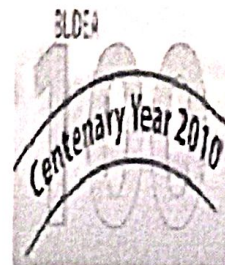


BLDEA's



**S.B.ARTS AND K.C.P.SCIENCE COLLEGE, VIJAYAPUR.**

**DEPARTMENT OF MATHEMATICS**

**REPORT**

**ON**

**PROGRAMME OUTCOME, PROGRAMME SPECIFIC  
OUTCOME AND COURSE OUTCOME  
MAPPING AND EVALUATION.**



Head of the  
Department

Department of Mathematics,  
S. B. Arts & K.C.P. Science  
College, Vijayapur.



IQAC

CO-ORDINATOR

**IQAC, Co-ordinator**  
S.B.Arts & K.C.P.Science College,  
Vijayapur.



Principal,  
S. B. Arts & KCP Sc. College,  
Bijapur

**PROGRAMME OUTCOME:**

PROGRAMME	OBJECTIVES
PO1: Understanding of fundamental knowledge.	Definition, concept, principles, types, methods, etc.
PO2: Experimental learning Methods.	Sectioning, mounting, instrument handling, demonstration, analysis.
PO3: Opportunities	Higher Education ,Competitive exams, self business And Job Career.

**PROGRAMME SPECIFIC OUTCOME:**

PROGRAMME	OBJECTIVES
PSO1: Acquiring basic knowledge.	Definition, concept, types, Principles, functions.
PSO2: Formulation of equation	Aim and goal of the system.
PSO3: Enhance skills	Brain teasers, Fish bone activity.
PSO4: Approach of scientific temper.	Applications of logic, Working mechanism of Mathematical instruments.
PSO5: Development of designing skills.	Flow Charts, Diagrams, Models and graphs.
PSO6: Beauty of mathematics in nature	Fibonacci Series.
PSO7: Research Methodology in Mathematics.	Reliability and validity of research within the field of mathematics education.
PSO8: Building Applied Skills in Environmental science.	Building of Dams and Roads, Forest Management.
PSO9: Mathematics is the Cradle of all Creations.	Be it a cook or a Farmer, a Carpenter or a mechanic, a Shopkeeper or a Doctor, an Engineer or a Scientist, a musician or a magician, everyone needs mathematics in there day today life
PSO10: Self Employment.	Vedic maths, Reasoning ,short tricks for competitive exam, Quantitative aptitude.

## B.Sc I Semester, paper-I (Differential Calculus)

CO1- Student will learn concept of Real numbers

CO2- Student will learn knowledge about Limits and continuity

CO3- Students will get the knowledge of Higher order Derivatives.

CO4- Student will learn and understand Mean Value Theorems.

CO5- They will understand about Indeterminate Forms.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	PSo1	PSo2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	-	-	-	-	-	-	3	-	-
Co2	3	3	3	3	1	-	2	-	3	3	3	1	-
Co3	3	1	2	3	-	-	1	-	-	3	3	1	-
CO4	3	3	1	-	-	-	3	-	-	2	-	-	-
CO5	3	3	2	3	-	2	-	-	1	3	2	2	1



## B.Sc I Semester Paper- II (Algebra and Trigonometry)

CO1- Student will learn about the Determinants.

CO2- Student will learn knowledge about the Matrices.

CO3- Students will learn about the process of Set Theory.

CO4- Student will learn about the Theory of Equations.

CO5- They will learn the structure and function of Trigonometry Functions.

### MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Ps01	Ps02	PS03	PS04	PS05	PS06	PS07	PS08	PS09	PS010
CO1	3	3	3	3	-	3	-	-	-	1	2	-	-
Co2	3	3	2	3	-	3	-	-	-	1	-	-	-
Co3	3	3	2	3	-	3	-	-	-	1	-	-	-
CO4	3	3	2	3	-	-	-	-	-	1	-	-	-
CO5	3	3	3	3	3	1	-	-	-	2	-	-	-

## B.Sc II Semester, paper-I (Differential and Integral Calculus)

CO1- Student will learn concept of Angle between Radius vector and Tangent, Polar and Pedal equations

CO2- Student will learn knowledge about Derivative of arc length, Curvature , Radius of curvature

CO3- Students will get the knowledge of Limits and continuity of functions of two variables.

CO4- Student will learn and understand Concavity and convexity and point of Inflexion.

CO5- They will understand about Reduction formulae.

### MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	P01	P02	P03	PS01	PS02	PS03	PS04	PS05	PS06	PS07	PS08	PS09	PS010
CO1	3	3	3	3	-	-	-	-	-	-	3	-	-
Co2	3	3	3	3	1	-	2	-	3	3	3	1	-
Co3	3	1	2	3	-	-	1	-	-	3	3	1	-
CO4	3	3	1	-	-	-	3	-	-	2	-	-	-
CO5	3	3	2	3	-	2	-	-	1	3	2	2	1

## B.Sc II Semester Paper- II (Algebra and Geometry)

CO1- Student will learn about the Boolean Algebra.

CO2- Student will learn knowledge about the Number theory.

CO3- Students will learn about the process of Sphere.

CO4- Student will learn about the Cone

CO5- They will learn the structure of Cylinder.

### MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	P01	P02	P03	PS01	PS02	PS03	PS04	PS05	PS06	PS07	PS08	PS09	PS010
CO1	3	3	3	3	-	3	-	-	-	1	2	-	-
Co2	3	3	2	3	-	3	-	-	-	1	-	-	-
Co3	3	3	2	3	-	3	-	-	-	1	-	-	-
CO4	3	3	2	3	-	-	-	-	-	1	-	-	-
CO5	3	3	3	3	3	1	-	-	-	2	-	-	-

B.Sc III Semester, paper-I (Mathematical Logic and Real Analysis )

CO1- Student will learn concept of Mathematical logic

CO2- Student will learn knowledge about Jacobians and mean value theorems.

CO3- Students will get the knowledge of Maxima and Minima of two and three variables.

CO4- Student will learn and understand limit of a sequence, Bounded and unbounded sequence .

CO5- They will understand about Criterion for Convergence of Sequence.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	-	-	-	-	-	-	3	-	-
Co2	3	3	3	3	1	-	2	-	3	3	3	1	-
Co3	3	1	2	3	-	-	1	-	-	3	3	1	-
CO4	3	3	1	-	-	-	3	-	-	2	-	-	-
CO5	3	3	2	3	-	2	-	-	1	3	2	2	1



## B.Sc III Semester Paper- II

(Group theory, Integral Calculus & Differential Equations)

CO1- Student will learn about the Meaning of Group, it's types and properties of Group .

CO2- Student will learn knowledge about the Cyclic group, cosets.

CO3- Students will learn about the process Applications of Definite Integrals.

CO4- Student will learn about the First order first degree equation and it's types

CO5- They will learn the first order higher degree differential equation.

### MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	PSo1	PSo2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	-	3	-	-	-	1	2	-	-
Co2	3	3	2	3	-	3	-	-	-	1	-	-	-
Co3	3	3	2	3	-	3	-	-	-	1	-	-	-
CO4	3	3	2	3	-	-	-	-	-	1	-	-	-
CO5	3	3	3	3	3	1	-	-	-	2	-	-	-



B.Sc IV Semester, paper-I (Vector calculus and infinite series)

CO1- Student will learn concept of Dot and cross product.

CO2- Student will learn knowledge about the differential operators.

CO3- Students will get the knowledge of infinite series, and its convergent, divergent and Oscillatory series.

CO4- Student will learn and understand Different types of Tests for Convergent, Divergent and Oscillatory series.

CO5- They will understand about Different types of convergence.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	PSo1	PSo2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	-	-	-	-	-	-	3	-	-
Co2	3	3	3	3	1	-	2	-	3	3	3	1	-
Co3	3	1	2	3	-	-	1	-	-	3	3	1	-
CO4	3	3	1	-	-	-	3	-	-	2	-	-	-
CO5	3	3	2	3	-	2	-	-	1	3	2	2	1

## B.Sc IV Semester Paper- II

(Group theory, Fourier Series & Differential Equations)

CO1- Student will learn about the Meaning of Normal Subgroup, Homomorphism and Isomorphism .

CO2- Student will learn knowledge about the Fourier Series.

CO3- Students will learn about the Fourier Transforms.

CO4- Student will learn about the Linear differential equations of nth Order with constants coefficients

CO5- They will learn the Homogeneous linear differential equation of nth order.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	P01	P02	P03	PS01	PS02	PS03	PS04	PS05	PS06	PS07	PS08	PS09	PS010
CO1	3	3	3	3	-	3	-	-	-	1	2	-	-
Co2	3	3	2	3	-	3	-	-	-	1	-	-	-
Co3	3	3	2	3	-	3	-	-	-	1	-	-	-
CO4	3	3	2	3	-	-	-	-	-	1	-	-	-
CO5	3	3	3	3	3	1	-	-	-	2	-	-	-

B.Sc V Semester (Paper I:Real Analysis)

CO1- Student will study the Riemann Integration.

CO2- Student will get the knowledge about Mean value theorems in Riemann Integration.

CO3- Students will learn about the methods of Improper Integrals.

CO4- Student will learn about the Beta and Gamma Functions.

CO5- They will learn the Multiple Integrals.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Ps01	Ps02	PS03	PS04	PS05	PS06	PS07	PS08	PS09	PS010
CO1	3	3	3	3	2	2	-	-	-	2	2	-	2
Co2	3	3	3	3	3	1	-	-	-	-	3	-	3
Co3	3	3	3	3	3	3	-	3	-	3	2	3	3
CO4	3	3	3	3	1	2	1	3	-	1	2	3	3
CO5	3	3	3	3	3	3	-	-	-	2	2	3	3



B.Sc V Semester (Paper II: Numerical Analysis)

CO1- Student will study about the Solutions of algebraic and transcendentan equations.

CO2- Student will get the knowledge about Finite differences.

CO3- Students will learn about the Numerical differentiation.

CO4- Student will learn about the Solutions of initial value problems.

CO5- They will learn about the difference equations.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	2	3	-	3	3	-	2	2	2	-	1
Co2	3	3	3	3	-	3	2	-	2	-	3	-	-
Co3	3	3	3	3	-	3	3	-	2	-	3	-	1
CO4	3	3	3	3	-	3	3	-	-	-	3	-	-
CO5	3	3	-	3	-	3	-	-	-	-	2	-	-

## B.Sc V Semester (Paper III Dynamics and Calculus of variations)

CO1- Student will study about the Kinematics.

CO2- Student will get the knowledge about Central Orbits.

CO3- Students will learn about the Motion of a Projectile.

CO4- Student will learn about the Calculus of Variations.

CO5- They will learn about the Geodesic on plane, on sphere.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	3	2	3	-	3	3	-	2	2	2	-	1
Co2	3	3	3	3	-	3	2	-	2	-	3	-	-
Co3	3	3	3	3	-	3	3	-	2	-	3	-	1
CO4	3	3	3	3	-	3	3	-	-	-	3	-	-
CO5	3	3	-	3	-	3	-	-	-	-	2	-	-





## B.Sc VI Semester (Paper II: Complex analysis and Ring theory)

CO1- Student will understand the Basic knowledge of complex analysis.

CO2- Student will earn the knowledge of Complex Integration.

CO3- Students will understand the Taylor's and Laurent's series.

CO4- Student will learn about the Residue theorem.

CO5- They will learn about the Rings and integral Domains.

### MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Ps01	Ps02	PS03	PS04	PS05	PS06	PS07	PS08	PS09	PS010
CO1	3	3	3	3	3	-	-	-	-	2	-	-	-
Co2	3	3	3	3	3	-	-	-	-	2	-	-	-
Co3	3	3	3	3	3	-	-	-	-	3	-	-	2
CO4	3	3	3	3	3	-	-	-	-	3	-	-	3
CO5	3	3	2	3	-	-	-	-	-	2	-	-	3

## B.Sc VI Semester (Paper III: Topology and Laplace Transforms)

CO1- Student will understand the Basic knowledge of Topology.

CO2- Student will earn the knowledge of Base and sub base.

CO3- Students will understand the Basic knowledge of Laplace transorms.

CO4- Student will learn about the laplace transforms of Periodic functions.

CO5- They will learn about the Heaviside function and convolution theorem.

### MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	3	3	3	3	-	-	-	-	2	-	-	-
Co2	3	3	3	3	3	-	-	-	-	2	-	-	-
Co3	3	3	3	3	3	-	-	-	-	3	-	-	2
CO4	3	3	3	3	3	-	-	-	-	3	-	-	3
CO5	3	3	2	3	-	-	-	-	-	2	-	-	3

## EVALUATION MAPPING:

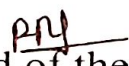
Allotment of Marks in Each Question Paper:-

- ❖ 2 Marks - Objective Type.
- ❖ 5 Marks - Descriptive Type.
- ❖ 10 Marks – Essay/Descriptive/Diagrammatic type.

Framing Questions:-

- ❖ Skill Based.
- ❖ Understanding.
- ❖ Descriptive.
- ❖ Analytical.
- ❖ Evaluated.

Sl.No	Parameters	Percentage
1	Skill Based	15 %
2	Understanding	15 %
3	Descriptive	30 %
4	Analytical	20 %
5	Evaluated	20 %
		100 %

  
Head of the  
Department

  
IQAC  
Co-Ordinator

  
Principal  
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