

KVA DAV College for Women, Karnal

Lesson plan for the Even semester

(April, 2022 to June, 2022)

Name of the Teacher – MS. SILKY PURI

Subject- MATHS

Paper- NUMBER THEORY AND TRIGNOMETRY(BM-121)

Class- B.SC/B.A.I(SEM –II)

April, 2022 2 nd Week 4April -9 April	ODD SEM EXAM
10 April, 2022	Sunday
3 rd Week 11 April-16 April	Introduction to number theory:introduction to principle of mathematical induction,related examples.definition of divisibility and related theorems and results.division algorithm.definition of greatest common divisor and least common multiple.some theorems on G.CD. and L.C.M.
14 April, 2022 17 April, 2022	Vaisakhi Sunday
4 th Week 18 April-23 April	GAUSS theorem and some related theorem.examples based on theorems.definition:unit,prime no.,composite no.co-prime,twin prime,perfect number,some theorems on prime numbers.Euclid first theorem,Euclid second theorem,fundamental theorem of arithmetic.
24April, 2022	Sunday
5 th Week 25 April -30April	Standard form of canonical form and some related theorems.congruences:definition of congruence and related theorems.examples based on congruence.linear congruence and related theorems.examples based on linear congruences.
1 May, 2022	Sunday
May 2022 1 st Week 2May -7 May	Linear Diophantine equations and related theorems and examples.Fermat's,Wilson's and Chinese remainder theorem.Discuss about examples and exercises.simultaneous linear congruences.EULER'S function and RESIDUE systems (mod m).
3 May , 2022 8May , 2022	Eid-ul-Fitr Sunday
2 nd Week 9 May -14 May	Residues ,least residues system,complete residue system,reduced residue systems,some theorems based on complete residue and reduced residue systems.euler's generalization of fermat's theorem and related examples.
15 May, 2022	Sunday
3 rd Week 16 May-21 May	Some functions of number theory:greatest integer function(bracket function),theorems on bracket function.De polignac's formula and related examples.divisor function of n ,sigma function of n,perfect no. and related theorems .mobius function,mobius formula,related examples.
22 May, 2022	Sunday

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Lesson plan for the Even semester

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Name of the Teacher – MS. SILKY PURI

Subject- MATHS

Paper- NUMBER THEORY AND TRIGNOMETRY(BM-121)

Class- B.SC/B.A.I(SEM –II)

May, 2022 4 th Week 23 May--28 May	Quadratic residues and quadratic reciprocity law:quadratic congruence and related theorems.quadratic residues and related theorems.legendre symbol and related theorems.gauss lemma and related theorems.examples based on gauss lemma .gauss reciprocity law and based examples.
29 May, 2022	Sunday
5 th Week 30 May -31 May	De moivre's theorem and its applications:examples and exercises based on de moivre's theorem .roots of a complex no.solutions of equations.expansions of trigonometry functions.formation of equations.circular functions of a complex variable:properties of exponential functions.periodicity of circular functions.
June 2022 1 st week 1 June - 4 June	Hyperbolic functions:periodicity of hyperbolic functions.relation between hyperbolic functions and circular functions.separate into real and imaginary parts of circular and hyperbolic functions.logarithm of a complex quantity:logarithm of complex,positive real and negative real number.
2 June, 2022 5 June, 2022	MaharanaPratapJayanti Sunday
2 nd Week 6 June –11 June	Law of logarithm for complex numbers and based examples.general exponential function,general logarithm function.inverse circular and inverse hyperbolic functions:general value and principle value,relation between inverse functions.inverse hyperbolic functions,general value and principle value.
12 June, 2022	Sunday
3 rd Week 13 June- 18 June	Inverse hyperbolic functions in terms of logarithms.gregory's series,another form of gregory's series,general value.evaluation of pi and related examples.summation of series:series of sines and cosines of angles which are in A.P.finding the sum of cosines of n angles when the angles are in A.P.
19 June, 2022	Sunday
4 th Week 20 June- 25June	Related examples and exercises to these topics.method of differences and related examples.C+iS method of summation.series depending upon the G.P.or the binomial series.series depending upon the exponential ,sine and cosine series.series depending on logarithmic series.summation of series depending upon tan inverse x.summation of series depending on hyperbolic series.
26 June, 2022	Sunday
5 th Week 27 June-30 June	Revision and tests.

Weekly Lesson Plan (Even Semester)

Name of the Paper:- Ordinary Differential Equations Class: B.Sc. First Year (2nd sem)

Name of the Teacher : Dr. Manju Sharma

WEEK	DATE	TOPICS
1	April (11-16)	Introduction to Differential Equations, Types of Differential Equations
		Formation of Differential Equations and Geometrical Meaning
		Theorems and Questions based on Formation of Differential Eq.
		Exact Differential Equations and Questions based on it
		Discussion of Problems
HOLIDAY - 14th APRIL (Dr. B.R. Ambedkar Jayanti /Mahavir Jayanti)		
SUNDAY - 17.04.2022		
2	April (18-23)	Introduction to Equations of First Order but not of First Degree
		Theorems based on Equations of First Order but not of First Degree
		Methods of solving Equations of First Order with degree higher than one
		Solution of Equations solvable for x
		Methods of solving equations solvable for y and problems based on it.
		Problem discussion
SUNDAY - 24.04.2022		
3	April (25-30)	Class Test
		Introduction to Lagrange's Equation and method for solving such Equations
		Introduction to Clairaut's Equation and method for solving such Equations
		Equations reducible to Clairaut's form and problems based on it
		Singular Solution, Discriminant, Questions related to p-Discriminant and c-Discriminant
		Discussion of Problems
SUNDAY - 01.05.2021		
4	May (2, 4-7)	Methods for finding Orthogonal Trajectories and Questions based on it
		Discussion of Problems
		Discussion of Problems
		Introduction to Linear Differential Equations with Constant Coefficients, Differential Operator
		Complete solution of Linear Differential Equations
HOLIDAY - 3rd May (Id-ul-Fitr / Parshuram Jayanti)		
SUNDAY - 08.05.2022		

Weekly Lesson Plan (Even Semester)

Name of the Paper:- Ordinary Differential Equations Class: B.Sc. First Year (2nd sem)

Name of the Teacher : Dr. Manju Sharma

5	May (9-14)	Auxiliary Equations, Methods for finding roots of Auxiliary Equations and Complete solution of Linear Differential Equations
		Inverse operator, Theorems based on Linear Differential Equations.
		Problem Discussion
		Problem Discussion
		Introduction to the concept of Particular Integral and discussion of different methods of finding Particular Integral
		Questions based on finding solution of Linear Differential Equation
SUNDAY - 15.05.2022		
6	May (16-21)	Questions based on finding solution of Linear Differential Equation
		Class Test
		Introduction to Homogeneous Linear Differential Equations
		Discussion of methods of solving Homogeneous Linear Differential Equations,
		Questions based on solution of Homogeneous Linear Differential Equations
		Discussion of Problems
SUNDAY - 22.05.2022		
7	May (23-28)	Equations reducible to Homogeneous Linear form
		Discussion of methods for solving Equations reducible to Homogeneous Linear form.
		Definition of Linear Differential Equations of Second order and its examples
		Solution of Linear Differential Equations of Second order by changing the dependent variable
		Question Discussion
		Question Discussion
SUNDAY -29.05.2022		
8	May (30-31) June (1, 3-4)	Solution of Linear Differential Equations of Second order by changing the independent variable and problems related to it
		Problem Discussion
		Introduction to the method of Variation of Parameters
		Solution of Linear Differential Equations of Second order by the method of undetermined coefficients
		Different ways of finding solution of these equations, questions based on it and Discussion of Problems.
HOLIDAY - 02.06.2022 (Maharana Pratap Jayanti)		
SUNDAY - 05.06.2022		
9	June (6-11)	Problem Discussion
		Introduction to Ordinary Simultaneous Differential Equations- Definition and Examples
		Methods of solving Simultaneous Differential Equations with constant coefficients and questions related to it
		Question Discussion

Weekly Lesson Plan (Even Semester)

Name of the Paper:- Ordinary Differential Equations Class: B.Sc. First Year (2nd sem)

Name of the Teacher : Dr. Manju Sharma

		Solution of Simultaneous Differential Equations using Differential Operator
		Solution of Simultaneous Differential Equations using Differential Operator
SUNDAY - 12.06.2022		
10	June (13, 15-18)	Problem Discussion
		Class Test
		Solution of Simultaneous Differential Equations using Method of Differentiation
		Discussion of some other methods for solving Simultaneous Differential Equations and questions related to it
		Discussion of problems
HOLIDAY -14.06.2022 (Sant Kabir Jayanti)		
SUNDAY - 19.06.2022		
11	June (20-25)	Solution of Simultaneous Differential Equations using Method of finding the second integral with the help of first integral
		Discussion of Problems
		Total Differential Equations- Definition and Examples
		Theorem for the Integrability of Total Differential Equations and questions based on it
		Concept of Condition for Exactness
		Solution of Total Differential Equations by using method of inspection and problems related to it
SUNDAY - 26.06.2022		
12	June (27-30)	Discussion of Problems
		Solution of Total Differential Equations by regarding one variable as constant out of three variables
		Questions discussion
	July (1-2)	Class Test
		Method for solving Homogeneous Equations and problems related to it
		Method for solving Homogeneous Equations and problems related to it
		Method for solving Homogeneous Equations and problems related to it
SUNDAY - 03.07.2022		
13	July (4-9)	Problem Discussion
		Solution of Total Differential Equations by using method of Auxiliary Equation
		Solution of Total Differential Equations by using method of Auxiliary Equation
		Problem Discussion
		Problem Discussion
		Class Test
SUNDAY & HOLIDAY (Id-ul-Zuha (Bakr-Id) - 10.07.2022		
11.07.2022 - EXAMINATION ONWARDS		

Name of the Teacher – Ms. MEENU KALRA

Subject- MATHEMATICS

Paper- VECTOR CALCULUS

Class- B.Sc.-I (SEM-2)

April, 2022 2 nd Week 4 April -9 April	ALL SEMESTER EXAMS
10 April, 2022	Sunday
3 rd Week 11 April-16 April	Multiple product of vectors Revision of scaler and vectors, Definition, Types and properties. Questions
14 April, 2022 17 April, 2022	Vaisakhi Sunday
4 th Week 18 April-23 April	. Revision continued of vectors, Direction cosines and direction ratios, Scaler and vector product. Triple product, Determinant form and properties of scaler triple product . Continued...
24 April, 2022	Sunday
5 th Week 25 April - 30 April	Geometrical interpretation of scaler triple product, Volume of a tetrahedron & based theorem. Numerical based on scaler triple product.
1 May, 2022	Sunday
May 2022 1 st Week 2 May -7 May	Numerical based on scaler triple product. Vector triple product, Expansion formula , Numericals Numericals continued on vector triple product Unsolved questions of vector triple product Scaler product of four vectors, vector product of four vectors, related examples
3 May , 2022 8 May , 2022	Eid-ul-Fitr Sunday
2 nd Week 9 May -14 May	Unsolved numerical of product of four vectors Reciprocal system of vectors and their properties. Differentiation of vectors, Scaler and vector functions, Based theorems
15 May, 2022	Sunday
3 rd Week 16 May-21 May	Derivative of a vector function w.r.t. scaler successive derivative based theorems. Continued... Derivative of a vector function w.r.t. scaler successive derivative, Based theorems Questions.
22 May, 2022	Sunday
May, 2022 4 th Week 23 May--28 May	Sessionals Curves in space, Tangent vectors, Velocity and acceleration Numericals on tangent vector, velocity and acceleration Gradient, Divergence and curl. Partial derivative of vector function & rules

29 May, 2022	Sunday
5 th Week 30 May -31 May	Gradient,Divergence and curl Partial derivative of vector function & rules. Two vector differentiation operator,Gradient of the product of two vectors. Level surfaces based theorems,Directional derivative of scalar point function Equation of tangent plane and normal to level surface based theorems Divergence of vector function and their properties,Numericals
June 2022 1 st week 1 June - 4 June	Curl of a vector point function & their properties.Numericals Second order Differential functions.Laplacian operator,Harmonic function. Introduction,Coordinate surfaces and curves,orthogonal curvilinear coordinates, condition for orthogality & its unit vectors. Arc length, Volume element and area element.
2 June, 2022 5 June, 2022	MaharanaPratapJayanti Sunday
2 nd Week 6 June –11 June	Cylindrical & Spherical coordinates,Based numerical Indefinite and definite integral and based theorems Line integral and based numerical Numericals continued and work done by force Surface integral & numericals Volume integral & numericals Gauss's divergence theorem
12 June,2022	Sunday
3 rd week 13 June-19 June	Deductions from Gauss divergence theorem, Green's theorem,Reduction of surface integral to line integral Stoke's theorems,Cartesian form in plane,Cartesian form in space Green's divergence theorem
20 June,2022	Sunday
21 June-26 June	Green's Theorem,Reduction of surface integral to line integral Stoke's theorem,Cartesian form in plane,Cartesian form in space Green's theorem in plane is special case of stoke's theorem. Continued...
27 June,2022	Sunday
28 June-30 June	Numericals Class Test REVISION

Weekly Lesson Plan (Even Semester)

Name of the Paper:-Sequence and Series

Class: B.A/B.Sc.. II (4th sem)

Name of the Teachers : Dr. Manju Sharma

WEEK	DATE	TOPICS
1	April (11-16)	Sets
		Bounded and Unbounded Sets
		Least upper bound and Greatest lower bound
		Theorems
		Theorems
HOLIDAY - 14th APRIL (Dr. B.R. Ambedkar Jayanti /Mahavir Jayanti)		
SUNDAY - 17.04.2022		
2	April (18-23)	Examples
		Problem Discussion
		Neighbourhood of a Point
		Theorems
		Problems
		Test
SUNDAY - 24.04.2022		
3	April (25-30)	Examples
		Interior Point of a Set
		Open Set
		Theorems
		Closed Sets
		Examples
SUNDAY - 01.05.2021		
4	May (2, 4-7)	Limit Point
		Closures
		Theorems
		Problems
		Bolzano Weierstrass Theorem
HOLIDAY - 3rd May (Id-ul-Fitr / Parshuram Jayanti)		
SUNDAY - 08.05.2022		
5	May (9-14)	Theorems
		Examples
		Compact Set
		Cover and Open Cover
		Theorems
		Examples
SUNDAY - 15.05.2022		
6	May (16-21)	Sequence
		Convergent Sequence and Divergent Sequence
		Oscillatory Sequence
		Examples
		Problems

		Test
SUNDAY - 22.05.2022		
7	May (23-28)	Basic Theorems of limits and Squeeze Principle
		Cauchy First Theorem
		Cauchy Second Theorem
		Examples
		Problems
		Monotonic Sequence
SUNDAY - 29.05.2022		
8	May (30-31) June (1, 3-4)	Nested Sequence
		Examples
		Limit Point of a Sequence
		Cauchy Sequence
		Examples
HOLIDAY - 02.06.2022 (Maharana Pratap Jayanti)		
SUNDAY - 05.06.2022		
9	June (6-11)	Subsequence
		Problem Discussion
		Test
		Infinite Series
		Examples
		Problems
SUNDAY - 12.06.2022		
10	June (13, 15-18)	Cauchy General Principle of Convergence
		Geometric Series
		Series of Positive terms
		Comparison Test, p-series Test
		Examples
HOLIDAY - 14.06.2022 (Sant Kabir Jayanti)		
SUNDAY - 19.06.2022		
11	June (20-25)	Problems
		D'Alemberts Ratio Test and Examples
		Cauchy Root Test and Examples
		Raabes Test and Examples
		Logarithmic Test and Examples
		De Morgan's Test and Gauss Test
SUNDAY - 26.06.2022		

12	June (27-30)	Cauchy Integral Test and Cauchy Condensation Test
		Alternating Series, Leibnitz's Test
		Absolute and Conditional Convergence
	July (1-2)	Arbitrary Series, Abels Lemma, Abels Test
		Examples, Dirichlet's Test and Examples
		Insertion and Removal of Parenthesis, Examples
SUNDAY - 03.07.2022		
13	July (4-9)	Riemann Arrangement Theorem
		Multiplication of Series, Cauchy Theorem
		Mertin's Theorem and Examples
		Infinite Product, Sequence of Partial Sum
		General Principle of Convergence
		More Theorems on Infinite Product
SUNDAY & HOLIDAY (Id-ul-Zuha (Bakr-Id) - 10.07.2022		

Name of the Teacher – MS. SILKY PURI

Subject- MATHS

Paper- SPECIAL FUNCTIONS AND INTEGRAL TRANSFORM(BM-242)

Class- B.SC/B.A.(SEM-IV)

April, 2022 2 nd Week 4April -9 April	ODD SEM EXAMS
10 April, 2022	Sunday
3 rd Week 11 April-16 April	Power series:convergence of power series.interval of convergence.operation on power series.shifting of index.analytic functions.existence of power series and their solution.frobenius methods-case 1,case 2,case 3,case 4.Beta and gamma function.Bessel's equation,Bessel's function.
14 April, 2022 17 April, 2022	Vaisakhi Sunday
4 th Week 18 April-23 April	Recurrence relation,examples of bessel's function.generating function.jacobi's series.orthogonality of bessel's functions.legendre's equation and polynomial.generating function.examples related to legendre polynomial.recurrence relation.orthogonality of legendre polynomial.
24April, 2022	Sunday
5 th Week 25 April - 30April	Hermite's equation.hermite's polynomial.generating function.rodrique's formula.recurrence relation of hermite's polynomial.laplace transformation,properties.shifting property of laplace.change of scale property.function of exponent order.
1 May, 2022	Sunday
May 2022 1 st Week 2May -7 May	Laplace transformation of derivatives.laplace transformation of integration.sine and cosine series.laplace transformation of some important functions.inverse laplace transformation .inverse transformation of laplace.convolution theorem.application of laplace transformation.
3 May , 2022 8May , 2022	Eid-ul-Fitr Sunday

2ndWeek 9 May -14 May	Examples of laplace application.solution of linear differential equation with constant and variable coefficients.solution of simultaneous linear equation with constant coefficients.solution of ordinary differential equation.
15 May, 2022	Sunday
3rdWeek 16 May-21 May	Fourier transformation and its properties.examples and exercises for fourier transformation.fourier sine and cosine transformation.use of inverse transformation.examples and exercises for inverse sine and cosine transformation.

22 May, 2022	Sunday
May, 2022 4th Week 23 May--28 May	Convolution theorem.fourier transform of the derivative.relation between fourier and laplace transforms.parseval's identity.related examples and exercises for parseval's identity.
29 May, 2022	Sunday
5th Week 30 May -31 May	Finite sine and cosine transformation.group discussion for above topics. Heat equation.wave equation.related examples and exercises.
June 2022 1st week 1 June - 4 June	Continued heat and wave equations. Revision of power series. Revision laplace transformation.
2 June, 2022 5 June, 2022	MaharanaPratapJayanti Sunday
2nd Week 6 June –11 June	Revision of laplace transformation continued. Revision of fourier transformation. Revision of bessel's functions. Revision of legendre's function.
12 June, 2022	Sunday
3rd Week 13 June- 18 June	Revision of legendre function continued. Revision of hermite's function .
19 June, 2022	Sunday
4th Week 20 June- 25June	Continued revision and tests.
26 June, 2022	Sunday
5th Week 27 June-30 June	Continued revision and tests.

Weekly Lesson Plan (Even Semester)

Name of the Paper:- Programming in C and Numerical Methods

Class: B.A./B.Sc - 2 nd YEAR (4th sem)

Name of the Teacher: Dr. Shweta Dhawan

WEEK	DATE	TOPICS
1	April (11-16)	Computers: A General Introduction, Programmer's Model of a computer,
		Control unit, memory, types of memory, input and output devices, some
		computer terminologies.
		Algorithm, its definition, characteristics of algorithms, examples based on
		algorithms, Flowcharts, Advantages of flowcharts, conventions of flowcharts,
HOLIDAY - 14th APRIL (Dr. B.R. Ambedkar Jayanti /Mahavir Jayanti)		
SUNDAY - 17.04.2022		
2	April (18-23)	limitations of flowcharts, examples based on flowcharts.
		Introduction to C language, its importance, C-character set, trigraph
		characters, C-tokens, keywords, constants,types of constants, escape
		sequence, variables, rules for naming a variable and discussion of examples
		and problems.
		Data-Types, different types of data types, data type for integers, characters,
SUNDAY - 24.04.2022		
3	April (25-30)	Data-Types, different types of data types, data type for integers, characters,
		floating point type, double type numbers, void type, qualifiers, variable
		declaration, assignment statement, typedef declaration and enum
		declaration, scanf function, printf function, illustration of concepts with
		programming examples in C.
		Use of comments, new line character, main function, execution of a C program.
SUNDAY - 01.05.2021		
4	May (2, 4-7)	Operators and Expressions, types of operators, special operators, operator
		precedence, cast operators, library functions, illustration of these concepts
		using programs.
		Decision Control Structures: Sequence, Selection, Iteration, if statement
HOLIDAY - 3rd May (Id-ul-Fitr / Parshuram Jayanti)		
SUNDAY - 08.05.2022		
5	May (9-14)	if else statement, nested if else statements, illustration of these concepts
		using programs, else-if ladder, switch statement, goto statement, illustration
		of these concepts using programs in C.

		Loops: definition, types, while statement: syntax, flow chart, programming examples, do-while statement: syntax, flow chart, programming examples, for loop: syntax, flow chart, programming examples, nested control structure
SUNDAY - 15.05.2022		
6	May (16-21)	programming examples.
		Break statement: syntax, programming examples, Continue statement: syntax, programming examples.
		Functions: introduction, advantages, overview, Function definition, return statement: syntax, programming examples.
		Problems
SUNDAY - 22.05.2022		
7	May (23-28)	Accessing a function, Function Prototyping: syntax, flow chart, programming examples, local and global variables, Recursion and programming examples based on it, discussion of other C programs.
		The C Preprocessor, file inclusion, macros, macros with arguments, macros versus functions, different types of directives, conditional compilation directives, nesting of directives, some other directives.
SUNDAY -29.05.2022		
8	May (30-31) June (1, 3-4)	Arrays: definition, types, examples, declaration of arrays, initialization of arrays, programming examples, two dimensional arrays, multi dimensional arrays, illustration of these concepts using programs in C, passing arrays to functions and discussion of programming examples.
		Solution of Algebraic and Transcendental Equations, continuation and
HOLIDAY - 02.06.2022 (Maharana Pratap Jayanti)		
SUNDAY - 05.06.2022		
9	June (6-11)	variation of sign, location of roots, theorems and questions based on it, Bisection Method and questions based on it, Regula Falsi Method, its order of convergence and questions based on it, Secant Method and questions based on it.
		Newton-Raphson Method, its order of convergence and questions based on it.
		Simultaneous Linear Algebraic Equations, Gauss Elimination Method and
SUNDAY - 12.06.2022		
10	June (13, 15-18)	questions based on it, Gauss Jordan Method and questions based on it, Triangularisation Method and questions based on it, Cholesky Decomposition

		Method and questions based on it and discussion of problems.
		Crout's Method and questions based on it, Jacobi's Method and questions based on it, Gauss Seidel Method and questions based on it, Relaxation
HOLIDAY -14.06.2022 (Sant Kabir Jayanti)		
SUNDAY - 19.06.2022		
11	June (20-25)	Method and questions based on it and discussion of problems.
		Puppetting of strings, reading strings, writing strings, concatenation of
		strings, comparision of strings, programming examples based on strings,
		Structures and Unions: definition, declaration, initialization, dot and sizeof
		operator, array of structures, structures and functions, illustration of concept of unions using programming examples.
SUNDAY - 26.06.2022		
12	June (27-30) July (1-2)	Method and questions based on it and discussion of problems.
		Puppetting of strings, reading strings, writing strings, concatenation of
		strings, comparision of strings, programming examples based on strings,
		Structures and Unions: definition, declaration, initialization, dot and sizeof
		operator, array of structures, structures and functions, illustration of concept of unions using programming examples.
SUNDAY - 03.07.2022		
13	July (4-9)	Pointers: definition, declaration, pointers to pointers, pointer airthmetic,
		pointers and arrays, pointers as function arguments, function returning
		pointers, illustration of these concepts using programs in C.
		Pointers to Functions, Pointers and Structures, Programming examples based on Pointers and discussion of problems.
		Revision
SUNDAY & HOLIDAY (Id-ul-Zuha (Bakr-Id) - 10.07.2022		
11.07.2022 - EXAMINATION ONWARDS		

Weekly Lesson Plan (Even Semester)

Name of the Paper:-Real and complex analysis

Class: B.A/B.Sc.III (6th sem)

Name of Teacher: Dr. Manju Sharma

WEEK	DATE	TOPICS
1	April (11-16)	HAWAN
		Introduction to Jacobians. Definition of Jacobian.
		Chain rule for Jacobian and some results based on Jacobians
		Examples to find jacobian of given functions
		Related Problems
HOLIDAY - 14th APRIL (Dr. B.R. Ambedkar Jayanti /Mahavir Jayanti)		
SUNDAY - 17.04.2022		
2	April (18-23)	Functional dependence (or non independance)
		Examples related to functional dependency
		Definition of Beta function and two properties of beta function
		Property of Beta function
		Related Problems
		Introduction to Gamma function . recurrence formula for gamma function
SUNDAY - 24.04.2022		
3	April (25-30)	Relation between Beta and Gamma function
		Examples to find Gamma function
		Duplication formula , legendre's formula
		Related Problems
		Introduction of Fourier Series, some important Results on Definite Integral
		Fourier series for even and odd functions
SUNDAY - 01.05.2021		
4	May (2, 4-7)	Dirichlets conditions ,Properties of fourier coefficients and examples of Exercise 4.1
		Related Problems
		Fourier expansion of functions having points of discontinuity
		Related Problems
HOLIDAY - 3rd May (Id-ul-Fitr / Parshuram Jayanti)		
SUNDAY - 08.05.2022		
5	May (9-14)	Change of Interval, half range series
		Parseval's identity for Fourier Series, Examples of Exercise4.3
		Related Problems
		introduction to double integral,evaluation of double integrals
		some examples to evaluate double integral
		substitution method for double integrals and example based on it
SUNDAY - 15.05.2022		

6	May (16-21)	Explanation to triple integral with the help of some examples
		substitution method for triple integrals and examples
		Application of double and triple integrals for finding area and volume of surfaces with examples
		Dirichlet's integral
		Liouville's extension of Dirichlet's integral
change of order of integration with examples		
SUNDAY - 22.05.2022		
7	May (23-28)	calculus of complex functions introduction
		stereographic projection of complex numbers with examples
		complex function or functions of a complex variable, limit of a complex function
		continuity of a complex function, uniform continuity examples
		Differentiability of a complex function, theorem based on it, Rule of Differentiation, Geometric interpretation of the derivative
Exercise 5.1		
SUNDAY - 29.05.2022		
8	May (30-31) June (1, 3-4)	introduction to analytic function, Cauchy-Riemann equations
		some examples and doubt clearing session
		sufficient condition for $f(z)$ to be analytic, C-R equations in polar form
		orthogonal system, introduction to Harmonic functions, harmonic conjugate functions. examples
construction of an analytic function- Milne's Thompson's method		
HOLIDAY - 02.06.2022 (Maharana Pratap Jayanti)		
SUNDAY - 05.06.2022		
9	June (6-11)	examples based on Milne's Thompson's method
		Applications of Analytic functions to field and flow problems
		introduction to Multi-valued function, Branch, Branch cut, Branch point Elementary functions- Exponential function, properties of exponential functions
		Trigonometrical functions $\sin z$ and $\cos z$ properties of trigonometrical (Euler's theorem, De-Moivre's theorem for complex numbers)
		Introduction to Hyperbolic functions, Properties of Hyperbolic functions, the logarithmic function, properties of the logarithmic function, inverse trigonometric and hyperbolic functions
Mapping by elementary functions and examples, conformal mapping, linear transformation		
SUNDAY - 12.06.2022		
10	June (13-15)	Mobius transformation or Bilinear transformations, fixed points nature of mobius transformation
		Critical points, Critical Mappings
HOLIDAY - 14.06.2022 (Sant Kabir Jayanti)		
Examination onwards		

Name of the Teacher – Dr. Shweta Dhawan

Subject- Mathemaics

Paper- BM-362

Class- B.A/B.Sc VI Semester

April, 2022 2nd Week 4 April -9 April	Vector Space, , examples, Subspace, Examples based on Subspaces, Linear Sum, Direct Sum and examples based on Direct Sum
10 April, 2022	Sunday

3 rd Week 11 April-16 April	Linear Combination, Linear Dependence and Linear Independence, Examples, Linear Span, Basis of a vector Space, Theorems based on basis of vector spaces..
14 April, 2022 17 April, 2022	Vaisakhi Sunday
4 th Week 18 April-23 April	Theorems based on basis of vector spaces continued..Dimension of Vector Space and based Examples, methods to find basis of Vector space and its Subspaces if spanning Sets of Subspace is given..
24April, 2022	Sunday
5 th Week 25 April - 30April	Complementary Subspace and example based on it..Quotient Space..Dimension of Quotient Space, and based probles...
1 May, 2022	Sunday
May 2022 1 st Week 2May -7 May	Linear Transformation and its Properties, example based on Linear Transformation, Types of Linear Transformation, Some important Theorems on Dimension of V.S using notion of Linear Transformation
3 May , 2022 8May , 2022	Eid-ul-Fitr Sunday
2 nd Week 9 May -14 May	Method to find Linear transformation when its image on basis vectors is given, Null Space, Range Space, Rank of a linear Transformation, Nullity of a Linear Transformation, Fundamental Theorem of Vector Space Homomorphism
15 May, 2022	Sunday
3 rd Week 16 May-21 May	Sylvester's Law (Rank- Nullity Theorem), Examples based on this Theorem and examples based on one-one and onto Linear Transformations..

22 May, 2022	Sunday
May, 2022 4 th Week 23 May--28 May	Sessionals
29 May, 2022	Sunday

5 th Week 30 May -31 May	Algebra of Linear Transformation, Minimal Polynomial, of a Linear Transformation, Singular and non-singular Linear Transformation, Matrix of Linear Transformation
June 2022 1 st week 1 June - 4 June	Change of Basis, Eigen Values and Eigen vectors of Linear Transformation, Inner product Spaces, Cauchy-Schwarz inequality, orthogonal and orthonormal vectors, orthogonal sets and Basis
2 June, 2022 5 June, 2022	MaharanaPratapJayanti Sunday
2 nd Week 6 June –11 June	Bessel’s inequality for finite dimensional vector spaces, Gram-Schmidt Orthogonalization Process, Adjoint of a Linear Transformation and its Properties, Unitary Linear Transformation and related concepts.
Onwards 11- 13 June	Revision and Test

Name of the Teacher – Ms.Meenu Kalra

Subject- Mathematics

Paper-Dynamics

Class- B.Sc.-III(SEM-6)

April, 2022 2 nd Week 4April -9 April	All Semester Exams
10 April, 2022	Sunday
3 rd Week 11 April-16 April	Basic concepts and definitions-space,matter,particle,rigid body, Displacement of a particle Expression for a velocity at a point,relative velocity Acceleration due to gravity,particle projected vertically downwards Components of velocity and acceleration along the coordinate axes
14 April, 2022 17 April, 2022	Vaisakhi Sunday
4 th Week 18 April-23 April	Motion of a particle along a plane curve with constant angular acceleration Examples related to above topics.Radial and transverse velocities and acceleration polar coordinates Tangential and normal components of velocity of a particle. Tangential and normal components of acceleration.
24April, 2022	Sunday
5 th Week	Examples related to above topics.

25 April - 30 April	Relative motion: relative displacement, relative velocity and their examples
1 May, 2022	Sunday
May 2022 1 st Week 2 May - 7 May	Determination of relative velocity, magnitude of relative velocity and its examples. Simple harmonic motion (SHM), Velocity of a particle executing SHM Nature and amplitude of SHM, periodic motion, SHM is period Examples Student problems
3 May, 2022 8 May, 2022	Eid-ul-Fitr Sunday
2 nd Week 9 May - 14 May	Elastic string: - Hooke's law, Work done against the tension Horizontal and vertical elastic string Newton's first, second, third laws of motion Weight of a body and related examples Pressure of a body resting on a horizontal plane moving downwards.
15 May, 2022	Sunday
3 rd Week 16 May - 21 May	Motion of a lift and examples. Motion of two bodies connected by a string, at Wood's machine. Work done by a variable force, work done in stretching an elastic string.

22 May, 2022	Sunday
May, 2022 4 th Week 23 May - 28 May	Power and its examples. Principle of work and energy, principle of conservation of energy Impulse of a constant force & variable force Motion of a particle on a smooth and rough plane curves. Related Examples.
29 May, 2022	Sunday
5 th Week 30 May - 31 May	Motion on the outside of a smooth vertical circle and related examples. Motion on the inside of a smooth vertical circle and related examples Cycloidal motion: cycloid, result for a cycloid, motion on a cycloid Examples
June 2022 1 st week 1 June - 4 June	Projectile: introduction - trajectory, angle of projection. Latus rectum, vertex, focus, directrix, axis of the trajectory of a particle. Time of flight, Horizontal range Greatest height of a projectile and to find the direction of a projectile. Velocity at any point of the trajectory and examples.

2 June, 2022 5 June, 2022	MaharanaPratapJayanti Sunday
2 nd Week 6 June –11 June	Direction in which a particle be projected to pass through a given point Least velocity for a particle to hit a given point and time of flight. Related examples. Range and time of flight on inclined plane,max range up the plane Central orbits,central force,thm on central orbit,polar form
12 June, 2022	Sunday
3 rd Week 13 June- 18 June	Areal velocity and its theorem. Elliptic orbit and theorem based on it. Hyperbolic orbit and its result Parabolic orbit and its theorem Velocity in agiven circle:to determine orbit Apse,apsidal distances and apsidal angle and theorem related examples.
19 June, 2022	Sunday
4 th Week 20 June- 25June	Kepler’s laws of planetary motion,Newton’s laws of gravitation Eqvivalence of kepler’s law for planetary motion and newton’s law.Motion under the inverse square law and examples. Motion of a particle in 3-D velocity of a particle along a curve.Motion of particle in terms of cylindrical polar coordinates.
26 June, 2022	Sunday
5 th Week 27 June-30 June	Velocity and acceleration of moving axes.To find acceleration when a point is moving along any curve in 3-D.
1 st Week 1 July-2 July	Sessional

Name of the Teacher – Ms. MEENU KALRA
Subject- MATHEMATICS
Paper- BUSINESS MATHEMATICS
Class- B.Com.-I(SEM-2)

April, 2022	Linear equations in two variables
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2 nd Week 4April -9 April	Questions Linear Programming Questions Questions Student problems Problem Discussion
10 April, 2022	Sunday
3 rd Week 11 April-16 April	Data interpretation Classification and Tabulation Questions Questions Continued..
14 April, 2022 17 April, 2022	Vaisakhi Sunday
4 th Week 18 April-23 April	Data –Introduction,Classification and tabulation Continue Continue Continue Assignment-1
24April, 2022	Sunday
5 th Week 25 April - 30April	Diagrammatic Representation of data Continue Continue Continue Problem Discussion Continue Continue Continue Continue
1 May, 2022	Sunday
May 2022 1 st Week 2May -7 May	Graphical Representation of Data Continue Continue Assignment-2
3 May , 2022 8May , 2022	Eid-ul-Fitr Sunday
2 nd Week 9 May -14 May	Permutations and Combinations Continue Continue Continue

	Continue Problems Discussion
15 May, 2022	Sunday
3rdWeek 16 May-21 May	Questions Questions Continue Continue Student problems
22 May, 2022	Sunday
May, 2022 4th Week 23 May--28 May	Sessionals
29 May, 2022	Sunday
5th Week 30 May -31 May	Binomial Theorem Discussion on formulas Questions Questions Questions
June 2022 1st week 1 June - 4 June	Student Problems Continued Continued Continued
2 June, 2022 5 June, 2022	MaharanaPratapJayanti Sunday
2nd Week 6 June –11 June	Revised topic based on student problems Continued Continued Continued
12 June,2022	Sunday
3rd Week 13 June-19 June	Questions Questions
20 June,2022	Sunday
4th week 21 June-26 June	ASSIGNMENT 1 & 2

27 June,2022	Sunday
5 th week 28 June- 30 June,2022	CLASS TEST & REVISION

Name of the Teacher – Ms.SILKY PURI
Subject- MATHS
Paper- ELEMENTS OF BUSINESS MATHS-II
Class- BBA-I(SEM –II)

April, 2022 2 nd Week 4April -9 April	ODD SEM EXAMS
10 April, 2022	Sunday
3 rd Week 11 April-16 April	Cartesian systems of rectangular coordinates :rectangular axes and origin,coordinates of a point ,distance between two points.circumcentre with examples.internal division and external division ,section formula,midpoint formula with examples,centroid of a triangle,incentre of a triangle and find these coordinates of a triangle.
14 April, 2022 17 April, 2022	Vaisakhi Sunday
4 th Week 18 April-23 April	Straight line:slope of a line passing through two given points.parallel and perpendicular lines.collinearity of three points with examples.intercepts:equation of a line parallel to X-axis and Y-axis ,slope – intercept form of a line ,one point form,two point form of a line.
24April, 2022	Sunday
5 th Week 25 April -30April	Intercept form of a line ,equation of a line in perpendicular and normal form.equation of a line in symmetric form or parametric form with examples.general equation of a straight line :reduction of general equation to the standard form ,intercept form,normal form.
1 May, 2022	Sunday
May 2022 1 st Week 2May -7 May	Angle between two lines:condition of parallelism and perpendicularity of lines.point of intersection of two straight lines.perpendicular distance of a point from a line.Arithmetic progressions:general term,finite and infinite sequences.properties of an A.P.with examples ,representations of terms in A.P.
3 May , 2022 8May , 2022	Eid-ul-Fitr Sunday
2 nd Week 9 May -14 May	Sum of 'n' terms of an A.P. ,Arithmetic mean:to insert 'n' A.M. between two quantities 'a' and 'b',sum of 'n' arithmetic means between two numbers.Geometric progression :general term with examples.sum of first 'n' terms of G.P.with examples and exercises.sum of G.P.upto infinity terms with examples and exercises.
15 May, 2022	Sunday

3rdWeek 16 May-21 May	Geometric mean:definition with examples.product of 'n' G.M. between 'a' and 'b'.Application of A.P. and G.P.to business problems.Harmonic progression :general term,harmonic mean:to find the H.M. between two quantities 'a' and 'b'.relation between A.M.,G.M.and H.M.,sigma notation .sum of first n natural numbers.
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22 May, 2022	Sunday
May, 2022 4th Week 23 May--28 May	Sum of squares of the first n natural numbers,sum of cubes of first n natural numbers.Arithmetic-geometric series:general term,sum of 'n' terms of an arithmetic-geometric series.sum of an infinite arithmetic-geometric series.
29 May, 2022	Sunday
5th Week 30 May -31 May	Integration:introduction to definite and indefinite integral and some standard elementary integrals.integration by substitution,integration by parts.partial fractions and their uses in integration.definite integral with examples.Application of integration in business and commerce : determination of cost function and average cost function when marginal cost function is given.
June 2022 1st week 1 June - 4 June	Determination of revenue function and demand function when marginal revenue function is given with examples.consumer's and producer's surplus .the learning curve with examples and exercises.logarithms:definition and some important deductions .some important properties of logarithms:product and quotient formula.
2 June, 2022 5 June, 2022	MaharanaPratapJayanti Sunday
2nd Week 6 June –11 June	Power formula.base changing formula.two systems of logarithms:natural logarithms,common logarithms.rules to find the characteristics and mantissa with examples.tables of logarithms.anti-logarithms.
12 June, 2022	Sunday
3rd Week 13 June- 18 June	Compound interest:introduction to simple interest,compound interest.results and formulas for S.I. and C.I. with examples.examples and exercises to find S.I.and C.I.when the rate of interest is different for different years.problems on effective rate of interest with examples.
19 June, 2022	Sunday
4th Week 20 June- 25June	Problems on depreciation and problems on population with examples and exercises.to check table values for logarithms and anti –logarithms.
26 June, 2022	Sunday
5th Week 27 June-30 June	Revision and tests

Name of the Teacher – SILKY PURI

Subject-MATHS

Paper- MATHEMATICAL FOUNDATIONS-II

Class- BCA-I(SEM II)

April, 2022 2 nd Week 4 April -9 April	ODD SEM EXAMS
10 April, 2022	Sunday
3 rd Week 11 April-16 April	Introduction to logical statements.symbolic notation of statements.truth tables.simple and compound statements.truth table for conjunction and disjunction.negation:truth table for negation and negation of compound statements.
14 April, 2022 17 April, 2022	Implications:conditional statements and biconditional statements.argument:valid argument,fallacy and truth tables.joint denial.tautologies and contradictions.
4 th Week 18 April-23 April	Laws of logic:idempotent laws,commutative laws,associative laws,distributive laws,identity laws,complement laws,involution law,de morgan's law,quantifiers:universal,existential quantifiers,negation of statements with quantifiers.
24 April, 2022	Sunday
5 th Week 25 April -30 April	Principle of mathematical induction with examples.groups:introduction to binary operations and composition tables.some fundamental properties of binary operations.algebraic structure.definition of group with examples.
1 May, 2022	Sunday
May 2022 1 st Week 2 May -7 May	Semi group,finite and infinite groups ,order of a group.addition modulo M,multiplication modulo with examples,order of an element of a group ,general properties of groups.complexes and subgroups of a group ,criterion for a complex to be a subgroup,intersection of subgroup with theorems.
3 May , 2022 8 May , 2022	Eid-ul-Fitr Sunday
2 nd Week 9 May -14 May	Cosets:right coset,left coset wit examples,normal subgroups,simple groups,quotient group with examples.homomorphism and isomorphism,kernel of homomorphism.Rings:types of rings with examples.rings without or with zero divisors,integral domain.
15 May, 2022	Sunday
3 rd Week 16 May-21 May	Division ring or a skew field,field with examples,theorems and laws of fields,subrings:characteristic of a ring with examplesideals:definition and examples of ideals,simple ring.principle ideal:principle ideal ring and principle ideal domain.maximal ideal,prime ideal with examples.nilpotent and nil ideals.

22 May, 2022	Sunday
May, 2022 4 th Week 23 May--28 May	Quotient rings(factor rings),ring homomorphism ,kernel of a ring homomorphism.Matrices:some definitions and types of matrices.basic operations on matrices,scalar multiplication ,negation ,addition and difference of a matrix.multiplication,positive integral powers of matrices with examples.
29 May, 2022	Sunday
5 th Week 30 May -31 May	Determinants:determinants of second and third order,minors and cofactors ,sarrus diagram,properties of determinants.Matrices(continued):singular and non singular matrices,transpose of a matrix,inverse of a square matrix ,symmetric and skew-symmetric matrices with results.
June 2022 1 st week 1 June - 4 June	Hermitian and skew –hermitian matrices.rank of a matrix:submatrix of a matrix,elementary operations:row equivalent and column equivalent of a matrix.reduction of a matrix to triangular form,normal form of a matrix,elementary matrices,rank of the product of two matrices.
2 June, 2022 5 June, 2022	MaharanaPratapJayanti Sunday
2 nd Week 6 June –11 June	Using elementary operations find inverse of a matrix,to calculate PAQ where PAQ is in normal form.application of matrices to solution of system of linear equations:homogeneous and non homogeneous linear equations using inverse of a matrix.solutions of systems of homogeneous and non homogeneous using rank of a matrix.
12 June, 2022	Sunday
3 rd Week 13 June- 18 June	Characteristic equation of a matrix :characteristics matrix and characteristic polynomial and characteristics equation and characteristics roots or eigen values of a matrix.characteristics vector or eigen vector or latent vector with examples.scalar polynomial and matric polynomial.
19 June, 2022	Sunday
4 th Week 20 June- 25June	Cayley-hamilton theorem with examples and verify these equations.some important theorems:theorems for eigen values and eigen vectors for hermitian matrix,triangular and orthogonal matrix.theorems for linearly independent and linearly dependent vectors.diagonalization of a square matrix:definition and examples.
26 June, 2022	Sunday
5 th Week 27 June-30 June	Revision and tests.

Name of the Teacher – Ms. MEENU KALRA
 Subject- MATHEMATICS
 Paper- COMPUTER ORIENTED STATISTICAL METHODS
 Class- B.C.A. SEM IV

April, 2022 2 nd Week 4April -9 April	All semester exams
10 April, 2022	Sunday
3 rd Week 11 April-16 April	Statistics:Preparing Frequency Distribution Table Cumulative frequency
14 April, 2022 17 April, 2022	Vaisakhi Sunday
4 th Week 18 April-23 April	Measure of Central Tendancy,Types: Arithmetic mean,Geometric Mean,Harmonic Mean Median,Mode
24April, 2022	Sunday
5 th Week 25 April - 30April	Measure of Dispersion:Range,Quartile Deviation Coefficient of mean deviation,Standard deviation Mean deviation.
1 May, 2022	Sunday
May 2022 1 st Week 2May -7 May	Moments:moment about mean,Moments about any point,Moment about origin,Moment about mean in terms of moment about anypoint, Moment about any point in terms of moment about mean
3 May , 2022 8May , 2022	Eid-ul-Fitr Sunday
2 nd Week 9 May -14 May	Correlation: Introduction,Types,Properties,Methods of correlation Karl Pearson's Coefficient of correlation,Rank Correlation and Concurrent Deviation method,Probable error.
15 May, 2022	Sunday
3 rd Week 16 May-21 May	Regression:Introduction,Aim of Regression Analysis,Types of Regression Analysis,Lines of regression,Properties of Regression Coefficient and Regression Lines,Comparison with Correlation
22 May, 2022	Sunday

May, 2022 4th Week 23 May--28 May	Sessionals Curve fitting, Straight Line, Parabolic curve, Geometric curve and exponential curve. Baye's theorem in decision making, Forecasting techniques First & second assignment.
29 May, 2022	Sunday
5th Week 30 May -31 May	Types: Binomial, Poisson, Normal Distribution, Mean and variance of Binomial, Poisson and Normal Distribution
June 2022 1st week 1 June - 4 June	Sample introduction, Sampling Meaning, Methods of sampling. Statistical interferences: Test of hypothesis, Types of hypothesis, Procedure of hypothesis Testing, Type I and Type II error, One tailed and two tailed test.
2 June, 2022 5 June, 2022	Maharana Pratap Jayanti Sunday
2nd Week 6 June –11 June	Types of test of significance : Test of significance for attribute-test of No. of success and test of proportion of success, Test of significance for large samples- Test of significance for single mean and difference of mean
12 June, 2022	Sunday
3rd Week 13 June-18 June	Test of significance for small samples (t-test)-test the significance between the mean of a random sample between the mean of two independent samples
19 June, 2022	Sunday
4th Week 20 June-26 June	Student Problems Class Test
27 June, 2022	Sunday
5th Week 28 June-30 June	Class test Student Problems REVISION