

Lesson Plan

2017-18(Even Semester)

1 January, 2018 to 28 April, 2018

Name of Associate Professor:- Dr. Indu Vij

Class and Section:- BA (2nd Semester)

Department:- Mathematics

Subject Name and Code:- Ordinary differential equations (BM-122)

Week 1

Jan1, Monday *University Examination Duty*

Jan 2, Tuesday *University Examination Duty*

Jan 3, Wednesday *University Examination Duty*

Jan 4, Thursday *University Examination Duty*

Jan 5, Friday *University Examination Duty*

Jan 6, Saturday *University Examination Duty*

Week 2

Jan 8, Monday *University Examination Duty*

Jan 9, Tuesday *University Examination Duty*

Jan 10, Wednesday *University Examination Duty*

Jan 11, Thursday *University Examination Duty*

Jan 12, Friday **UNIT-I**
Geometrical meaning of a differential equation

Jan 13, Saturday

Week 3

Jan 15, Monday Exact differential equations

Jan 16, Tuesday Exact differential equations continued

Jan 17, Wednesday Integrating factors

Jan 18, Thursday Integrating factors continued

Jan 19, Friday First order higher degree equations solvable for x,y,p

Jan 20, Saturday First order higher degree equations solvable for x,y,p continued

Week 4

Jan 22, Monday *Holiday (Basant Panchmi)*

Jan 23, Tuesday	Lagrange's equations
Jan 24, Wednesday	<i>Holiday (Sir Chhotu Ram Jayanti)</i>
Jan 25, Thursday	Clairaut's equations
Jan 26, Friday	<i>Holiday (Republic Day)</i>
Jan 27, Saturday	Clairaut's equations continued
Week 5	
Jan 29, Monday	Equation reducible to Clairaut's form. Singular solutions
Jan 30, Tuesday	Equation reducible to Clairaut's form. Singular solutions continued
Jan 31, Wednesday	<i>Holiday (Guru Ravidas Jayanti)</i>
Feb 1, Thursday	UNIT-II
Feb 2, Friday	Orthogonal trajectories: in Cartesian coordinates and polar coordinates
Feb 3, Saturday	Self orthogonal family of curves
Week 6	
Feb 5, Monday	Linear differential equations with constant coefficients
Feb 6, Tuesday	Linear differential equations with constant coefficients continued
Feb 7, Wednesday	Homogeneous linear ordinary differential equations
Feb 8, Thursday	Homogeneous linear ordinary differential equations continued
Feb 9, Friday	Equations reducible to homogeneous
Feb 10, Saturday	<i>Holiday (Maharashi Dayanand Saraswati Jayanti)</i>
Week 7	
Feb 12, Monday	Equations reducible to homogeneous continued
Feb 13, Tuesday	<i>Holiday (MahaShiv Ratri)</i>
Feb 14, Wednesday	UNIT-III
Feb 15, Thursday	Linear differential equations of second order
Feb 16, Friday	Reduction to normal form
Feb 17, Saturday	Reduction to normal form continued
Week 8	
Feb 19, Monday	Transformation of the equation by changing the dependent variable/ the independent variable

Feb 20, Tuesday	Transformation of the equation by changing the dependent variable/ the independent variable continued
Feb 21, Wednesday	Solution by operators of non-homogeneous linear differential equations
Feb 22, Thursday	Solution by operators of non-homogeneous linear differential equations continued
Feb 23, Friday	Reduction of order of a differential equation
Feb 24, Saturday	Reduction of order of a differential equation continued
Week 9	
Feb 26, Monday	Method of variations of parameters
Feb 27, Tuesday	Method of variations of parameters continued
Feb 28, Wednesday	Vacation-I (28.02.2018 to 04.03.2018) as per Academic Calendar of KUK
Mar 1, Thursday	-Do-
Mar 2, Friday	-Do-
Mar 3, Saturday	-Do-
Week 10	
Mar 5, Monday	Method of undetermined coefficients. SUBMISSION OF ASSIGNMENT-1 AS PER KUK NORMS OF INTERNAL ASSESSMENT
Mar 6, Tuesday	Method of undetermined coefficients continued
Mar 7, Wednesday	UNIT-IV Ordinary simultaneous differential equations
Mar 8, Thursday	Ordinary simultaneous differential equations continued
Mar 9, Friday	Solution of simultaneous differential equations involving operators x (d/dx) or t (d/dt) etc
Mar 10, Saturday	Solution of simultaneous differential equations involving operators x (d/dx) or t (d/dt) etc continued
Week 11	
Mar 12, Monday	Simultaneous equation of the form $dx/P = dy/Q = dz/R$
Mar 13, Tuesday	Simultaneous equation of the form $dx/P = dy/Q = dz/R$ continued
Mar 14, Wednesday	Total differential equations

Mar 15, Thursday	Total differential equations continued
Mar 16, Friday	Condition for $Pdx + Qdy + Rdz = 0$ to be exact
Mar 17, Saturday	Condition for $Pdx + Qdy + Rdz = 0$ to be exact continued
Week 12	
Mar 19, Monday	General method of solving $Pdx + Qdy + Rdz = 0$ by taking one variable constant
Mar 20, Tuesday	General method of solving $Pdx + Qdy + Rdz = 0$ by taking one variable constant continued
Mar 21, Wednesday	General method of solving $Pdx + Qdy + Rdz = 0$ by taking one variable constant continued
Mar 22, Thursday	SUBMISSION OF ASSIGNMENT-2 AS PER KUK NORMS OF INTERNAL ASSESSMENT
Mar 23, Friday	<i>Holiday (Shaheed Diwas)</i>
Mar 24, Saturday	Method of auxiliary equations
Week 13	
Mar 26, Monday	Method of auxiliary equations continued
Mar 27, Tuesday	Method of auxiliary equations continued
Mar 28, Wednesday	Revision- Unit I
Mar 29, Thursday	<i>Holiday (Mahavir Jayanti)</i>
Mar 30, Friday	Revision- Unit I Continued
Mar 31, Saturday	Class Test Unit-I
Week 14	
April 2, Monday	Revision- Unit- II
April 3, Tuesday	Revision- Unit II Continued
April 4, Wednesday	Class Test Unit-II
April 5, Thursday	Revision- Unit-III
April 6, Friday	Revision- Unit III Continued
April 7, Saturday	Class Test Unit-III
Week 15	

April 9, Monday	Revision Unit- IV
April 10, Tuesday	Revision- Unit IV Continued
April 11, Wednesday	Class Test Unit-IV
April 12, Thursday	Solving Queries of Students
April 13, Friday	Solving Queries of Students
April 14, Saturday	<i>Holiday (Dr. B.R. Ambedkar's Jayanti)</i>
Week 16	
April 16, Monday	Solving Queries of Students
April 17, Tuesday	Solving Queries of Students
April 18, Wednesday	<i>Holiday (Lord Parshu Ram Jayanti)</i>
April 19, Thursday	Revision of Syllabus and Solving Queries of Students
April 20, Friday	Revision of Syllabus and Solving Queries of Students
April 21, Saturday	Revision of Syllabus and Solving Queries of Students
Week 17	
April 23, Monday	Revision of Syllabus and Solving Queries of Students
April 24, Tuesday	Revision of Syllabus and Solving Queries of Students
April 25, Wednesday	Revision of Syllabus and Solving Queries of Students
April 26, Thursday	Revision of Syllabus and Solving Queries of Students
April 27, Friday	Revision of Syllabus and Solving Queries of Students
April 28, Saturday	Revision of Syllabus and Solving Queries of Students

Note:-

The teaching of topics to the students on the dates/days mentioned in the above lesson plan may not be exactly followed and may have little variations/fluctuations because of some unforeseen circumstances. For example: various Functions/Activities organized by the College Response of Students in the Class, Request of Students for Repetition of some specific Topics, Unpredicted Leaves, Restricted Holidays, Practical exam of students etc.

(Dr. Indu Vij)
Associate Professor of Mathematics
SMS Khalsa Labana Girls College, Barara(Ambala)

Lesson Plan

2017-18(Even Semester)

1 January, 2018 to 28 April, 2018

Name of Associate Professor:- Dr. Indu Vij

Class and Section:- BA (4th Semester)

Department:- Mathematics

Subject Name and Code:- Sequences and Series (BM-241)

Week 1

Jan1, Monday *University Examination Duty*

Jan 2, Tuesday *University Examination Duty*

Jan 3, Wednesday *University Examination Duty*

Jan 4, Thursday *University Examination Duty*

Jan 5, Friday *University Examination Duty*

Jan 6, Saturday *University Examination Duty*

Week 2

Jan 8, Monday *University Examination Duty*

Jan 9, Tuesday *University Examination Duty*

Jan 10, Wednesday *University Examination Duty*

Jan 11, Thursday *University Examination Duty*

Jan 12, Friday **UNIT-I**
Boundedness of the set of real numbers

Jan 13, Saturday least upper bound

Week 3

Jan 15, Monday greatest lower bound of a set

Jan 16, Tuesday neighborhoods

Jan 17, Wednesday interior points, isolated points

Jan 18, Thursday interior points, isolated points continued

Jan 19, Friday limit points

Jan 20, Saturday open sets, closed set

Week 4

Jan 22, Monday *Holiday (Basant Panchmi)*

Jan 23, Tuesday	Interior of a set.
Jan 24, Wednesday	<i>Holiday (Sir Chhotu Ram Jayanti)</i>
Jan 25, Thursday	closure of a set in real numbers and their properties
Jan 26, Friday	<i>Holiday (Republic Day)</i>
Jan 27, Saturday	Bolzano-Weiestrass theorem
Week 5	
Jan 29, Monday	Open covers
Jan 30, Tuesday	Compact sets and Heine-Borel Theorem.
Jan 31, Wednesday	<i>Holiday (Guru Ravidas Jayanti)</i>
Feb 1, Thursday	UNIT-II Sequence: Real Sequences and their convergence,
Feb 2, Friday	Theorem on limits of sequence
Feb 3, Saturday	Bounded and monotonic sequences
Week 6	
Feb 5, Monday	Cauchy's sequence
Feb 6, Tuesday	Cauchy general principle of convergence,
Feb 7, Wednesday	Subsequences, Subsequential limits
Feb 8, Thursday	UNIT-III Infinite series: Convergence and divergence of Infinite Series
Feb 9, Friday	Infinite series: Convergence and divergence of Infinite Series continued
Feb 10, Saturday	<i>Holiday (Maharashi Dayanand Saraswati Jayanti)</i>
Week 7	
Feb 12, Monday	Comparison Tests of positive terms Infinite series
Feb 13, Tuesday	<i>Holiday (MahaShiv Ratri)</i>
Feb 14, Wednesday	Cauchy's general principle of Convergence of series
Feb 15, Thursday	Convergence and divergence of geometric series
Feb 16, Friday	Hyper Harmonic series or p-series
Feb 17, Saturday	Infinite series: D-Alembert's ratio test
Week 8	
Feb 19, Monday	Infinite series: D-Alembert's ratio test continued
Feb 20, Tuesday	Raabe's test
Feb 21, Wednesday	Logarithmic test

Feb 22, Thursday	de Morgan and Bertrand's test
Feb 23, Friday	Cauchy's Nth root test
Feb 24, Saturday	Gauss Test
Week 9	
Feb 26, Monday	Cauchy's integral test
Feb 27, Tuesday	Cauchy's integral test continued
Feb 28, Wednesday	Vacation-I (28.02.2018 to 04.03.2018) as per Academic Calendar of KUK
Mar 1, Thursday	-Do-
Mar 2, Friday	-Do-
Mar 3, Saturday	-Do-
Week 10	
Mar 5, Monday	Cauchy's condensation test SUBMISSION OF ASSIGNMENT-1 AS PER KUK NORMS OF INTERNAL ASSESSMENT
Mar 6, Tuesday	Cauchy's condensation test contined
Mar 7, Wednesday	UNIT-IV Alternating series
Mar 8, Thursday	Leibnitz's test
Mar 9, Friday	absolute and conditional convergence
Mar 10, Saturday	Arbitrary series: abel's lemma
Week 11	
Mar 12, Monday	Abel's test
Mar 13, Tuesday	Dirichlet's test
Mar 14, Wednesday	Insertion and removal of parenthesis
Mar 15, Thursday	Rearrangement of terms in a series
Mar 16, Friday	Dirichlet's theorem
Mar 17, Saturday	Riemann's Re-arrangement theorem
Week 12	
Mar 19, Monday	Pringsheim's theorem (statement only)
Mar 20, Tuesday	Multiplication of series
Mar 21, Wednesday	Cauchy product of series

Mar 22, Thursday	Cauchy product of series continued SUBMISSION OF ASSIGNMENT-2 AS PER KUK NORMS OF INTERNAL ASSESSMENT
Mar 23, Friday	<i>Holiday (Shaheed Diwas)</i>
Mar 24, Saturday	Convergence and absolute, convergence of infinite products.
Week 13	
Mar 26, Monday	Convergence and absolute, convergence of infinite products contuned
Mar 27, Tuesday	Convergence and absolute, convergence of infinite products contuned
Mar 28, Wednesday	Revision- Unit I
Mar 29, Thursday	<i>Holiday (Mahavir Jayanti)</i>
Mar 30, Friday	Revision- Unit I Continued
Mar 31, Saturday	Class Test Unit-I
Week 14	
April 2, Monday	Revision- Unit- II
April 3, Tuesday	Revision- Unit II Continued
April 4, Wednesday	Class Test Unit-II
April 5, Thursday	Revision- Unit-III
April 6, Friday	Revision- Unit III Continued
April 7, Saturday	Class Test Unit-III
Week 15	
April 9, Monday	Revision Unit- IV
April 10, Tuesday	Revision- Unit IV Continued
April 11, Wednesday	Class Test Unit-IV
April 12, Thursday	Solving Queries of Students
April 13, Friday	Solving Queries of Students
April 14, Saturday	<i>Holiday (Dr. B.R. Ambedkar's Jayanti)</i>
Week 16	
April 16, Monday	Solving Queries of Students
April 17, Tuesday	Solving Queries of Students
April 18, Wednesday	<i>Holiday (Lord Parshu Ram Jayanti)</i>

April 19, Thursday	Revision of Syllabus and Solving Queries of Students
April 20, Friday	Revision of Syllabus and Solving Queries of Students
April 21, Saturday	Revision of Syllabus and Solving Queries of Students
Week 17	
April 23, Monday	Revision of Syllabus and Solving Queries of Students
April 24, Tuesday	Revision of Syllabus and Solving Queries of Students
April 25, Wednesday	Revision of Syllabus and Solving Queries of Students
April 26, Thursday	Revision of Syllabus and Solving Queries of Students
April 27, Friday	Revision of Syllabus and Solving Queries of Students
April 28, Saturday	Revision of Syllabus and Solving Queries of Students

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Lesson Plan

2017-18(Even Semester)

1 January, 2018 to 28 April, 2018

Name of Associate Professor:- Dr. Indu Vij

Class and Section:- BA (6th Semester)

Department:- Mathematics

Subject Name and Code:- Real and Complex Analysis (BM-361), Linear Algebra (BM-362), Dynamics(BM- 363)

Week 1

Jan1, Monday *University Examination Duty*

Jan 2, Tuesday *University Examination Duty*

Jan 3, Wednesday *University Examination Duty*

Jan 4, Thursday *University Examination Duty*

Jan 5, Friday *University Examination Duty*

Jan 6, Saturday *University Examination Duty*

Week 2

Jan 8, Monday *University Examination Duty*

Jan 9, Tuesday *University Examination Duty*

Jan 10, Wednesday *University Examination Duty*

Jan 11, Thursday *University Examination Duty*

Jan 12, Friday BM- 361 (UNIT-I)
Jacobians

Jan 13, Saturday Beta and Gama functions

Week 3

Jan 15, Monday Double and Triple integrals

Jan 16, Tuesday Dirichlets integrals

Jan 17, Wednesday Change of order of integration in double integrals

Jan 18, Thursday BM-361 (UNIT-II)
Fourier's series: Fourier expansion of piecewise monotonic functions, Properties of Fourier Co-efficients

Jan 19, Friday Dirichlet's conditions, Parseval's identity for Fourier series

Jan 20, Saturday Fourier series for even and odd functions

Week 4

Jan 22, Monday	<i>Holiday (Basant Panchmi)</i>
Jan 23, Tuesday	Half range series, Change of Intervals.
Jan 24, Wednesday	<i>Holiday (Sir Chhotu Ram Jayanti)</i>
Jan 25, Thursday	BM-361 (UNIT-III) Extended Complex Plane, Stereographic projection of complex numbers
Jan 26, Friday	<i>Holiday (Republic Day)</i>
Jan 27, Saturday	continuity and differentiability of complex functions
Week 5	
Jan 29, Monday	Analytic functions, Cauchy-Riemann equations
Jan 30, Tuesday	Harmonic functions.
Jan 31, Wednesday	<i>Holiday (Guru Ravidas Jayanti)</i>
Feb 1, Thursday	BM-361 (UNIT-IV) Mappings by elementary functions: Translation, rotation, Magnification and Inversion Conformal Mappings
Feb 2, Friday	Mappings by elementary functions: Translation, rotation, Magnification and Inversion Conformal Mappings continued
Feb 3, Saturday	Mappings by elementary functions: Translation, rotation, Magnification and Inversion Conformal Mappings continued
Week 6	
Feb 5, Monday	Mobius transformations. Fixed points, Cross ratio
Feb 6, Tuesday	Inverse Points and critical mappings
Feb 7, Wednesday	BM- 362 (UNIT-I) Vector spaces, subspaces, Sum and Direct sum of subspaces
Feb 8, Thursday	Linear span, Linearly Independent and dependent subsets of a vector space
Feb 9, Friday	Finitely generated vector space
Feb 10, Saturday	<i>Holiday (Maharashi Dayanand Saraswati Jayanti)</i>
Week 7	
Feb 12, Monday	Existence theorem for basis of a finitely generated vector space
Feb 13, Tuesday	<i>Holiday (MahaShiv Ratri)</i>
Feb 14, Wednesday	Finite dimensional vector spaces
Feb 15, Thursday	Invariance of the number of elements of bases sets, Dimensions, Quotient space and its dimension
Feb 16, Friday	BM- 362 (UNIT-II) Homomorphism and isomorphism of vector spaces

Feb 17, Saturday	Linear transformations and linear forms on vector spaces
Week 8	
Feb 19, Monday	Vector space of all the linear transformations Dual Spaces
Feb 20, Tuesday	Bidual spaces, annihilator of subspaces of finite dimensional vector spaces
Feb 21, Wednesday	Null Space, Range space of a linear transformation, Rank and Nullity Theorem
Feb 22, Thursday	BM- 362 (UNIT-III) Algebra of Linear Transformation
Feb 23, Friday	Minimal Polynomial of a linear transformation
Feb 24, Saturday	Singular and non-singular linear transformations
Week 9	
Feb 26, Monday	Matrix of a linear Transformation,
Feb 27, Tuesday	Change of basis, Eigen values and Eigen vectors of linear transformations.
Feb 28, Wednesday	Vacation-I (28.02.2018 to 04.03.2018) as per Academic Calendar of KUK
Mar 1, Thursday	-Do-
Mar 2, Friday	-Do-
Mar 3, Saturday	-Do-
Week 10	
Mar 5, Monday	BM- 362 (UNIT-IV) Inner product spaces, Cauchy-Schwarz inequality SUBMISSION OF ASSIGNMENT-1 AS PER KUK NORMS OF INTERNAL ASSESSMENT
Mar 6, Tuesday	Orthogonal vectors, Orthogonal complements
Mar 7, Wednesday	Orthogonal sets and Basis
Mar 8, Thursday	Bessel's inequality for finite dimensional vector spaces,
Mar 9, Friday	Gram-Schmidt, Orthogonalization process
Mar 10, Saturday	Adjoint of a linear transformation and its properties, Unitary linear transformations
Week 11	
Mar 12, Monday	BM- 363 (UNIT-I) Velocity and acceleration along radial
Mar 13, Tuesday	Transverse, Tangential and normal directions.
Mar 14, Wednesday	Relative velocity and acceleration

Mar 15, Thursday	Simple harmonic motion
Mar 16, Friday	Elastic strings
Mar 17, Saturday	BM- 363 (UNIT-II) Mass, Momentum and Force
Week 12	
Mar 19, Monday	Newton's laws of motion
Mar 20, Tuesday	Work, Power and Energy.
Mar 21, Wednesday	Definitions of Conservative forces and Impulsive forces
Mar 22, Thursday	Definitions of Conservative forces and Impulsive forces continued
Mar 23, Friday	<i>Holiday (Shaheed Diwas)</i>
Mar 24, Saturday	BM- 363 (UNIT-III) Motion on smooth and rough plane curves SUBMISSION OF ASSIGNMENT-2 AS PER KUK NORMS OF INTERNAL ASSESSMENT
Week 13	
Mar 26, Monday	Projectile motion of a particle in a plane
Mar 27, Tuesday	Projectile motion of a particle in a plane continued
Mar 28, Wednesday	Vector angular velocity
Mar 29, Thursday	<i>Holiday (Mahavir Jayanti)</i>
Mar 30, Friday	BM- 363 (UNIT-IV) General motion of a rigid body
Mar 31, Saturday	Central Orbits
Week 14	
April 2, Monday	Kepler laws of motion
April 3, Tuesday	Motion of a particle in three dimensions
April 4, Wednesday	Acceleration in terms of different co-ordinate systems
April 5, Thursday	Revision BM-361
April 6, Friday	Revision BM-361 continued
April 7, Saturday	Revision BM-361 continued
Week 15	
April 9, Monday	Test BM-361

April 10, Tuesday	Revision BM-362
April 11, Wednesday	Revision BM-362 continued
April 12, Thursday	Revision BM-362 continued
April 13, Friday	Test BM-362
April 14, Saturday	<i>Holiday (Dr. B.R. Ambedkar's Jayanti)</i>
Week 16	
April 16, Monday	Revision BM-363
April 17, Tuesday	Revision BM-363 continued
April 18, Wednesday	<i>Holiday (Lord Parshu Ram Jayanti)</i>
April 19, Thursday	Revision BM-363 continued
April 20, Friday	Test BM-363
April 21, Saturday	Revision of Syllabus and Solving Queries of Students
Week 17	
April 23, Monday	Revision of Syllabus and Solving Queries of Students
April 24, Tuesday	Revision of Syllabus and Solving Queries of Students
April 25, Wednesday	Revision of Syllabus and Solving Queries of Students
April 26, Thursday	Revision of Syllabus and Solving Queries of Students
April 27, Friday	Revision of Syllabus and Solving Queries of Students
April 28, Saturday	Revision of Syllabus and Solving Queries of Students

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