

MANOHAR MEMORIAL (P.G.) COLLEGE, FATEHABAD

Lesson Plan Format (17 weeks from January 2018 to April 2018)

Name of the Assistant/Associate Professor: Dr. Pardeep Goel

Department: Mathematics

Class and Section →	B.A.- I (E)	BA-II (D)	BA-II (D)	BA-III (C)
Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 1 Chapter 1: Prerequisites	Multiple Products of Vectors	Exact Differential Equations	Computers : an Introduction	Programming in C
Assignments	General Discussions	General Discussions	General Discussions	General Discussions
Week 1 Date 01.01.2018	Introduction of syllabus	Basic concepts of Differential Equations	Introduction	Primary Memory
Week 1 Date 02.01.2018	Basic Definitions	Theorem regarding necc. condition	Programmer's Model of computer	Secondary Memory
Week 1 Date 03.01.2018	Type of Vectors	Solution of Exact diff. equation	Input and output devices	Working of computer
Week 1 Date 04.01.2018	Addition and resultant of vectors	Integrating factor	Algorithm	Algorithm
Week 1 Date 05.01.2018	Product of vectors	Examples of ex. 1.1., 1.2	Examples of Algorithm	Flowcharts
Week 1 Date 06.01.2018	Properties of Dot Product	Problems of ex. 1.1, 1.2	Flowchart limitations	Revision of chapter

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 2 Chapter 1: Prerequisites	Multiple Product of vectors	Exact differential equations	Introduction to C	Programming Tools
Assignments	General Discussion	Short Answer type questions	General Discussion	General Discussion
Week 2 Date 08.01.2018	Angle between two vectors	Integrating factor homogenous equation	C character set	Typing practice
Week 2 Date 09.01.2018	Properties of cross product	rule 1	C Tokens Constants	Typing Practice
Week 2 Date 10.01.2018	Triple Product of vectors	Examples of Ex. 1.3, 1.4	Variable and rules for variable	Typing Tools
Week 2 Date 11.01.2018	Examples of Scalar Triple Products	Problems of Ex. 1.3, 1.4	Signed and unsigned variable	Logging in C language
Week 2 Date 12.01.2018	Problems of Ex. 1.1	Rule 2 and 3 for I.F.	String constants	Programming in C language
Week 2 Date 13.01.2018	Theorems on Triple Product	Exercisesssssssss 1.5	Escape sequences	Compilation Procedure

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 3 Chapter 1: Prerequisites	Multipel Product of vectors	Exact differential equations	Data Types	Output using C

Assignments	Revision of Basic concepts	Revision of Previous Exercise	Test of Chapter 1, 2	Revision
Week 3 Date 15.01.2018	Vector Triple Product	Rule 3 & 4 for I.F.	Types Int, Characters	Typing Practice
Week 3 Date 16.01.2018	Example of Ex. 1.2 and Problems	Examples of Ex. 1.6	Qualifiers Assignment statement	Typing Practice
Week 3 Date 17.01.2018	Product of four vectors	Examples of Ex. 1.7	Scanf and Print function	Finding errors in program
Week 3 Date 18.01.2018	Caplaner Vectors	Rule 5 & 6	Main Function	Finding errors in Programme
Week 3 Date 19.01.2018	Reciprocal system of vectors	Problem of Ex 1.6., 1.7	Execution of C Program	Control Strings
Week 3 Date 20.01.2018	Revision of Whole Chapter	Revision of Whole chapter	Type def statement	Type Practice
Class and Section →	B.A.- I (E)	BA-II (D)	BA-II (D)	BA-III (C)
Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 4 Chapter 2: Prerequisites	Differentiation of vectors	Equation of First order not First degree	Operators and expressions	Programming in C
Assignments	Test of Chapter 1	Revision of 1 st chapter	Revision of Previous chapters	Use of Built in functions
Week 4 Date 22.01.2018	Holiday			
Week 4 Date 23.01.2018	Scaler function, vector function	solution of diff. eqn. by factors	Arithmetic's Pointers	Declaration of statement

Week 4 Date 24.01.2018	Holiday			
vWeek 4 Date 25.01.2018	Derivation of a function	Problems of Ex. 2.1	Bitwise conditional operators	Compilation of Program
Week 4 Date 26.01.2018	Holiday			
Week 4 Date 27.01.2018	Examples of Ex. 2.1	Differentiations w.r.t. x	Library functions in C	Revision of Programming

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 5 Chapter 2: Prerequisites	Differentiation of vectors	Equations of first order not degree	Decision control structures	Program to find area of circle
Assignments	Revision of Chapter	Revision of Exercise 2.1	Unit Test (Boys)	Practice of Coding
Week 5 Date 29.01.2018	Problems of Ex. 2.1	Solution by derivation w.r.t y	Control structures	Programe Coding
Week 5 Date 30.01.2018	Tangent vectors	Examples of Ex. 2.2	If statement	Compilation & execution
Week 5 Date 31.01.2018	Holiday			
Week 5 Date 01.02.2018	Examples of Ex. 2.1	Clairut equation	Switch statement	Practice of some more programe

Week 5 Date 02.02.2018	Problem discussion of Ex. 2.2	Sigular solution	Got to statement	Repeat
Week 5 Date 03.02.2018	Revision of whole chapter	General solution	Program of central statement	Repeat

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 6 Chapter 3: Prerequisites	Gradiant, Divergence and curl	Orthogonal Trajectory	Types of Loops	Practical of Loops
Assignments	Unit Test (Boys)	Unit Test-I	Unit Test (Girls)	NIL
Week 6 Date 05.02.2018	Partial Differential	unit test for boys	types of loops	use of loops in programming
Week 6 Date 06.02.2018	Higher order derivation	Introduction to concept	The while statements	Program to find fibbonacci series
Week 6 Date 07.02.2018	Orthogonality and examples of 3.1	unit test for girls	for loop	Repeat
Week 6 Date 08.02.2018	problems of Ex:3.1	Working rule for Cartesian	Iteration process with example	Repeat
Week 6 Date 09.02.2018	Gradient of a scalar function	working rule for polar cord.	Continue statements	Program to generate Prime numbers
Week 6 Date 10.02.2018	Holiday			

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 7 Chapter 3: Prerequisites	Gradiant Divergence and curl	orthogonal Trajectory	Functions	Program using Functions
Assignments	Unit test for girls	Unit test discussion	Revision of chapter 1 to6	Revision
Week 7 Date 12.02.2018	Important Results of Gradients	Example of Ex:3.1 continue	Advantages of functions	Program to find factorial
Week 7 Date 13.02.2018	Holiday			
Week 7 Date 14.02.2018	Problem discussion of Ex: 3.2	Problem discussion	Local and Global variables	Repeat
Week 7 Date 15.02.2018	Directional Derivatives	Problem continue	Execution of a Function	Program to generate Fibonacci series
Week 7 Date 16.02.2018	Tangents and Normals	Basic concept of Linear Diff. equations	Program using functions	Repeat
Week 7 Date 17.02.2018	Problems of Ex. 3.3	Revision of Chapter-3	Dummy Parameter	Repeat

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Week 8 Chapter 3: Prerequisites	Gradiant, Divergence and curl	Diff. equations with constant coefficients	The C Preprocessor	Program to calculate C.I.
Assignments	P.P.T.	Revision	Test of Ch. 1-5	Revision
Week 8 Date 19.02.2018	Divergence of a vector function	Complementary function	File inclusion	Programe
Week 8 Date 20.02.2018	Properties of Divergence	Particular Integral	Macros	Repeat
Week 8 Date 21.02.2018	Examples of Ex. 3.4	Exponential Terms	Compilation Directives	Repeat
Week 8 Date 22.02.2018	Problems Discussion of Ex. 3.4	Sine/Cosine Terms	Nesting of Directives	Program to solve quardratic equation
Week 8 Date 23.02.2018	Curl of a vector Functions	Algebric Terms	The error directives	Repeat
Week 8 Date 24.02.2018	Theorems and Examples of Curl	Examples of Ex. 4.1	Pasting operators	Repeat

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Metods (TH)	Prog. in C and Numerical Metods (TH)
Week 9 Chapter 3: Prerequisites	Gradiant, Divergence and curl	Diff. equations with constant coefficients	ARRAYS	Program coding
Assignments	PPT	Revision	Revision of Chapter 6 & 8	Revision

Week 9 Date 26.02.2018	Examples of Ex. 3.5	Unit Test (Boys)	Array Types	Program to find Trace of matrix
Week 9 Date 27.02.2018	Laplacian operation	Unit Test (Girls)	Declaration of arrays	Repeat
Week 9 Date 28.02.2018	University Vacations			
Week 9 Date 01.032018	University Vacations			
Week 9 Date 02.03.2018	University Vacations			
Week 9 Date 03.032018	University Vacations			

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 10 Chapter 4: Prerequisites	Curvilinear Co-ordinates	Diff. equations with constant coefficients	Pupating of Strings	Program coding
Assignments	Previous years Question Papers	Revision	Unit Test-II	Revision
Week 10 Date 05.03.2018	Co-ordinate system	Particular Integral for Special functions	Getchar and Gets function	Program to swap two numbers using pointers
Week 10 Date 06.03.2018	Curvilinear coordinates	Particular Integral for Product of two terms	Copying strings	repeat
Week 10 Date 07.03.2018	Unit tangent vectors	Examples of Ex. 4.3	Structure and unions	repeat

Week 10 Date 08.03.2018	Orthogonality Theorem	Problem of Ex. 4.3	The Size of operator	Program for pattern mat
Week 10 Date 09.03.2018	Arc length, Area and volume	Case of failure	Array of structures	repeat
Week 10 Date 10.03.2018	Expression for Gradient	Revision of Chapter	Structure and functions	repeat

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 11 Chapter 4: Prerequisites	Curvilinear Coordinates	Homogenous diff. equations	Pointers	Program Coding
Assignments	Previous papers solve	PPT	Previous papers solve	Previous papers solve
Week 11 Date 12.03.2018	Divergence, gradient and curl	Substitution method for Independent variable	Concept of pointers	Program to find GCD of Three Numbers
Week 11 Date 13.03.2018	Spherical Coordinates	Examples in Homogenous equations	Pointers arithmetic	Repeat
Week 11 Date 14.03.2018	Cylindrical Coordinates	Problem discussion	Pointers and Arrays	Repeat
Week 11 Date 15.03.2018	Orthogonality of system	derivation for CF	Pointers to Functions	Program to calculate perimeter of a circle
Week 11 Date 16.03.2018	Examples 1 to 6	Derivation for P.I.	Files in C	Repeat

Week 11 Date 17.03.2018	Examples 7 onwards	Problem Discussion of Ex. 5.2	Text Files and Binary Files	Repeat
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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 12 Chapter 4: Prerequisites	Curvilinear Coordinates	Diff. equation of 2nd degree	Pupating of Strings	Program Coding
Assignments	Previous papers solve	Previous papers solve	Unit test 2	Previous papers solve
Week 12 Date 19.03.2018	Coordinates system	Introduction to concept	Getch and Gets Functions	Program to swap two numbers using pointers
Week 12 Date 20.03.2018	Curvilinear Coordinates	Method-I by changing independent variable	Copying Strings	Repeat
Week 12 Date 21.03.2018	Unit Tangent Vectors	Example of method-I	Structure and Unions	Repeat
Week 12 Date 22.03.2018	Unit Normal Vectors	Problem discussion of Ex. 6.1	Sizeof Operator	Program for pattern matching
Week 12 Date 23.03.2018	Arc length, Area and volume Element	Method-II by removing First order derivative	Array of Structures	Repeat
Week 12 Date 24.03.2018	Expression of Gradient	Examples of Method-II	Structure and Functions	Repeat

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 13 Chapter 4: Prerequisites	Curvilinear Coordinates	Diff. equation of 2nd degree	Pointers	Program Coding
Assignments	Previous Question paper Solution	Previous papers solve	Previous Question paper Solution	Revision
Week 13 Date 26.03.2018	Divergence curl and gradient	Problem discussion of Ex. 6.2	Concept of pointers	Program to find GCD OF three numbers
Week 13 Date 27.03.2018	Spherical coordinate	Method-III by changing dependent variable	Pointer arithmetic	Repeat
Week 13 Date 28.03.2018	Cylindrical Coordinate	Examples of Method-III	Pointer and arrays	Repeat
Week 13 Date 29.03.2018	Orthogonality of system	Problem discussion of Ex. 6.3	Pointer to function	Program to calculate Perimeter of circle
Week 13 Date 30.03.2018	Example 1 to 6	Method of variation of Parameter	Files in C	Repeat
Week 13 Date 31.03.2018	Example 7 to 14	New Parameters U & V	Text files and Binary files	Repeat

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 14 Chapter 5: Prerequisites	Curvilinear Coordinates	Diff. equation of 2nd degree	Solution of Algebraic equations	Program coding

Assignments	Short type question	Previous papers solve	Test of Chapter 9-15	-
Week 14 Date 02.04.2018	Velocity in curvilinear Cord.	Examples of Variation of parameter	Introduction to topic	Program to Bosection method
Week 14 Date 03.04.2018	Acceleration in curvilinear Cord.	Problem discussion of Ex. 6.4	Descarte's rule	Repeat
Week 14 Date 04.04.2018	Problem discussion of Exercise 4.1	Misllenus examples of chapter-6	Location of roots	Repeat
Week 14 Date 05.04.2018	Problem discussion (continuing)	Revision of Chapter 6	Bisection Method	Program for Regula False method
Week 14 Date 06.04.2018	Holiday			
Week 14 Date 07.04.2018	Revision of Chapter 4	Revision continue	Regula Falsi Method	Repeat

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 15 Chapter 5 : Prerequisites	Vector Integration	Simultaneous diff. equation	Solution of Algebraic equations	Program to find roots
Assignments	Unit Test-II (Boys)	Unit Test-2	Revision	Revision
Week 15 Date 09.04.2018	Indefinite Integral	Basic concepts	order of convergence	Program of Method Newton Raphson

Week 15 Date 10.04.2018	Theorum 5.2, Examples	Examples related to topic	Newton Raphson Method	Repeat
Week 15 Date 11.04.2018	Problems of 5.1	derivation of results	Examples of Newton Method	Repeat
Week 15 Date 12.04.2018	Holiday			
Week 15 Date 13.04.2018	Examples of Ex. 5.2	Problem discussion Ex. 7.1	Revision of chapter one	Repeat
Week 15 Date 14.04.2018	Problem discussion of Ex. 5.2	Problem continue	Revision of chapter one	Repeat

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 16 Chapter 5 : Prerequisites	Vector Integration	Simultaneous diff. equation	Algebraic and Trancedental equations	Program coding
Assignments	Unit Test-II (Girls)	Unit Test-2	Revision of Chapters	Revision
Week 16 Date 16.04.2018	Circulation along a line	Method of higher derivative	Unit Test for Boys	Program to reverse a strong
Week 16 Date 17.04.2018	Work done Problems	Examples of ex. 7.2	Unit Test for Girls	Repeat
Week 16 Date 18.04.2018	Surface Integrals	Lagrange's Method	Previous year's question papers	Repeat
Week 16 Date 19.04.2018	Examples 1,2,3	Examples of Lagrange's Method	Repeat	Program for product of Matrix

Week 16 Date 20.04.2018	Examples 4,5,6 of Ex. 5.3	Problem of Ex. 7.2	Power Point Presentation	Repeat
Week 16 Date 21.04.2018	Problem discussion of Ex. 5.3	Revision of Whole chapter	PPT	Repeat

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Subject	Vector Calculus	ODE	Prog. in C and Numerical Methods (TH)	Prog. in C and Numerical Methods (TH)
Week 17 Chapter 6 : Prerequisites	Guass, Green and Stoke's Theorum	Total diff. equations	Algebric equations	Program coding
Assignments	Short questions	Revision	Short type questions	PPT
Week 17 Date 23.04.2018	Green's Theorum	Question paper of Last Years	Crout method	Program for Jacobi Method
Week 17 Date 24.04.2018	Stoke's Theorum	Question paper of Last Years	Examples of crout method	Repeat
Week 17 Date 25.04.2018	Cartisian form of stoke's theorum	Question paper of Last Years	Jacobi method	Repeat
Week 17 Date 26.04.2018	Examples of Ex. 5.2	Question paper of Last Years	Examples of Jasobi method	Program for Guass Siedal Method
Week 17 Date 27.04.2018	Examples continuing	Question paper of Last Years	Guass Siedal Method	Repeat
Week 17 Date 28.04.2018	Problem Discussion	Question paper of Last Years	Examples of Guass Method	Repeat