Government college Aharwala, Bilaspur(Yamuna Nagar)

Lession Plan for the Session 2021-22 (Even Semester

Name and Designation: Mohinder (Assistant Professor of Mathematics)

Class: BA/ B.Sc IInd sem

Subject: Vector calculus

Month	Week	Topics of the Lecture
April 2022	**II week**	Review chapter , Multiple product of vectors
	III week	Continued
	IV week	Differentiation of vectors
May 2022	**I week**	Continued
	II week	Gradient, divergence and curl
	III week	Continued
	IV week	Continued
June 2022	**I week**	Vector integration
	II week	Continued
	III week	Gauss's, green's and stoke's theorems
	IV week	Continued
July 2022	**I week**	Curvilinear Co-ordinates
	II week	Continued

Government college Aharwala, Bilaspur(Yamuna Nagar)

Lession Plan for the Session 2021-22 (Even Semester)

Name and Designation: Mohinder,   Assistant Professor of Mathematics

Class : BA IVth sem   Subject: Sequence & Series

Month	Week	Topics of the Lecture
April, 2022	II week	Introduction of sets and some basic definitions, least upper bound and theorems, examples
	III week	Greatest lower bound, Archimedean property of real and some theorems, neighborhood of a point, interior of a set and its related examples
	IV week	open and closed sets and their related theorems, Limit points and its properties, theorems, Bolzano weierstrass theorem
May, 2022	I week	Examples, compact sets, Heine-Borel theorem and its converse
	II week	Sequence and other definitions, convergent sequence and theorems, examples , basic theorems on limits
	III week	Cauchy's 1st theorem on limits, examples ,Cauchy's 2nd theorem
	IV week	Monotone convergence theorem and other theorems ,limit point and theorems, examples
June, 2022	I week	Infinite series, examples, Cauchy's theorem on limit, basic theorem and results
	II week	p series test , Comparison tests and theorems, ratio test
	III week	Cauchy's root test and others test on convergence or divergence , other tests on convergence test
	IV week	Assignment, Alternating series, leibnitz's theorems and related examples, Riemann's rearrangement theorem and its examples, multiplication of two series
July, 2022	I week	Abel's lemma test, dirichlet's test and their related examples
	II week	Cauchy product, product theorems, Abel's theorems and its examples, infinite product and examples, absolute convergence

Government college Aharwala, Bilaspur(Yamuna Nagar)

Lession Plan for the Session 2021-22 (Even Semester)

Name and Designation: Mohinder, Assistant Professor of Mathematics

Class : B.A VIth sem

Subject: Linear Algebra

Month	Week	Topics of the Lecture
April, 2022	I week	Definition of vector space and its examples, Theorems , subspace and its examples
	II week	Linear combination, linear dependent and independence and its examples, linear span, Theorems related to Spanning Sets and examples
	III week	Basis , Existence & Extension theorem, examples and theorems
	IV week	Quotient space ,examples, linear transformation and its properties, Examples ,transformation and theorems, examples
May, 2022	I week	Rank and nullity and theorems, examples, fundamental theorem
	II week	Theorems, examples algebra of linear transformation and its theorems, singular and non-singular transformation ,theorems, examples
	III week	Invertible linear transformation and its examples , theorems, Matrix of a linear transformation and its examples
	IV & V week	Theorems on basis and on inner product spaces and theorems , Normed linear space, examples dual spaces examples,
June, 2022	I week	Gram-schmidt orthogonalization process , theorems and examples
	II week	Linear operator and adjoint operator and theorems

Government college Aharwala, Bilaspur(Yamuna Nagar)
Lession Plan for the Session 2021-22 (Even Semester)

Name and Designation: Mohinder,   Assistant Professor of Mathematics

Class : Bca ll sem   Subject: Elements of mathematical foundations –ll

Month	Week	Topics of the Lecture
April, 2022	I week	Matrices
	II week	Continued
	III week	Rank of matrix
	IV week	Continued
May, 2022	I week	Application of matrices to solution of system of linear equations
	II week	Continued
	III week	Continued
	IV week	Characteristics equation of a matrix
June, 2022	I week	Continued
	II week	Groups
	III week	Rings, fields and ideals
	IV week	Continued
July, 2022	I week	Principle of mathematical induction
	II week	logical statements and truth tables

Government college Aharwala, Bilaspur(Yamuna Nagar)

Lession Plan for the Session 2021-22 (Even Semester)

Name and Designation: Mohinder,   Assistant Professor of Mathematics

Class : BCA lV sem

Subject: COMPUTER-ORIENTED STATISTICAL METHODS

Month	Week	Topics of the Lecture
April, 2022	I week	Preparing Frequency Distribution Table and Cumulative frequency, Measure of Central Tendency, Types: Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode.
	II week	Measure of Dispersion: Range, Quartile Deviation, mean deviation, Coefficient of mean Deviation, Standard Deviation Moments: Moments About mean, Moments about any point, Moment about origin, Moment about mean in terms of moment about any point, Moment about any point in terms of Moment about mean.
	III week	Probability Distribution: Random Variable- Discrete Random and Continuous Random variable, Probability Distribution of a Random Variable
	IV week	Mathematical Expectation, Types: Binomial, Poisson, Normal Distribution, Mean and Variance of Binomial, Poisson, and Normal Distribution.
May, 2022	I week	Correlation: Introduction, Types, Properties, Methods of Correlation: Karl Pearson's Coefficient of Correlation, Rank Correlation and Concurrent Deviation method, Probable error. Regression: Introduction, Aim of Regression Analysis
	II week	Types of Regression Analysis, Lines of Regression, Properties of Regression Coefficient and Regression Lines, Comparison with Correlation.
	III week	Curve Fitting: Straight Line, Parabolic curve, Geometric Curve and Exponential Curve
	IV week	Baye's Theorem in Decision Making, Forecasting Techniques
June,2022	I week	Sample introduction, Sampling: Meaning, methods of Sampling
	II week	Statistical Inference: Test of Hypothesis, Types of hypothesis, Procedure of hypothesis Testing
	III week	Type I and Type II error, One Tailed and two tailed Test, Types of test of Significance:
	IV week	Test of significance for Attribute-Test of No. of success and test of proportion of success
July, 2022	I week	Test of significance for large samples - Test of significance for single mean and Difference of mean, Test of significance for small samples
	II week	(t-test) – test the significance between the mean of a random sample, between the mean of two independent samples

Government college Aharwala, Bilaspur(Yamuna Nagar)

Lession Plan for the Session 2021-22 (Even Semester)

Name and Designation: Mohinder,   Assistant Professor of Mathematics

Class : B.com IInd sem   Subject: Business mathematics

Month	Week	Topics of the Lecture
April, 2022	I week	Factorial notation and examples ,fundamental principles of counting
	II week	Permutation ,examples, repeated permutation and questions
	III week	Circular permutations , combinations and examples , practical problems
	IV week	Repeated combination and questions + +test Binomial theorem and its questions. + assignment
May, 2022	I week	Linear inequalities : intro and graphical method and its solution
	II week	Isocost method and its related questions + test
	III week	Linear programming : introduction , formulation of equations , graphical method
	IV week	Pproblem + problems related ro two varibles including the case of mixed constraints, Questions related to case having so solution multiple solutions
June, 2022	I week	Unbounded solutions, redundant solutions and its qs
	II week	Data represtation and interpretation , tabulation of data +test
	III week	Represtation of data , significance of diagrams and problems,
	IV week	Assignment, types of diagrams and its questions, graph of time series
July, 2022	I week	Test+ graph of line graph and frequency distribution and its questions
	II week	Histogram , frequency polygon and cummulative frquency curve and its questions, + +limiations of diagrams and graphs