi Bera

PAPER : Linear Models and Regression . CC-12

LECTURES ALLOTED: 40

ALLOTED SYLLABUS:

Unit-2& 3

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction and Explanation of ANOVA, Fixed effect model. Random effect model, mixed effect model,
2	Regression model, ANCOVA model, Analysis of Variance of One - way classified data for fixed effect model. - First part
3	2 nd part of ANOVA of One -way classified data for fixed effect model. Also Practical (Exercise no.-1 , Problem on Analysis of Variance of One way classified data for fixed effect model)
4	Analysis of Variance One- way classification of data for Random effect model
5	Analysis of Variance of Two-way classification with one observation per cell for fixed effect model,
6	Analysis of Variance of Two-way classification with one observation per cell for fixed effect model,

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TOPIC/SUBTOPIC:	
7	Analysis of Variance of Two-way classified data with m observations per cell for fixed effect model.
8	Practical (Exercise no.-3, Problem on Analysis of Variance of two-way classified data for fixed effect model)
9	Regression analysis and related theorems
10	Practical (Exercises no.-4, Problem on Analysis of Variance of two-way classified data with m observations per cell for fixed effect model)
11	Estimation and testing in case of simple regression models
12	Practical (Exercise no.- 5 , Problem on testing in case of simple regression model & Polynomial regression model)
12	Estimation and testing in case of linearity of simple regression model & Polynomial regression model
13	Practical(Exercise no.- 6 , Problem on testing in case of linearity simple regression model & Polynomial regression model)
14	Testing in case of multiple regression model
15	Practical(Exercise no.- 7 , Problem on testing in case Of multiple regression model)
16	Tests for parallelism and identity

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17	Practical (Exercise no.- 8 , Problem on testing in case of Tests for parallelism and identity)
18	Model checking , homoscedastic model & hetroscedastic model
19	Multicolinearty , prediction from a fitted model
20	Practical (Exercise no.- 9 , Problem on Model checking)

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DEPARTMENT OF

TEACHING PLAN FOR SEMESTER 5

NAME OF FACULTY : Sankha Bhattacharya
PAPER : Statistical Quality Control
LECTURES ALLOTED: 60
ALLOTED SYLLABUS:

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1.	Defn of Quality, Product control, Process control
2.	Statistical Process control - Seven tools of SPC
3.	Rational Subgroups
4.	Shewharts' Control chart technique
5.	$\bar{x}$, R, S chart
6.	np, p, & chart
TOPIC/SUBTOPIC:	
7.	c chart
8.	Analysis of patterns on control chart
9.	Estimation of process capability
10)	product control, Acceptance sampling plan,

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11.	Sing Cc, sampling plan, OC, AGL, LTPD
12)	OC, AOQL, ASN, ATI functions
13)	Double sampling plan - OC, AOQL
14)	LTPD, AOQ, ASN, ATI
15)	Introduction and Overview of Six. Sigma,
16)	Lean Manufacturing and TQM,
17)	ISO ~~quality~~ quality standards.

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NAME OF FACULTY : SHIRSENDU MUKHERJEE

PAPER : CC11

UNIT: 1,4

LECTURES ALLOTED: 20

ALLOTED SYLLABUS:

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction to large Sample Theory
2	Convergence in probability and WLLN
3	Convergence in distribution and CLT
4	Convergence in mean square and Slutsky's theorems
5	Bivariate CLT and Delta method
6	Asymptotic distribution of sample moments
TOPIC/SUBTOPIC:	
7	Asymptotic distribution of sample skewness and kurtosis coefficients
8	Asymptotic distribution of sample correlation coefficient
9	Asymptotic distribution of sample quantile

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10	Variance stabilizing transformations
11	Applications of variance stabilizing transformations
12	Large sample tests related to Binomial and Poisson populations
13	Asymptotic distribution of Pearsonian Chi-square statistic
14	Uses of Pearsonian Chi-square statistic
15	Practical problems

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DEPARTMENT OF

TEACHING PLAN FOR SEMESTER

NAME OF FACULTY : SHIRSENDU MUKHERJEE

PAPER : DSE-B

UNIT: 1,2

LECTURES ALLOTED: 24

ALLOTED SYLLABUS:

TOPIC/SUBTOPIC:	
LEC. NO.	PROPOSED TOPIC(S) TO BE TAUGHT
1	Introduction and Historical Background, Phases of Operations Research, model building, various types of O.R. problems.
2	Linear Programming Problem, Requirements of LPP, Mathematical Formulation of LPP.
3	Graphical Methods to Solve Linear Programming Problems.
4	Convex sets and related results

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5	Extreme points and related results
6	Simplex method for solving L.P.P.
7	Charne's M-technique for solving L.P.P. involving artificial variables.
8	Special cases of L.P.P.
9	Concept of Duality in L.P.P: Dual simplex method.
10	Practical problems

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