

**Department of Mathematics**  
**M.Sc., Mathematics**  
**(2022-2023)**

**Program Outcomes:**

<u>S.No</u>	<u>OUTCOMES</u>
<b>PO1</b>	Acquire in-depth knowledge of Mathematics both in theory and application.
<b>PO2</b>	Identify mathematical and computational methods in order to solve comprehensive problems.
<b>PO3</b>	Recognize the various specialized areas of advanced mathematics and its applications.
<b>PO4</b>	Analyze and interpret data to create and design new knowledge for complex problems.
<b>PO5</b>	Develop the mathematical models for the applications of mathematics in real life situations.
<b>PO6</b>	Exhibit the potential to effectively accomplish tasks independently and as a member or leader in diverse teams, and in multi disciplinary settings.
<b>PO7</b>	Develop the skills to crack the various competitive examinations.
<b>PO8</b>	Ability to engage in life-long learning in the context of the rapid developments in the field.
<b>PO9</b>	Demonstrate the ability to write dissertations, reports, make effective presentations and documentation.
<b>P10</b>	Commitment to professional ethics and social responsibilities.

**Program Specific Outcomes:**

<u>S.No</u>	<u>OUTCOMES</u>
<b>PSO1</b>	Prepare and Motivate Students for Research Studies in Mathematics and Related Fields.
<b>PSO2</b>	Provide Advanced Knowledge on Topics in Pure Mathematics, Empowering the Students to Pursue Higher Degrees at Reputed Academic Institutions.
<b>PSO3</b>	Having an Ability to use Mathematics in Techniques, Skills, Resources on Real Life
<b>PSO4</b>	Having Problem Solving Ability- to Assess Social Issues (Societal, Health, Safety, Legal and Cultural) as a Mathematician.
<b>PSO5</b>	Having Adaptive Thinking and Adaptability in Relation to Environmental Context and Sustainable Development.
<b>PSO6</b>	Having a Clear Understanding of Professional and Ethical Responsibility.

## Semester: I

**Subject Name:** Algebra -I

**No. of Hours per Week:** 06

**Subject Code:** GMA11

**Credit:** 05

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
I (Regulation 2022-2023)	Algebra-I	05	<p>CO1 Demonstrate ability to think group actions critically by Cayley's theorem and apply the Sylow's theorems to describe the structure of certain finite abelian groups</p> <p>CO2 Understand the concept of the internal and external direct product of groups. Also, apply the structure theorem on abelian groups to find the non-isomorphic abelian groups of certain orders.</p> <p>CO3 Check the irreducibility of given polynomial in the defined Field</p> <p>CO4 Know about Module and, difference between the Algebraic structures, Vector space and Module.</p> <p>CO5 Acquire the knowledge of the Linear transformation in canonical forms. Also, the matrix form of linear transformation and its properties.</p>

### Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	M	S	M	S	S	S
CO2	S	S	M	M	M	S	M	S	S	S
CO3	S	S	M	M	S	S	M	S	S	S
CO4	S	S	M	M	S	S	M	S	S	S
CO5	S	S	M	M	S	S	M	S	S	S

\* PO – Programme Outcome, CO – Course Outcomes \* S – Strong, M – Medium, L – Low

## Semester: I

Subject Name: Real Analysis– I

No. of Hours per Week: 06

Subject Code: GMA12

Credit: 05

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
I (Regulation 2022-2023)	Real Analysis– I	05	CO1 Understand the concept of functions of bounded variation.  CO2 Acquires knowledge on Riemann Stieltjes integration and to solve its related problems. CO3 Work effectively in integration under integral sign.  CO4 Provide a strong foundation in the study of the convergence of infinite series, infinite product and uniform convergence and its interplay between various limiting operations.  CO5 Know about the convergence of sequences of functions

### Mapping with Programme Outcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	S	M	S	S	S	M
CO2	S	S	M	M	S	M	S	S	S	M
CO3	S	S	M	M	S	M	S	S	S	M
CO4	S	S	M	M	S	M	S	S	S	M
CO5	S	S	M	M	S	M	S	S	S	M

PO – Programme Outcome, CO – Course Outcomes S – Strong, M – Medium, L – Low

## Semester: I

**Subject Name:** Ordinary Differential Equations

**No. of Hours per Week:** 06

**Subject Code:** GMA13

**Credit:** 05

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
I (Regulation 2022-2023)	Ordinary Differential Equations	05	CO1 Analyze the methods of second order homogeneous and non-homogeneous equations. CO2 Apply and solve the higher order homogeneous and non-homogeneous equations. CO3 Define the methods to solve linear equations with variable coefficients. CO4 Discuss the linear equations with regular singular points. CO5 Construct the solutions for first order equations.

### Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	S	M	S	S	M	L
CO2	S	S	M	L	S	M	S	S	M	M
CO3	S	S	M	S	M	S	M	M	M	S
CO4	S	S	M	M	M	S	M	M	M	S
CO5	S	S	M	L	S	S	S	S	M	M

PO – Programme Outcome, CO – Course Outcomes S – Strong, M – Medium, L – Low

## Semester: I

**Subject Name:** Probability Theory

**No. of Hours per Week:** 06

**Subject Code:** GEMA14A

**Credit:** 03

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
I (Regulation 2022-2023)	Probability Theory	03	CO1 Analyze the basics of probability and random variables. CO2 Understand to handle parameters of the distribution. CO3 Define the properties and functionalities of characteristic functions. CO4 Discuss the various special probability distributions. CO5 Construct the solutions for real time applications using limits theorem.

### Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	M	S	M	M	M	M
CO2	S	S	S	S	M	S	M	M	S	M
CO3	S	S	S	S	M	M	M	S	M	M
CO4	S	S	M	M	S	M	M	S	S	S
CO5	S	S	M	S	M	M	M	S	S	S

PO – Programme Outcome, CO – Course Outcomes S – Strong, M – Medium, L – Low

## Semester: I

**Subject Name:** Basic Mathematics

**No. of Hours per Week:** 06

**Subject Code:** GOMA15A

**Credit:** 03

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
I (Regulation 2022-2023)	Basic Mathematics	03	CO1 Evaluate the exponential and logarithmic series. CO2 Explain about matrices and its applications. CO3 Solve the partial differential equations. CO4 Solve the differential equations using Laplace transform. CO5 Analysis the techniques of Fourier series.

### Mapping with Programme Outcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	S	S	S	S	L	S
CO2	S	S	M	M	S	S	S	S	L	S
CO3	S	S	M	M	S	S	S	S	M	S
CO4	S	S	M	M	S	S	S	S	M	S
CO5	S	S	M	M	S	S	S	S	M	S

PO – Programme Outcome, CO – Course Outcomes S – Strong, M – Medium, L – Low

## Semester: II

**Subject Name:** Algebra -II

**No. of Hours per Week:** 06

**Subject Code:** GMA22

**Credit:** 05

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
II (Regulation 2022-2023)	Algebra-II	05	CO1 Understand fundamental concepts including extension fields, Algebraic extensions and Algebraic numbers. CO2 Determine existence and properties of extension fields of polynomials CO3 Demonstrate capacity of illustration for mathematical reasoning through analyzing, proving and explaining concepts from field extensions and Galois theory CO4 Apply knowledge of solvability of radicals over polynomials on finite fields CO5 Analyze the theorems related to division rings to apply them on relevant fields

### Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	M	M	S	S	S	S
CO2	S	S	M	M	M	S	S	S	S	S
CO3	S	S	M	M	M	M	S	S	S	S
CO4	S	S	M	M	M	S	S	S	S	S
CO5	S	S	M	M	M	M	S	S	S	S

PO – Programme Outcome, CO – Course Outcomes    S – Strong,    M – Medium,    L – Low

## Semester: II

**Subject Name:** Real Analysis-II

**No. of Hours per Week:** 06

**Subject Code:** GMA22

**Credit:** 05

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
II (Regulation 2022-2023)	Real Analysis-II	05	CO1 know about the properties of Lebesgue integrals and establish the Levi monotone convergence theorem. CO2 develop the properties of inner products, norms and measurable functions. CO3 understand the concept of Fourier Series and Integrals. CO4 acquire the knowledge of multivariable calculus. CO5 enrich the students to work effectively on implicit functions and the extremum values of functions.

### Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	S	M	S	S	S	M
CO2	S	S	M	M	S	M	S	S	S	M
CO3	S	S	M	M	S	M	S	S	S	M
CO4	S	S	M	M	S	M	S	S	S	M
CO5	S	S	M	M	S	M	S	S	S	M

PO – Programme Outcome, CO – Course Outcomes S – Strong, M – Medium, L – Low



## Semester: II

**Subject Name:** Partial Differential Equations

**No. of Hours per Week:** 06

**Subject Code:** GMA23

**Credit:** 04

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
II (Regulation 2022-2023)	Partial Differential Equations	04	CO1 Analyze the methods for first order partial differential equations. CO2 Understand the fundamentals of second order partial differential equations. CO3 Define the methods to solve elliptical differential equations. CO4 Discuss the formation and solutions of paraboloid differential equations. CO5 Construct the solutions for hyperbolic differential equations and identify the research problem where PDE can be used to model the problem.

### Mapping with Programme Outcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	M	S	M	S	M	M
CO2	S	S	M	M	M	S	M	S	M	S
CO3	S	S	S	M	M	S	S	M	M	S
CO4	S	S	S	M	M	M	S	M	M	S
CO5	S	S	S	M	M	M	S	M	M	S

PO – Programme Outcome, CO – Course Outcomes S – Strong, M – Medium, L – Low

## Semester: II

**Subject Name:** Mathematical Statistics

**No. of Hours per Week:** 05

**Subject Code:** GEMA24A

**Credit:** 03

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
II (Regulation 2022-2023)	Mathematical Statistics	04	<b>CO1</b> Know the basic notions of sample, population, sample moments and their functions. <b>CO2</b> Comprehend the parametric and non-parametric tests for small and large samples. <b>CO3</b> Understand the various measures of estimation theory. <b>CO4</b> Acquire the knowledge in the concept of ANOVA and, apply them in real life situations for testing of hypothesis. <b>CO5</b> Procure the strong background about the sequential analysis and its

### Mapping with Learning Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	S
CO5	S	S	S	S	M	S	S	S	S	S

PO – Programme Outcome, CO – Course Outcomes S – Strong, M – Medium, L – Low

## Semester: II

**Subject Name:** Fundamentals of Business Statistics

**No. of Hours per Week:** 05

**Subject Code:** GOMA25A

**Credit:** 03

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
II (Regulation 2022-2023)	Fundamentals of Business Statistics	03	CO1 Classify about the Partial and Multiple Correlation CO2 Explain the basic concepts of Probability and The critical Distributions CO3 Identify the educated guess(hypothesis) CO4 Analyze the statistical inferences-Test of Hypothesis, Chi-square and goodness of Fit and F-Test CO5 Discuss and design the Analysis of Variance

### Mapping with Learning Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	L	S	S	S	M	S
CO2	S	S	M	M	S	S	S	S	M	S
CO3	S	S	M	S	S	S	S	S	M	S
CO4	S	S	S	M	M	S	S	S	M	S
CO5	S	S	M	M	S	S	S	S	M	S

PO – Programme Outcome, CO – Course Outcomes S – Strong, M – Medium, L – Low

### Semester: III

Subject Name: Complex Analysis – I

No. of Hours per Week: 06

Subject Code: DMA31

Credit: 06

#### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
III (Regulation 2020-2021)	Complex Analysis – I	06	<p><b>CO1</b> Understand the notions of differentiability, analyticity, power series and its consequences.</p> <p><b>CO2</b> Comprehend the complex integration, Cauchy theorem and its properties.</p> <p><b>CO3</b> Know the conformal mappings and Mobius transformations.</p> <p><b>CO4</b> Acquire the concepts of maximum principle, Schwarz's lemma and Liouville's theorem.</p> <p><b>CO5</b> Procure the singularities and its classification.</p>

#### Mapping with Programme Outcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	M	S	S	S	S	S
CO2	S	S	M	M	M	S	S	S	S	S
CO3	S	S	M	M	M	S	S	S	S	S
CO4	S	S	M	M	M	S	S	S	S	S
CO5	S	S	M	M	M	S	S	S	S	S

PO – Programme Outcome, CO – Course Outcome S – Strong, M – Medium, L – Low.

### Semester: III

**Subject Name:** Topology

**No. of Hours per Week:** 06

**Subject Code:** DMA32

**Credit:** 05

**Course Outcomes:**

Semester	Course Name	Course Credit	Course Outcomes
III (Regulation 2020-2021)	<b>Topology</b>	05	<p><b>CO1</b> Know the basics on open and closed sets and the significance of the topological spaces.</p> <p><b>CO2</b> Comprehend the continuous functions on topological spaces, product topology and topology induced by the metric.</p> <p><b>CO3</b> Understand the connected spaces, connected subspaces, components and local connectedness.</p> <p><b>CO4</b> Acquire the notions of compactness, compact subspaces, limit point compactness and local compactness.</p> <p><b>CO5</b> Procure the strong theoretical background about the countability axioms, the separation axioms and the consequences theorems.</p>

**Mapping with Programme Outcomes:**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
<b>CO1</b>	S	S	M	M	M	S	S	S	S	S
<b>CO2</b>	S	S	M	M	M	S	S	S	S	S
<b>CO3</b>	S	S	M	M	M	S	S	S	S	S
<b>CO4</b>	S	S	M	M	M	S	S	S	S	S
<b>CO5</b>	S	S	M	M	M	S	S	S	S	S

PO – Programme Outcome, CO – Course Outcome.      S – Strong, M – Medium, L – Low.

### Semester: III

Subject Name: Differential Geometry

No. of Hours per Week: 06

Subject Code: DMA33

Credit: 05

#### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
III (Regulation 2020-2021)	Differential Geometry	05	<p><b>CO1</b> Understand the concept of a space curve and compute its curvature and torsion.</p> <p><b>CO2</b> Acquire the knowledge of curves on a surface and its intrinsic properties.</p> <p><b>CO3</b> Analyze the geodesics and its normal properties and also familiar with Gauss Bonnet Theorem.</p> <p><b>CO4</b> Determine the second fundamental form and developable associated with space curves.</p> <p><b>CO5</b> Know Hilbert's Lemma and the fundamental existence theorem for surface theory.</p>

#### Mapping with Learning outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	L	M	S	L	S	S	L	M
CO2	S	S	M	L	S	L	S	S	M	M
CO3	S	S	M	M	S	L	S	S	M	M
CO4	S	S	M	M	S	L	S	S	M	M
CO5	S	S	M	M	S	L	S	S	M	M

PO – Programme Outcome, CO – Course Outcomes

S – Strong, M – Medium, L – Low

### Semester: III

Subject Name: Discrete Mathematics

No. of Hours per Week: 06

Subject Code: DEMA34B

Credit: 03

#### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
III (Regulation 2020-2021)	Discrete Mathematics	03	CO1 Know the algebraic structures of lattices and Boolean algebra, and sketch the minimization of Boolean polynomials.  CO2 Model the switching circuits with applications.  CO3 Understand the finite fields and its mathematics properties.  CO4 Acquire the notions of the polynomials over finite fields, Irreducibility and factorization of polynomials.  CO5 Apply the coding theory with the linear and cyclic codes in cryptography.

#### Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	M	S	S	S	S	S
CO2	S	S	M	M	S	S	S	S	S	S
CO3	S	S	M	M	M	S	S	S	S	S
CO4	S	S	M	M	M	S	S	S	S	S
CO5	S	S	M	M	S	S	S	S	S	S

\*PO – Programme Outcome, CO – Course Outcome.

\*S – Strong, M – Medium, L – Low.

## Semester: III

**Subject Name:** Quantitative Techniques

**No. of Hours per Week:** 06

**Subject Code:** DOMA36B

**Credit:** 03

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
III (Regulation 2020-2021)	Quantitative Techniques	03	<b>CO1</b> Understand the concept of LPP and its solution. <b>CO2</b> Acquire the knowledge of transportation problems. <b>CO3</b> Work effectively on assignment models. <b>CO4</b> Provides a strong foundation in the study of the characteristics of inventory controls. <b>CO5</b> Use PERT-CPM technique for project management network problems.

### Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	S	M	S	S	S	S
CO2	S	S	M	M	S	M	S	S	S	S
CO3	S	S	M	M	S	M	S	S	S	S
CO4	S	S	M	M	S	M	S	S	S	S
CO5	S	S	M	M	S	M	S	S	S	S

\* PO – Programme Outcome, CO – Course Outcomes

\* S – Strong, M – Medium, L – Low



## Semester: IV

Subject Name: Complex Analysis – II

No. of Hours per Week: 05

Subject Code: DMA41

Credit: 04

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
IV (Regulation 2020-2021)	Complex Analysis – II	06	<p><b>CO1</b> Understand the concepts of residues and its properties.</p> <p><b>CO2</b> Evaluate the contour integrals and its applications.</p> <p><b>CO3</b> Know the analytic continuation and Poisson integral formula.</p> <p><b>CO4</b> Acquire the representations of meromorphic and entire functions.</p> <p><b>CO5</b> Procure the applications of open mapping, Hurwitz and Riemann mapping theorems.</p>

### Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	M	S	S	S	S	S
CO2	S	S	M	M	M	S	S	S	S	S
CO3	S	S	M	M	M	S	S	S	S	S
CO4	S	S	M	M	M	S	S	S	S	S
CO5	S	S	M	M	M	S	S	S	S	S

\*PO – Programme Outcome, CO – Course Outcome.

\*S – Strong, M – Medium, L – Low.

## Semester: IV

**Subject Name: Fluid Dynamics**

**No. of Hours per Week: 05**

**Subject Code: DMA42**

**Credit: 04**

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
IV (Regulation 2020-2021)	Fluid Dynamics	04	<b>CO1</b> Understand the concepts of kinematics of fluids in motions. <b>CO2</b> Find the pressure at a point in a moving fluid. <b>CO3</b> Discuss Stokes stream function. <b>CO4</b> Analyse complex velocity potential for standard two dimensional flows. <b>CO5</b> Derive the Navier – Stokes equations of motion of a Viscous fluid.

### Mapping With Learning Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
<b>CO1</b>	S	S	L	L	S	L	S	S	L	M
<b>CO2</b>	S	S	M	M	S	L	S	S	L	M
<b>CO3</b>	S	S	M	M	S	L	S	S	L	L
<b>CO4</b>	S	S	M	S	S	L	S	S	M	L
<b>CO5</b>	S	S	M	M	S	L	S	S	L	M

\* PO – Programme Outcome, CO – Course Outcomes

\* S – Strong, M – Medium, L – Low

## Semester: IV

**Subject Name:** Functional Analysis

**No. of Hours per Week:** 05

**Subject Code:** DMA43

**Credit:** 05

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
IV (Regulation 2020-2021)	Functional Analysis	05	<b>CO1</b> Analyse the Banach space with examples and Able to work comfortably with Continuous linear transformations  <b>CO2</b> Apply the conjugate operator and acquire the knowledge of open mapping theorem.  <b>CO3</b> Discuss about the Hilbert spaces.  <b>CO4</b> Acquire the knowledge of Banach Algebra and Outline of spectral radius.  <b>CO5</b> Construct the Gelfand-Neumark theorem.

### Mapping with Learning Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	S	S	S	S	M	S
CO2	S	S	M	M	S	S	S	S	M	S
CO3	S	S	M	M	S	S	S	S	M	S
CO4	S	S	M	M	S	S	S	S	M	S
CO5	S	S	M	M	S	S	S	S	M	S

\* PO – Programme Outcome, CO – Course Outcomes

\* S – Strong, M – Medium, L – Low

## Semester: IV

**Subject Name:** Number theory and Cryptography

**No. of Hours per Week:** 05

**Subject Code:** DEMA44A

**Credit:** 03

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
IV (Regulation 2020-2021)	Number theory and Cryptography	03	<b>CO1</b> Acquire the knowledge of elementary number theory <b>CO2</b> Apply various cryptosystems and understand the concepts of quadratic, residues and reciprocity <b>CO3</b> Develop the idea of public key cryptography, RSA Algorithms. <b>CO4</b> Solve problems using the continued fraction method and the quadratic sievemethod. <b>CO5</b> Demonstrate ability to apply concepts of Fermat factorization and factor bases

### Mapping with Learning outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	M	M	S	S	S	S
CO2	S	S	S	M	M	S	S	S	S	S
CO3	S	S	S	M	S	S	S	S	S	S
CO4	S	S	S	M	S	S	S	S	S	S
CO5	S	S	S	M	S	M	S	S	S	S

\* PO – Programme Outcome, CO – Course Outcomes

\* S – Strong, M – Medium, L – Low

## Semester: IV

**Subject Name:** Mathematical Economics

**No. of Hours per Week:** 05

**Subject Code:** DOMA45A

**Credit:** 03

### Course Outcomes:

Semester	Course Name	Course Credit	Course Outcomes
IV (Regulation 2020-2021)	Mathematical Economics	03	<b>CO1</b> understand the knowledge of FIRM theory and perfect competition  <b>CO2</b> Analyze the CES production  <b>CO3</b> To acquire the knowledge of market equilibrium  <b>CO4</b> To control the stability of equilibrium  <b>CO5</b> Discuss the welfare economics, taxes and subsidies

### Mapping with Learning Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
<b>CO1</b>	<b>M</b>	<b>S</b>	<b>S</b>	<b>M</b>	<b>S</b>	<b>M</b>	<b>S</b>	<b>L</b>	<b>S</b>	<b>L</b>
<b>CO2</b>	<b>M</b>	<b>L</b>	<b>M</b>	<b>S</b>	<b>L</b>	<b>S</b>	<b>M</b>	<b>S</b>	<b>L</b>	<b>M</b>
<b>CO3</b>	<b>S</b>	<b>S</b>	<b>L</b>	<b>S</b>	<b>S</b>	<b>L</b>	<b>S</b>	<b>S</b>	<b>M</b>	<b>L</b>
<b>CO4</b>	<b>S</b>	<b>S</b>	<b>M</b>	<b>L</b>	<b>M</b>	<b>M</b>	<b>S</b>	<b>M</b>	<b>L</b>	<b>S</b>
<b>CO5</b>	<b>M</b>	<b>L</b>	<b>M</b>	<b>S</b>	<b>L</b>	<b>M</b>	<b>M</b>	<b>S</b>	<b>L</b>	<b>M</b>

\* PO – Programme Outcome, CO – Course Outcomes

S – Strong, M – Medium, L – Low