M.V.R. DEGREE COLLEGE
(UG And PG Courses)

(Affiliated to Andhra University)
An Institution of Priyadarshini Educational Academy)
NAAC ACCREDITED COLLEGE

Dr.V.Rama Rao, M.A.,Ph.D.,
Secretary & Correspondent

Dr.A.Balakrishna,M.Sc.,Ph.D.,
Principal

Department Of Mathematics
Bachelor Of Science
REVISED CBCS
W.E.F 2020-2021

Code	Title of the paper	Course Out Comes
COURSE –I	**Differential equations and differential equations problem solving sessions**	CO 1: To find the linear differential equations. CO 2:To find the solutions of differential equations by using exactdifferential equations CO 3:Using orthogonal trajectories in Cartesian form and polar form of family curves. CO4:To solve homogenous differential equations using somerules CO5:Compute all the solutions of second and higher order linear differential equations with constant coefficients, linear equations with variable coefficients. CO6:To find complementary and particular functions using somemethods i.e trigonometry ,polynomial, exponential functions CO7:To find complementary and particular functions using some methods i.e trigonometry ,polynomial, exponential with trigonometryfunctions CO8:Variation of parameters CO9:Compute all the solutions of Higher Order Linear Differential Equations with Constant Coefficients and non Constant Coefficients

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COURSE-II	**Three diamensional solid geometry and three diamensional solid geometry problem solving session**	CO1:To find equation of plane in terms of its intercepts on the axis. CO2:To find combined equation of two planes, Orthogonal projectionon a plane CO3:Find the angle between planes, Bisector planes, Perpendiculardistance from a point to a plane, Image of a line on a plane, Intersection of two lines CO4:The condition that a given line may lie in a given plane CO5:Sets of conditions which determine a line CO6:The shortest distance between two lines CO7:Angle between a line and a plane CO8:Definition and equation of the sphere; CO9:Equation of a circle CO10:To find Power of a point; Tangent plane; Plane of contact; Polarplane; Pole of a Plane; Conjugate points; Conjugate planes. CO11:Definitions of a cone; vertex; guiding curve; generators CO12:Equation of the right circular cone with a given vertex; axis and semi-vertical angle CO13:Definition of a cylinder; Equation to the cylinder whose generators intersect a given conic and are parallel to a given line

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COURSE-III	**Abstract Algebra and Abstract Algebra Problem Solving Sessions**	CO1:To find set is a group or not with some conditions CO2:Binary Operation – Algebraic structure – semi group-monoid CO3:Write the definitions of Complex, subgroup and coset CO4:Prove some theorems Index of a subgroups of a finite groups– Lagrange's Theorem. CO5:Examples of Subgroups, cosets and union and intersection ofSubgroups CO5: criterion for a subgroup to be a normal subgroup – intersectionof two normal subgroups CO6:criteria for the existence of a quotient group CO7:Definition of homomorphism ,Isomorphism, aultomorphism , kernel of a homomorphism CO8:Fundamental theorem on Homomorphism and applications CO9:Theorems of permutation multiplication – Inverse of a permutation – cyclic permutationsand Cayley's theorem. CO10:Definition Ring and their properties CO11:Definitions of Integral Domains,Fields CO12:Theorems on Integral Domains and Fields CO13:Definition of Characteristic of a Ring CO14:Theorems on Characteristic of a Ring

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COURSE IV	**Real Analysis & Real Analysis Problem Solving Sessions**	CO1:To understand about all numbers defintions. CO2:To learn about real numbers in absolute value, real line CO3:To know about theorems of convergence, limits andcontinuity CO4:Definition and Theorems on sequences CO5:To practice the test problems 1)P-test 2.) Cauchey's n^{th} root test or Root Test. 3.) D'-Alemberts' Test or Ratio Test.4.) Alternating Series – Leibnitz Test CO6:Know some theorems Cauchey's general principle of convergence, Absolute convergence and conditional convergence, semi convergence CO7:To use the definition of continuity CO8:To know the different types of Continuity CO9:To learn some examples and theorems CO10:To learn definition of differentiation by using continuitydefinition CO11:To do some problems by using differentiation function CO12:To know the Mean value Theorems CO13:To know Properties of integrable functions CO14:Fundamental theorem of integral calculus, integral asthe limit of a sum

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COURSE V	**Linear Algebra &Linear Algebra Problem solving sessions**	CO1:I t is easily to highlight the need for linear algebra for physicists- quantum mechanics is entirely based on it CO2:To learn properties of vector spaces CO3:To write the properties of vector spaces CO4:To do some theorems and problems in Dimension of a Vector space, Dimension of a subspace, Quotient space and Dimension of Quotient space. CO5:To find rank and nullity in the matrix CO6:Using some properties in the linear transformations CO7: Give some examples in the linear transformations CO 8: It used operations in rows and columns in various methods. CO 9: It is used structural reasoning with entries of the matrix and orientation of the shape CO 10: To do some theorems are Bessel's inequality and Parseval's Identity

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