

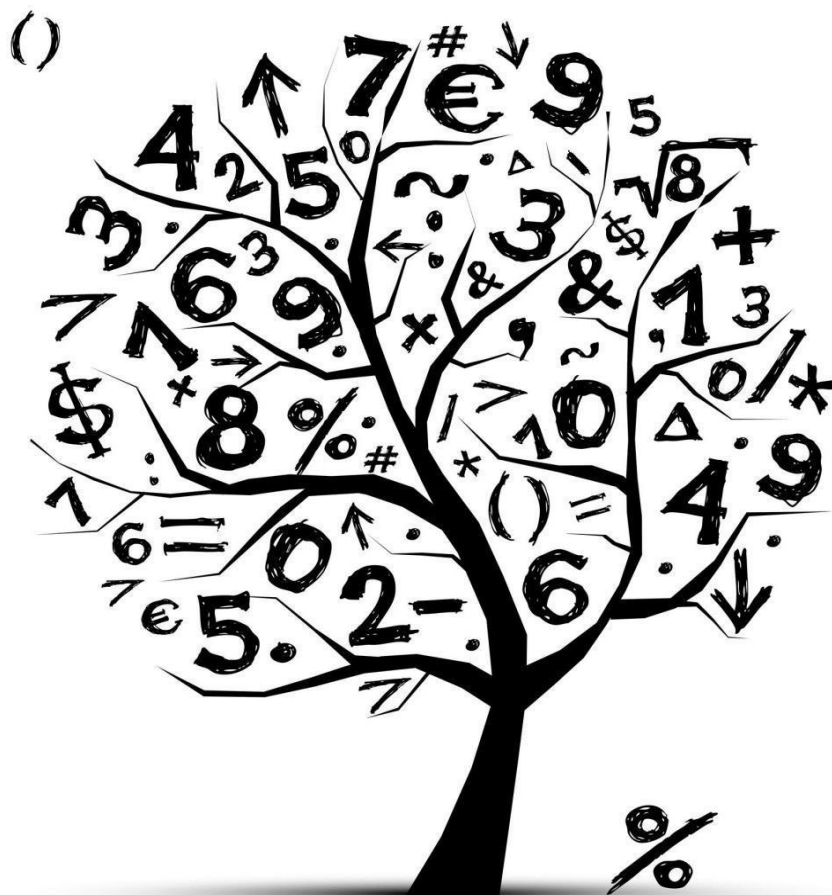


KVR, KVR & MKR COLLEGE: KHAJIPALEM
KHAJIPALEM - 522329 , Bapatla District (A.P)
(Re- Accredited by NAAC "B++" Grade With CGPA: 2.81
E-Mail: kvrkvr_mkrcollege@yahoo.co.in , kvrkvrmkrc@gmail.com



DEPARTMENT OF MATHEMATICS

ATTAINMENT OF COURSE OUTCOMES



B.Sc., MATHEMATICS

COs, PSO and POs Mapping



PROGRAMME OUTCOMES (POs)

PO 1	Disciplinary Knowledge 1. Able to show thorough knowledge and grasp more academic subjects included in an undergraduate programme of study.
PO 2	Communication Skills 1. Cable to communicate ideas and concepts clearly both orally and in writing 2. Able to communicate with others through proper means, express oneself with confidence 3. Display the capacity to listen carefully, read and write analytically, and communicate complex information to various groups in a clear and concise manner..
PO 3	Critical Thinking 1. Being able to apply analytical thought to a body of information 2. Being able to analyze and evaluate arguments, assertions, and opinions using empirical data 3. Being able to spot pertinent assumptions or implications and create logical arguments 4. By using a scientific approach to knowledge acquisition, critically analyze practices, policies, and theories.
PO 4	Problem Solving 1. Ability to extrapolate from what has been learned and apply one's competences to solve various types of unfamiliar challenges 2. Apply one's learning to real-world circumstances.
PO 5	Research related Skills 1. Ability to recognize cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyze, interpret, and draw conclusions from data 2. Ability to plan, carry out, and report the results of an experiment or investigation. 3. An inquisitive mindset and the capacity to pose pertinent/appropriate questions, problematize, synthesize, and articulate.
PO 6	Team Work/ Cooperation 1. The ability to facilitate cooperative or coordinated effort on the part of a group, act together as a group or a team in the interests of a common cause, and work effectively as a member of a team..
PO 7	Digital Literacy Skills 1. Capability to use ICT in a range of learning scenarios 2. Show the ability to access, assess, and utilize a variety of Relevant information sources, and use suitable tools for data analysis.
PO 8	Self – directed Learning 1. Capacity to manage a project from start to finish, determines the right resources needed for the project, and operates independently.
PO 9	Moral & Ethical Awareness 1. Ability to uphold moral/ethical ideals in how one lives, to articulate a viewpoint or argument on an ethical topic from several angles, and to employ ethical practices in all aspects of one's job. 2. Capable of demonstrating the ability to recognize ethical issues that are relevant to one's work, refrain from unethical behavior, respect for environmental and sustainability



KVR, KVR & MKR COLLEGE: KHAJIPALEM
KHAJIPALEM - 522329 , Bapatla District (A.P)
(Re- Accredited by NAAC “B++” Grade With CGPA: 2.81
E-Mail: kvrkvr_mkrcollege@yahoo.co.in , kvrkvrmkrc@gmail.com



	issues, and taking objective, unbiased, and truthful actions in all facets of one's work.
P0 10	Leadership Qualities/ Readiness 1. Ability to plan out the responsibilities of a team or organization, to define direction, to create a team that can help realize the vision, to inspire and motivate team members to connect with that vision 2. To use managerial abilities to smoothly and efficiently lead people to their intended destination.



PROGRAMME SPECIFIC OUTCOMES (PSOs)

The Department of Mathematics, KSN Government Degree College for Women, Anantapur, offers Three Year (comprising 6 semesters) Undergraduate Programme in Mathematics with objective of empowering students to acquire all-inclusive understanding of Mathematics as an academic discipline. Upon completion of B. Sc. Mathematics Degree Programme successfully, the students shall acquire the following skills and competencies.

PSO 1	Create deep interest in learning mathematics.
PSO 2	Develop broad and balanced knowledge and understanding of definitions, concepts, principles and theorems.
PSO 3	Familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences.
PSO 4	Enhance the ability of learners to apply the knowledge and skills acquired by them during the programme to solve specific theoretical and applied problems in mathematics.
PSO 5	Provide students/learners sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas on multiple disciplines concerned with mathematics
PSO 6	Encourage the students to develop a range of generic skills helpful in employment, internships and social activities.



PSO – PO MAPPING

	POs									
	1	2	3	4	5	6	7	8	9	10
1	✓		✓	✓				✓		
2	✓		✓	✓			✓	✓		
3	✓		✓					✓		
4	✓		✓	✓			✓			
5	✓			✓			✓	✓		
6	✓			✓			✓			



COURSE OUTCOMES (COs)

Course Code: MAT1SK

Course Name: Differential Equations

Upon completion of this course, the student will be able to:		P S O	PO
CO 1	Solve linear differential equations. Convert non-exact homogeneous equations to exact differential equations by using integrating factors.	2	1,3,4,7,8
CO 2	Know the methods of finding solutions of differential equations of the first order but not of the first degree.	3	1,4,8
CO 3	Solve higher-order linear differential equations, both homogeneous and non homogeneous, with constant coefficients.	5	1,4
CO 4	Understand the concept and apply appropriate methods for solving differential equations.	6	1,4,7

Course Code: MAT2SK

Course Name: Three Dimensional Analytical Solid Geometry

Upon completion of this course, the student will be able to:		PSO	PO
CO 1	Get the knowledge of planes.	1	1,4,8
CO 2	Basic idea of lines, sphere and cones.	2	1,4,7
CO 3	understand the properties of planes, lines, spheres and cones.	4	1,3,7
CO 4	express the problems geometrically and then to get the solution.	5	1,4,8

Course Code: MAT3SK

Course Name: Abstract Algebra

Upon completion of this course, the student will be able to:		PSO	PO
CO 1	Acquire the basic knowledge and structure of groups, subgroups and cyclic groups. Get the significance of the notation of a normal subgroups.	1	1,3,4
CO 2	Get the behavior of permutations and operations on them. study the homomorphisms and isomorphisms with applications	2	1,4,7
CO 3	Understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.	4	1,3,7
CO 4	understand the applications of ring theory in various fields.	5	1,4,8



Course Code: MAT4SK

Course Name: Real Analysis

Upon completion of this course, the student will be able to:		PSO	PO
CO 1	Get clear idea about the real numbers and real valued functions.	2	1,4,8
CO 2	Obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/ series.	3	1,3,8
CO 3	Test the continuity and differentiability and Riemann integration of a function.	4	1,3,7
CO 4	Know the geometrical interpretation of mean value theorems.	5	1,4,8

Course Code: MAT4SKB

Course Name: Linear Algebra

Upon completion of this course, the student will be able to:		PSO	PO
CO 1	Understand the concepts of vector spaces, subspaces, bases, dimension and their properties	2	1,4,7
CO 2	understand the concepts of linear transformations and their properties	4	1,3,4
CO 3	Apply Cayley- Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods	5	1,4,8
CO 4	Learn the properties of inner product spaces and determine orthogonality in inner product spaces.	5	1,4,7



Course Code: MAT5SKA

Course Name: Multiple integrals and applications of Vector calculus

Upon completion of this course, the student will be able to:		PSO	PO
CO 1	Learn multiple integrals as a natural extension of definite integral to a function of two variables in the case of double integral / three variables in the case of triple integral. Learn applications in terms of finding surface area by double integral and volume by triple integral.	2	4,7,8
CO 2	Determine the gradient, divergence and curl of a vector and vector identities.	3	1,3,4
CO 3	Evaluate line, surface and volume integrals.	4	1,3,7
CO 4	understand relation between surface and volume integrals (Gauss divergence theorem), relation between line integral and volume integral (Green's theorem), relation between line and surface integral (Stokes theorem)	5	1,4,8

Course Code: MAT5SKB

Course Name: Integral transforms with Applications

Upon completion of this course, the student will be able to:		PSO	PO
CO 1	Evaluate Laplace transforms of certain functions, find Laplace transforms of derivatives and of integrals. Determine properties of Laplace transform which may be solved by application of special functions namely Dirac delta function, error function, Bessel function and periodic function.	2	1,4,7
CO 2	Understand properties of inverse Laplace transforms, find inverse Laplace transforms of derivatives and of integrals.	2	1,4,8
CO 3	Solve ordinary differential equations with constant/ variable coefficients by using Laplace transform method.	4	1,3,4
CO 4	Comprehend the properties of Fourier transforms and solve problems related to finite Fourier transforms.	5	1,4,7