

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher :- PARVEEN
 Designation: ASSISTANT PROFESSOR
 Subject: MATHEMATICS (LINEAR ALGEBRA)
 Class: B.sc N.M & B.A 6th Sem.

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|--|--|
| 1 | April | Vector spaces, subspaces, Sum and Direct sum of subspaces, Linear span, Linear Independent and dependent subsets of a vector space. Finitely generated vector space, Existence theorem for basis of a finitely generated vector space, Finite dimensional vector space Invariance of the number of elements of basis sets, Dimensions, Quotient space and its dimension. | Assignments will be taken on Vector space and subspaces. |
| 2 | May | Homomorphism and isomorphism of vector spaces, Linear transformations and forms on vector spaces, Vector space of all the linear transformations. Dual Spaces, B spaces, annihilator of subspaces of finite dimensional vector spaces. Null space, Range space of a linear transformation, Rank and Nullity Theorem. | Class test will be taken. |
| 3 | June | Algebra of Linear Transformation, Minimal Polynomial of a linear transformation T and non-singular linear transformations, Matrix of a linear transformation. Change Eigen values and Eigen vectors of linear transformations. | Group discussion will be done. |
| 4 | July | Inner product spaces, Cauchy-Schwarz inequality, Orthogonal vectors, Orth complements, Orthogonal sets and Basis, Bessel's inequality for finite dimensional vector Gram-Schmidt Orthogonalization process, Adjoint of a linear transformation and its properties. Unitary linear transformations. | Revision will be done. |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

P.T.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher :- PARVEEN

Designation: ASSISTANT PROFESSOR

Subject: MATHEMATICS (PROGRAMMING IN C & NUMERICAL METHODS)

Class: B.sc N.M & B.A 4th Sem.

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|---|--|
| 1 | April | Solution of algebraic and Transcendental equations: Bisection method, Regula-Falsi method, Secant method, Newton-Raphson's method. Newton's iterative method for finding pth root of a number. Order of convergence of above methods. | Assignment will be taken on Numerical Methods. |
| 2 | May | Simultaneous linear algebraic equations: Gauss-elimination method, Gauss-Jordan method, Triangularization method (LU decomposition method). Crout's method, Cholesky decomposition method. Iterative method, Jacobi's method, Gauss-Seidel's method, Relaxation | Class test will be taken. |
| 3 | June | Programmer's model of a computer. Algorithms. Flow Charts. Data Types, Operators and expressions, Input/outputs functions. Decisions control structure: Decision statements, Logical and conditional statements, Implementation of Loops, Switch Statement and Case control structures. Functions, Preprocessors and Arrays. | Group discussion will be done . |
| 4 | July | Strings: Character data type, Standard string handling functions, Arithmetic operations on characters, Structures: Definition, using structures, use of structures in arrays and arrays in structures. Pointers: Pointers data type, Pointers and arrays, Pointers and functions. | Revision will be done . |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.



I.G. Govt College for Women
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Session - Plan (Session 2021-22) Even Semester

Name of teacher Kusum Devi

Subject Mathematics (Computer oriented Statistical Methods)

Class B.C.A. 4th sem

| Sr No. | Months | Topics to be covered |
|--------|--------|--|
| 1 | April | Probability: Probability Rules, Random variable and probability Functions, Expected values, Bivariate Expected values. Data, Data Types, Sources of Data, Data summarization, central Tendency, variance, standard Deviation, Correlation Analysis: Correlation Coefficient and Rank Correlation, Linear Regression, Weighted Least square Regression, Log Linear Regression. |
| 2 | May | Sampling, Simple Random Sampling, Systematic Sampling, stratified Sampling, Cluster Sampling, Quota Sampling, Methods of producing Random Sampling, Minimax Sampling, Line Intercept Sampling, Panel Sampling, Snow ball Sampling, Random walk Monte Carlo Methods, Training based Markov Chain Monte Carlo Methods, Sample Size Determination, Sampling and Data Collection, Sampling Errors and Biases, Non sampling Errors. |

Lesson

Name: Suman Devi
 Class: B.A. First Year
 Subject: Sociology (S)
 Lesson plan from 1st A

- Name of Month
- April
 - General
 - Meaning
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| 3 | June | statistical Interference Parameters and likelihood Point Estimation: Bias, of Moment, Least square, weighted least square, Maximum likelihood. Interval Estimation: Confidence Intervals, Single sample Interval for Gaussian Parameters, Two sample interval for Gaussian Parameters, wald intervals, Likelihood Internals, Delta Method Internals, Bootstrap internals. |
| 4 | July | Testing Hypothesis: T-Test, F-Test, chi-square test, one way Anova, Two-way Anova, Single sample Test for Gaussian Parameters, Two samples Test for Gaussian Parameters, wald test, likelihood Ratio. test |

* vacation as per university calendar,
 * Assignment and of unit test will be taken as per schedule.

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 Final.
 Plan
 of
 subject

Interference, Estimation, Least Square, Maximum Likelihood, Bias, Mean

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- Plan (session 2021-22) Even Semester

Name of teacher Kusum Devi

Subject Mathematics (vector calculus)

Class: B.Sc (Part ~~2~~ N.M)

| Subject / paper Sr No. | Months | Topics to be covered |
|---------------------------|--------|--|
| 1 | April | Scalar and vector product of three vectors, product of four vectors, reciprocal vectors. Vector differentiation, scalar and vector valued point function, derivative along a curve, directional derivatives |
| | May | Gradient of a scalar point function, geometrical interpretation of grad phi, character of gradient as a point function, characters of divergence of vector \vec{f} and curl of vector \vec{f} as point function, examples. Gradient, divergence and curl of sum and product and their related vector identities. Laplacian operator. |
| 3 | June | Orthogonal curvilinear co-ordinates condition for orthogonality. Fundamental triad of mutually orthogonal unit vectors. Gradient divergence curl and Laplacian- |

Department
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| Sr No. | Months | Topic to be covered |
|--------|--------|---|
| 3 | June | operator in terms of curvilinear co-ordinates cylindrical co-ordinates spherical co-ordinates. |
| 4 | July | vector integration, line integral, surface integral, volume integral. Theorem of Gauss, Green, Stokes and problems based on these. |

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Plan (Session 20-21)
Name of teacher
Subject Mathem
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- * vacation as per university calendar
- * 2 Assignment and 01 unit test will be taken as per schedule

Govt College for women.

Final

Lesson Plan (Session 20-21) Even semester

Name of teacher Kusum Devi

Subject Mathematics (Linear Algebra)

Class : B.Sc (Final C.S)

| Subject No. | Months | Topics to be covered |
|-------------|--------|--|
| 1 | April | vector spaces, subspaces, sum and direct sum of subspaces, linear span, linear independent and dependent subset of a vector space, finitely generated vector space, finite dimensional vector space, invariance of the number of elements of basis set, dimensions, Quotient space and its dimension. |
| 2 | May | Homomorphism and isomorphism of vector spaces, linear transformations and forms on vector spaces, vector space of all the linear transformations. Dual spaces, θ spaces, annihilator of subspaces of finite dimensional vector spaces, Null space, Range space, linear transformation. Change Eigen values and Eigen vectors of linear transformations. |

Lesson plan from

1st Year (Sociology Society, from 1st April 2020)

General Introduction
 Meaning and definition of Sociology
 Geographical distribution and characteristics
 Economic and social changes
 Theories of the social structure
 Difference between sociology and anthropology
 Characteristics of sociology
 Concept of urbanization
 Changing trend in urbanization
 Relation to other social sciences
 Definition of sociology
 Relation to other social sciences
 Characteristics of sociology
 Definition of sociology
 Relation to other social sciences

| Sl. No. | Topic | Month/Time | Topics to be covered |
|---------|-------|------------|---|
| 1 | Study | | Algebra of Linear transformations, Minimal polynomial of linear transformation & non-linear transformation, Eigen values and Eigen vectors of linear transformations. |
| 2 | | | Inner product spaces, Cauchy-Schwarz inequality, Orthogonal vectors, Orthogonal complements, Orthogonal sets and basis, Bessel's inequality for finite dimensional vectors Gram-Schmidt orthogonalization process, Adjoint of a linear transformation and its properties, Unitary linear transformations. |

- * vacation as per University calendar.
- * 3 Assignments and 01 Unit test will be taken as per schedule.

Govt College
 Lesson Plan
 Name of subject
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 Subject

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 Eigen vectors

G. Govt College for Women
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Lesson Plan (Session 20-20-21) Even Semester

Name of teacher - Karam Devi

Subject :- Mathematics (Business Mathematics)

Class :- B.Com (1st Sem) Sec. A)

| Subject Sr. No. | Months | Topics to be covered |
|--------------------|----------|--|
| 1 | April | Permutations and Combinations Binomial Theorem. |
| 2 | May | Linear Inequalities in two variables. Linear Programming. |
| 3 | June | Data - Introduction, Classification and Tabulation Diagrammatic Representation of Data. |
| 4 | July | Graphical Representation of Data, Data Interpretation. |
| * * | Vacation | as per university calendar, & Assignment and or test will be taken as per schedule. |

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
 LESSON-PLAN (Session 2021-2022) EVEN SEMESTER

Name of Teacher: Apoorva Sharma

Designation: Assistant Professor

Subject: Sequences and Series

Class: B.Sc N.M. And B.Sc C.S. 4th sem

| Subject/Paper : Sr. No. | Months | Topics to be covered | Remarks if any, |
|-------------------------|--------|--|------------------|
| 1 | April | Boundedness of the set of real numbers, least upper bound, greatest lower bound of a set neighbourhood, interior points, isolated points, limit points, open sets, closed set, interior of a set, closure of a set in real numbers and their properties. Bolzano-weirstrass theorem . open covers. compact sets and Heine-Borel theorem. | group discussion |
| 2 | May | Real sequences and their convergence, theorems on limits of sequence, bounded and monotonic sequences, Cauchy's sequence, Cauchy's general principle of convergence, subsequences, subsequential limits. convergence and divergence of infinite series, comparison test of positive terms in finite series, Cauchy's general principle of convergence of series, convergence and divergence of geometric series. Hyper harmonic series and p series. | Assignment |
| 3 | June | DAlembert's ratio test, Raabes test, Logarithmic test ,de Morgan and Bertrand's test, Cauchy's nth root test, Gauss test, Cauchy's integral test. Cauchy's condensation test. Leibnitz's test, absolute and conditional convergence. | Unit Test |
| 4 | July | Arbitrary series: Abel's lemma, Abel's test, Dirichlet's test, insertion and removal of Parantheses , rearrangement of terms in a series, Dirichlets theorem, Riemaan's rearrangement theorem. Multiplication of series, Cauchy product of series, convergence and absolute convergence of infinite products. | Revision |

Apoorva

P.I.G.GOV.T.COLLEGE FOR WOMEN, JIND LESSON-PLAN

(Session 2021-22) EVEN SEMESTER

Name of Teacher: APOORVA SHARMA

Designation: ASSISTANT PROFESSOR

Subject: REAL & COMPLEX ANALYSIS

Class: BA and B.Sc N.M. 6th Sem

| Subject/Paper : Sr. No. | Months | Topics to be covered | Remarks if any, |
|-------------------------|--------|---|------------------|
| 1 | April | Jacobians, Beta and Gama functions, Double and Triple integrals, Dirichlets integrals, change of order of integration in double integrals. | Group discussion |
| 2 | May | Fourier's series: Fourier expansion of piecewise monotonic functions, Properties of Fourier Coefficients, Dirichlet's conditions, Parseval's identity for Fourier series, Fourier series for even and odd functions, Half range series, Change of Intervals . Extended Complex Plane, Stereographic projection of complex numbers. | ASSIGNMENT |
| 3 | June | Continuity and differentiability of complex functions, Analytic functions, Cauchy-Riemann equations. Harmonic functions. Mappings by elementary functions: Translation, rotation, Magnification and Inversion. | UNIT TEST |
| 4 | July | Conformal Mappings, Mobius transformations. Fixed points, Cross ratio, Inverse Points and critical mappings. | REVISION |

Apoorva

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher: Manisha Devi
Designation: Assistant professor
Subject: Dynamics
Class: B.A.Final

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|---|-----------------|
| 1 | April | Velocity and acceleration along radial, transverse, tangential and normal directions. Relative velocity and acceleration. Simple harmonic motion. Elastic strings. | |
| 2 | Mayr | Mass, Momentum and Force. Newton's laws of motion. Work, Power and Energy. Definitions of Conservative forces and Impulsive forces. | |
| 3 | June | Motion on smooth and rough plane curves. Projectile motion of a particle in a plane. Vector angular velocity. | |
| 4 | Julyl | General motion of a rigid body Central Orbits, Kepler's laws of motion. Motion of a particle in three dimensions. Acceleration in terms of different co-ordinate systems. | |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

Manisha

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-2022) Even SEMESTER

Name of Teacher: Manisha Devi
 Designation: Assistant professor
 Subject Ordinary Differential Equation
 Class: B.A 2nd sem, B.Sc.(C.S.)2nd sem

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|--|-------------------|
| 1 | April | Exact Differential Equation , Homogeneous exact differential equations and non homogeneous differential equation, Differential Equations of first order but not of first degree ,Lagrange equation ,clairaut equation , singular solution. | |
| 2 | May | Orthogonal trajectories In Cartesian Coordinates and polar Coordinates.Linear differential Equation With Constant Coefficient,Homogeneous Ordinary Differential Equation. | First assignment |
| 3 | June | LinearDifferential Equation Of Second Order.Reduction To Normal Form.Transformation Of theequation by changing the dependent variable.Method Of Variations Of Parameters.Method Of Undetermined Coefficients. | Unit test |
| 4 | July | Ordinary Simultaneous differential equation.Total Differential Equation.General Method Of Solving $Pdx + Qdy + Rdz = 0$ by Taking One Variable Constant.Method Of auxiliary Equation. | Second Assignment |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

Manisha

PiG. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) Even SEMESTER

Name of Teacher: Manisha Devi
Designation: assistant professor
Subject: Business Mathematics
Class: B.Com Second sem. Sec C

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|--|-------------------|
| 1 | April | Permutations and combinations Binomial theorem | |
| 2 | May | Linear inequalities in two variables Linear programming | First assignment |
| 3 | June | Data - introduction, classification and tabulation Diagramatic representation of data | Unit test |
| 4 | July | .Graphical representation of data Data interpretation | Second Assignment |

*Vacation as per university calendar
2 assignments and 01 unit test will be taken as per schedule.

Manisha

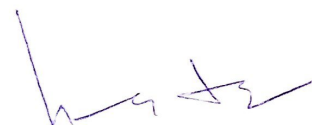
P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher: Jitender Sharma
Designation: Associate professor (mathematics)
Subject: practical programming in C and numerical method
Class: B.Sc C.S 4th sem

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any; |
|------------------------|--------|---|-----------------|
| 1 | April | Basic programs depending in on programming in C like sum of two numbers, to find the area of circle ,to find the area of triangle and programs like compound interest ,greatest among three numbers and to check whether a number is prime or not such type of programs are to be covered in this month. | Practice |
| 2 | May | In this month programs which has operators and expressions, programs like area of triangle, to interchange the value of two variables, program to calculate compound interest are to be covered. In desicion control structure the programs like, to find the range of a number to find a leap year and if statements are to be covered beside this depending on the loop programs are to be covered like program to display table of input numbers, program to display a list of number are to be covered. | Practice |
| 3 | June | In this month programs based on numerical method are to be covered like bisection method, regula falsi method, Newton raphson method, gauss elimination method, gauss Jordan method, triangularization method crout's method etc. | Practice |
| 4 | July | Revision | Practice |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.



**P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER**

Name of Teacher: Jitender Sharma
 Designation: Associate professor (mathematics)
 Subject: practical programming in C and numerical method
 Class: B.Sc N.M 4th sem

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|------------------------|--------|---|-----------------|
| 1 | April | Basic programs depending in on programming in C like sum of two numbers, to find the area of circle ,to find the area of triangle and programs like compound interest ,greatest among three numbers and to check whether a number is prime or not such type of programs are to be covered in this month. | Practice |
| 2 | May | In this month programs which has operators and expressions, programs like area of triangle, to interchange the value of two variables, program to calculate compound interest are to be covered. In desicion control structure the programs like, to find the range of a number to find a leap year and if statements are to be covered beside this depending on the loop programs are to be covered like program to display table of input numbers, program to display a list of number are to be covered. | Practice |
| 3 | June | In this month programs based on numerical method are to be covered like bisection method, regula falsi method, Newton raphson method gausselimination method, gauss Jordan method, triangularization method crout's method etc. | Practice |
| 4 | July | Revision | Practice |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

Jitender Sharma

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher:
Designation:
Subject:
Class:

Mr. Jitender Sharma
Associate Professor
Maths(business mathematics)
B.Com I(H) sem 2nd

| Subject/Paper: Sr. No. | Month | Topics to be covered | Remarks if any, |
|------------------------------|-------|---|-----------------|
| 1 | April | Permutation and Combination, Binomial Theorem | |
| 2 | May | Linear inequalities in two variables, Linear programming, Data Introduction | |
| 3 | June | Classification and Tabulation, Diagramatic Representation of Data, Graphical Representation of Data - | |
| 4 | July | Data Interpretation, Revision | |

- *Vacation as per university calendar
- 2 assignments and 01 unit test will be taken as per schedule.

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher:
Designation:
Subject:
Class:

Mr. Jitender Sharma
Associate Professor
Maths(business mathematics)
B.Com Ist (B) sem 2nd

| Subject/Paper: Sr. No. | Month | Topics to be covered | Remarks if any, |
|------------------------------|-------|--|-----------------|
| 1 | April | Permutation and Combination, Binomial Theorem | |
| 2 | May | Linear inequalities in two variables, Linear programming, Data Introduction | |
| 3 | June | Classification and Tabulation, Diagramatic Representation of Data, Graphical Representation of Data | |
| 4 | July | Data Interpretation, Revision | |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.



P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher: Alpana Sharma

Designation: Assistant professor

Subject: Dynamics

Class: Bsc 6th sem (NM)

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|---|-----------------|
| 1 | April | Velocity and acceleration along radial, transverse, tangential and normal directions. Relative velocity and acceleration. Simple harmonic motion. Elastic strings. | |
| 2 | May | Mass, Momentum and Force. Newton's laws of motion. Work, Power and Energy. Definitions of Conservative forces and Impulsive forces. | |
| 3 | June | Motion on smooth and rough plane curves. Projectile motion of a particle in a plane. Vector angular velocity. | |
| 4 | July | General motion of a rigid body Central Orbits, Kepler's laws of motion. Motion of a particle in three dimensions. Acceleration in terms of different co-ordinate systems. | |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

Alpana

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-2022) EVEN SEMESTER

Name of Teacher: Alpana Sharma
 Designation: Assistant Professor
 Subject: Sequences and Series
 Class: B.A. 4th sem

| Subject/Paper : Sr. No. | Months | Topics to be covered | Remarks if any, |
|-------------------------|--------|--|------------------|
| 1 | April | Boundedness of the set of real numbers, least upper bound, greatest lower bound of a set neighbourhood, interior points, isolated points, limit points, open sets, closed set, interior of a set, closure of a set in real numbers and their properties. Bolzano-weirstrass theorem . open covers. compact sets and Heine-Borel theorem. | group discussion |
| 2 | May | Real sequences and their convergence, theorems on limits of sequence, bounded and monotonic sequences, Cauchy's sequence, Cauchy's general principle of convergence, subsequences, subsequential limits. convergence and divergence of infinite series, comparison test of positive terms in finite series, Cauchy's general principle of convergence of series, convergence and divergence of geometric series. Hyper harmonic series and p series. | Assignment |
| 3 | June | DAlembert's ratio test, Raabes test, Logarithmic test ,de Morgan and Bertrand's test, Cauchy's nth root test, Gauss test, Cauchy's integral test. Cauchy's condensation test. Leibnitz's test, absolute and conditional convergence. | Unit Test |
| 4 | July | Arbitrary series: Abel's lemma, Abel's test, Dirichlet's test, insertion and removal of Parantheses , rearrangement of terms in a series, Dirichlets theorem, Riemaan's rearrangement theorem. Multiplication of series, Cauchy product of series, convergence and absolute convergence of infinite products. | Revision |

*Vacation as per university calendar

Alpana

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher **Vikram Gupta**
 Designation: **ASSISTANT PROFESSOR**
 Subject: **MATHEMATICS(VECTOR CALCULUS)**
 Class: **B.sc (1stCS)& BA 1**

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|---|-----------------|
| 1 | April | Scalar and vector product of three vectors, product of four vectors, reciprocal vectors. Vector differentiation, scalar and vector valued point functions, derivative along a curve, directional derivatives. | |
| 2 | May | Gradient of a scalar point function, geometrical interpretation of grad phi, character of gradient as a point function. Divergence and curl of vector point function, characters of divergence of vector f and curl of vector f as point function, examples. Gradient, divergence and curl of sums and product and their related vector identities. Laplacian operator. | |
| 3 | June | Orthogonal curvilinear co-ordinates. condition for orthogonality. fundamental triad of mutually orthogonal unit vectors. gradient divergence curl and laplacian operator in terms of orthogonal curvilinear co-ordinates, cylindrical co-ordinates, spherical co-ordinates. | |
| 4 | July | Vector integration, line integral, surface integral, volume integral. theorem of Gauss, Green, Stokes and problems based on these. | |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

Vikram Gupta

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher: Vikram Gupta

Designation: Assistant professor

Subject: Dynamics

Class: BscFinal (CS)

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|---|-----------------|
| 1 | April | Velocity and acceleration along radial, transverse, tangential and normal directions. Relative velocity and acceleration. Simple harmonic motion. Elastic strings. | |
| 2 | Mayr | Mass, Momentum and Force. Newton's laws of motion. Work, Power and Energy. Definitions of Conservative forces and Impulsive forces. | |
| 3 | June | Motion on smooth and rough plane curves. Projectile motion of a particle in a plane. Vector angular velocity. | |
| 4 | July | General motion of a rigid body Central Orbits, Kepler's laws of motion. Motion of a particle in three dimensions. Acceleration in terms of different co-ordinate systems. | |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

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P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher: VIKRAM GUPTA

Designation: ASSISTANT PROFESSOR

Subject: MATHEMATICS (NUMBER THEORY AND TRIGONOMETRY)

Class: BSC 1ST (CS)

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|---|-----------------|
| 1 | June | Divisibility ,GCD ,LCM,PRIMES, fundamental theorem of arithmetic , linear congruence ,fermat theorem ,Wilson theorem and its converse ,LinearDiophantine equation in two variable | |
| 2 | July | Complete residue system and reduced residue system modulo m,Euler function,Euler's generalization of fermat's theorem,Chinese remainder theorem ,Quadratic residue , Greatest integer function , Divisor function , Summation function , Mobius function and Mobius inversion formula | |
| 3 | April | De moivres theorem and its application Expansion of trigonometric functions , Direct circular and hyperbolic functions and its properties | |
| 4 | May | Inverse circular and hyperbolic functions and their properties , Logarithm of a complex quantity Geogory series , Summation of trigonometric series | |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

Vikram Gupta

P.I.G.GOV.T.COLLEGE FOR WOMEN, JIND LESSON-PLAN
 (Session 2021-22) EVEN SEMESTER

Name of Teacher: SONU KANSAL

Designation: EXTENSION LECTURER

Subject: REAL & COMPLEX ANALYSIS

Class: B.Sc (CS) SEM 6th

| Subject/Paper : Sr. No. | Months | Topics to be covered | Remarks if any, |
|-------------------------|--------|---|------------------|
| 1 | April | Jacobians, Beta and Gama functions, Double and Triple integrals, Dirichlets integrals, change of order of integration in double integrals. | Group discussion |
| 2 | May | Fourier's series: Fourier expansion of piecewise monotonic functions, Properties of Fourier Coefficients, Dirichlet's conditions, Parseval's identity for Fourier series, Fourier series for even and odd functions, Half range series, Change of Intervals . Extended Complex Plane, Stereographic projection of complex numbers. | ASSIGNMENT-1 |
| 3 | June | Continuity and differentiability of complex functions, Analytic functions, Cauchy-Riemann equations. Harmonic functions. Mappings by elementary functions: Translation, rotation, Magnification and Inversion. | UNIT TEST |
| 4 | July | Conformal Mappings, Mobius transformations. Fixed points, Cross ratio, Inverse Points and critical mappings. | REVISION |

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P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher: SONU KANSAL

Designation EXTENSION LECTURER

Subject: MATHEMATICS (NUMBER THEORY AND TRIGONOMETRY)

Class: BSC 1ST (NM) & B.A 1ST

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|---|-----------------|
| 1 | April | Divisibility ,GCD ,LCM,PRIMES, fundamental theorem of arithmetic , linear congruence ,fermat theorem ,Wilson theorem and its converse ,LinearDiophantine equation in two variable | |
| 2 | May | Complete residue system and reduced residue system modulo m,Euler function,Euler's generalization of fermat's theorem,Chinese remainder theorem ,Quadratic residue , Greatest integer function , Divisor function , Summation function , Mobius function and Mobius inversion formula | |
| 3 | June | De moivres theorem and its application Expansion of trigonometric functions , Direct circular and hyperbolic functions and its properties | |
| 4 | July | Inverse circular and hyperbolic functions and their properties , Logarithm of a complex quantity Geogory series , Summation of trigonometric series | |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

Sonu

P.I.G. GOVT. COLLEGE FOR WOMEN, JIND
LESSON-PLAN (Session 2021-22) EVEN SEMESTER

Name of Teacher: Sonu Kansal

Designation: Extension Lecturer

Subject: mathematics (Special functions and Integral transform)

Class: B.A. 4th Sem

| Subject/Paper: Sr. No. | Months | Topics to be covered | Remarks if any, |
|---------------------------|--------|--|-----------------|
| 1 | Jan. | Definition of Beta and gamma functions. Laplace transform, existence theorem for Laplace transform, linear property of Laplace transform ,shifting theorems ,Laplace transform of derivatives and integrals, convolution theorem, inverse Laplace transform of derivatives and integrals, solution of ordinary differential equation using Laplace transform | |
| 2 | Feb. | Fourier transform, linear property, shifting modulation ,convolution theorem, fourier transform of derivative, relation between fourier transform and Laplace transform, parseval identity for fourier transform ,solution of differential equation using fourier transform | |
| 3 | March | Series solution of differential equation, power series method ,Bessel equation and its solution Bessel function and its properties, recurrence relation and generating function ,orthogonality of bessel function | |
| 4 | April | Legendre and hermite differential equation and its solution, legendre and hermite functions and their properties,Recurrence relation and generating function, Orthogonality of legendre and hermite polynomial, Rodrigue formula for legendre and hermite polynomial, Integral representation of legendre polynomial | |

*Vacation as per university calendar

- 2 assignments and 01 unit test will be taken as per schedule.

Sony