KUVEMPU UNIVERSITY

SYLLABUS

V and VI Semester
B.A./B.Sc., Mathematics
(According to State Education Policy 2024)

DEPARTMENT OF MATHEMATICS,

KUVEMPU UNIVERSITY,

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2026-27

KUVEMPU UNIVERSITY

Bachelor of Science (B.Sc.) Semester Scheme

Curriculum Structure for Undergraduate Programme

2026 - 27

Syllabus for Mathematics

Sl. No.	Course/ Paper Code	Title of the Paper	Subject Category	Teaching Hours / Week	Semester End Exam.	Internal Assess-	Total Marks	Credits	Duration of examination
1	2	3	4	5	6	7	8	9	10
	Semester - V								
1	Numerical Analysis		24MCM - T5.1	04	80	20	100	03	3 Hrs
2	Linear Algebra & Fourier Series		24MCM - T5.2	04	80	20	100	03	3 Hrs
3	Mathematics Lab - V		24MCM -P5	04	40	10	50	02	3 Hrs
	Total			12	200	50	250	08	-----
	Semester - VI								
4	Real Analysis-II & Complex Analysis		24MCM - T6.1	04	80	20	100	03	3 Hrs
5	Differential Equations – IV and Integral Calculus		24MCM - T6.2	04	80	20	100	03	3 Hrs
6	Mathematics Lab - VI		24MCM -P6	04	40	10	50	02	3 Hrs
	Total			12	200	50	250	08	-----

Curriculum Structure for Compulsory Paper (Practical Knowledge/ Skill)

Sl No	Course /Paper Code	Title of the Paper	Subject Category	Teaching Hours per week	Semester End Exam	Internal Assessment	Total Marks	Credits	Examination Duration
1	2	3	4	5	6	7	8	9	10
SEMESTER-V									
2	Mathematics Skill-2		24MATHCPS-2	04	40	10	50	02	3 Hrs
SEMESTER-VI									
3	Mathematics Skill-3		24MATHCPS-3	04	40	10	50	02	3 Hrs

THEORY PAPER

SEMESTER – V, PAPER 5.1

24MCM -T5.1: Numerical Analysis

Course Learning Objectives: This course will enable the students to

- understand the need for numerical methods to solve mathematical problems.
- learn basic numerical techniques for solving mathematical problems.
- apply numerical methods to algebraic and transcendental equations, interpolation, differentiation and integration.

Course Learning Outcomes: At the end of this course, the student will be able to:

- Apply error analysis concepts and numerical methods such as Bisection, Regula-Falsi, Newton-Raphson, and Secant methods to accurately solve algebraic and transcendental equations.
- Apply finite difference operators and interpolation techniques (Newton-Gregory, Lagrange,
  and divided differences) to estimate unknown values.
- Compute numerical derivatives (up to second order) and numerical integrals using standard quadrature rules such as Trapezoidal, Simpson's, and Weddle's rules.
- Solve first-order ordinary differential equations using Picard's method, Euler's methods, and the fourth-order Runge–Kutta method.
- Analyse the accuracy, applicability, and limitations of various numerical methods used in scientific computations.

Unit-I: Algebraic and Transcendental Equations

Algebraic and Transcendental Equations. Errors - significant digits, absolute, relative, percentage errors, rounding off and truncation. Solutions to algebraic and transcendental equations - Bisection method, Regula-Falsi method, Newton-Raphson method.

16 Hours

Unit-II: Finite Differences and Interpolations

Finite differences; Forward and backward differences and shift operators: definitions, properties and problems; Polynomial interpolation-Newton-Gregory forward and backward interpolation formulae, Lagrange interpolation formula, Newton's divided difference interpolation formula. 16 Hours

Unit-III: Numerical Differentiation and Integration

Formula for derivatives (till second order) based on Newton-Gregory forward and backward interpolations and problems thereon, Numerical Integration-General quadrature formula, Trapezoidal rule, Simpson's 1/3 rule, Simpson's 3/8 th rule and Weddle's rule.

16 Hours

Unit-IV: Numerical Solutions of Ordinary Differential Equations

Numerical solution of ordinary differential equations of first order and first degree by Picard's method, Euler's method, Euler's modified method and Runge-Kutta method of fourth-order (No derivations of formula). 16 Hours

Reference Books:

1. Introductory Methods of Numerical Analysis - S.S. Sastry, Prentice Hall India Learning Private Limited.
2. Numerical Methods: For Scientific and Engineering Computation - M.K. Jain, S.R.K. Iyengar, R.K. Jain, NEW AGE; 6th edition
3. Numerical Analysis - B. D Gupta, Stosius Inc/Advent Books Division.
4. Finite Difference and Numerical Analysis - H. C Saxena, S. Chand Publishing.
5. Numerical Methods for Scientists and Engineers - B. S. Grewal, Khanna Publishers.
6. Analysis of Numerical methods, E. Isaacson and H.B. Keller, Dover Publications.

THEORY PAPER

SEMESTER – V, PAPER 5.2

24MCM -T5.2: Linear Algebra and Fourier Series

Course Learning Objectives: This course will enable the students to

- Understand the concept of vector spaces and their basic properties.
- Learn what are linear transformations and their representation as a matrix.
- Understand the theory of inner product spaces and apply concepts such as orthogonality, inequalities, Gram-Schmidt process, and orthogonal projections to solve related problems.
- Understand how a periodic function can be written using sines and cosines.
- Find Fourier coefficients and to write the Fourier series of given function.

Course Learning Outcomes: At the end of this course, the student will be able to:

- Explain fundamental concepts of vector spaces, subspaces, linear dependence/independence, basis, dimension, and coordinates.
- Apply linear algebra techniques to analyse linear transformations and their matrix representations.
- Use the Rank–Nullity Theorem to determine rank, nullity, range, and null space of linear transformations and matrices.
- Learn properties of inner product spaces and determine orthogonality in inner product spaces.
- Classify functions as periodic, even, or odd and construct their Fourier series representations on standard and generalized intervals.
- Formulate half-range sine and cosine series for appropriate functions and apply Fourier methods in problem-solving contexts.

Unit-I: Vector spaces

Vector spaces - Definition, examples and properties; Subspaces - Examples, criterion for a subset to be a subspace and some properties; Linear Combination – Linear span, Linear dependence and Linear independence, basic properties of linear dependence and independence, techniques of determining linear dependence and independence in various vector spaces and related problems; Basis and Dimension - Co-ordinates, Ordered basis, some basic properties of basis and dimension and subspace spanned by given set of vectors.

16 Hours

Unit–II: Linear Transformations

Linear transformation - Definition, examples, equivalent criteria, some basic properties and related problems, matrix representation, Rank - Nullity theorem - Null space, Range space, proof of rank nullity theorem and related problems.

16 Hours

Unit-III: Inner product Spaces

Inner product space - Definition and examples. Cauchy-Schwartz inequality (Statement only), triangular inequality and related problems, Orthogonal vectors, orthonormal basis, problems on Gram-Schmidt orthogonalization process, Orthogonal projection: orthogonal projection of a vector and a subspace on another subspace, problems there on.

16 Hours

Unit-IV: Fourier Series

Periodic function-Definition, properties and related problems. Even and Odd functions-Definition and problems. Fourier series expansion of f(x) in the range $[c,\ c + 2l]$, Expansion of $f(x)$ in different intervals like $(-\pi,\ \pi)$ and $(0,\ 2\pi)$, Half range Fourier series – Definition and construction of half range sine series, definition and construction of half range cosine series. 16 Hours

Reference Books:

1. Herstein: Topics in Algebra, Wiley Eastern Ltd., New Delhi.
2. Modern Algebra-Sharma and Vashishta, Krishna Prakashan Mandir, Meerut, U.P
3. Schaum's outline of Linear Algebra - Seymour Lipschutz, McGraw Hill Education.
4. The Linear Algebra a Beginning Graduate Student Ought to Know - Golan, Jonathan S, Springer International Publishing.
5. Text book of B.Sc. Mathematics- G.K Ranganath, S. Chand & Company
6. Introduction to Linear Algebra – Gilbert Strang, sixth edition, Wellesley-Cambridge Press, U.S.
7. Linear Algebra and its Applications- David C. Lay, Third Edition, Pearson Publication

PRACTICAL PAPER
SEMESTER-V
24MCM -P5

Practical Hours: 4 Hours/Week **Credits:2**
Total Practical Hours :56 Hours **Max. Marks:50**

Course Learning Objectives:

- Foundation for introducing the programming.
- Enable the student to explore mathematical concepts and verify mathematical facts through the use of software.
- Enhance the skills in programming.

Course Learning Outcomes: This course will enable the students to

- Learn Free and Open-Source Software (FOSS) tools for computer programming.
- Solve problem on numerical analysis, linear algebra and Fourier series studied in 24MCM-T5 and 24MCM-T6 by using FOSS tools.
- Acquire knowledge of applications of numerical analysis, linear algebra and Fourier series through FOSS.

Practical / Lab Work to be performed in Computer Lab (FOSS)
Suggested Software: Maxima / Scilab /Python.

1. Program to find root of an equation using bisection method.
2. Program to find root of an equation using Regula-Falsi method.
3. Program to find root of an equation using Newton-Raphson method.

4. Program on Newton Gregory forward interpolation.
5. Program on Newton Gregory backward interpolation.
6. Program on Lagrange's Interpolation formula.
7. Program on numerical integration using Trapezoidal rule.
8. Program to evaluate integral using Simpson's 1/3 and 3/8 rules.
9. Program to evaluate integral using Weddle rule.
10. Program to solve ordinary differential equation by Euler's modified method.
11. Program to solve ordinary differential equation by Runge Kutta method of 4^{th} order.
12. Program on linear combination of vectors.
13. Program to verify linear dependence and independence of vectors
14. Program to find basis and dimension of the subspaces.
15. Program to verify if a function is linear transformation or not.
16. Program to find the matrix of linear transformation.
17. Program on Rank-nullity theorem.
18. Program to plot periodic functions with period 2π and 2L
19. Program to find full range Fourier series of some simple functions with period 2π & 2L.
20. Program to find the half-range sine and cosine series of simple functions.

Kuvempu University

Bachelor of Science (B.Sc.) Semester Scheme

Curriculum Structure for Under Graduate Programme for 2025-26

Syllabus for Mathematics Skill

Sl No	Course /Paper Code	Title of the Paper	Subject Category	Teaching Hours per week	Semester End Exam	Internal Assessment	Total Marks	Credits	Examination Duration
1	2	3	4	5	6	7	8	9	10
SEMESTER-V									
2	Mathematics Skill-2		24MATHCPS-2	04	40	10	50	02	3 Hrs

MATHEMATICS PRACTICAL KNOWLEDGE/SKILL-2
SEMESTER – V

24MATHCPS-2: Mathematics Skill-2
Python For Scientific Graphing

Practical Hours: 4 Hours/Week **Credits: 02**
Total Practical Hours: 56 Hours **Max. Marks: 50**

Course Learning Objectives:

- Use Python to visualize scientific data.
- Plot mathematical functions and experimental data
- Create good-quality graphs
- Interpret graphs scientifically

Course Outcomes:

This course will enable the students to

- Plot any mathematical function
- Visualize experimental data
- Create professional scientific graphs

Part I

Python Basics: Variables, data types, operators, Lists, tuples, dictionaries, Basic loops and functions.

Numerical Computing with NumPy: NumPy for science, Arrays vs lists, Creating arrays (linspace, arange), Mathematical operations on arrays, Vectorization.

Introduction to Matplotlib (Core Plotting): Matplotlib, Basic plotting workflow, Line plots, Labels and titles, Grid, legends Saving graphs as images.

Scientific Graph Types: Scatter Plot, Bar Graphs, Histogram and Pie Charts.

Advanced Graph Customization: Figure size & styles, Subplots (multiple graphs in one figure), Colours, markers, line styles, Error bars.

Plotting Mathematical Models: Simple Harmonic Motion, Simple Harmonic Motion, Exponential decay

Part II

Suggested Programs

1. Area of Circle
2. Print squares of numbers from 1-20
3. Write function to compute cube of a number
4. Create array from 0 to 30
5. Multiply array by 6
6. Generate array for $y = x^2$
7. Plot $y = x^3$
8. Plot $y = sin\ x$
9. Plot in same graph $sin\ x \quad and \quad cos\ x$

10. Plot in same graph $e^x \quad and \quad log\ x$
11. Scatter Plot-Experimental data
12. Plot experimental data with error bars
13. Projectile Motion graph
14. SHM graph
15. Plotting Standard curves like Lemniscate, Cardioid, Astroid etc

REFERENCES

1. Python crash course: A hands-on, project-based introduction to programming - Matthes, E. (2019). (2nd ed.). No Starch Press.
2. Python for data analysis: Data wrangling with Pandas, NumPy, and IPython -McKinney, W. (2017). (2nd ed.). O'Reilly Media.
3. Introduction to computation and programming using Python - Guttag, J. V. (2021). (3rd ed.). MIT Press.
4. Automate the Boring Stuff, Al Sweigart, No Starch Press, Inc, 2015.
5. Python documentation. https://docs.python.org
6. NumPy documentation. https://numpy.org/doc/
7. Matplotlib documentation. https://matplotlib.org/stable/
8. SciPy lecture notes. https://scipy-lectures.org

THEORY PAPER
SEMESTER – VI, PAPER 6.1
24MCM -T6.1: Real Analysis-II and Complex Analysis

Course Learning Objectives: This course will enable the students

- To understand the concept of Riemann integration.
- To learn to evaluate definite integrals using Riemann sums.
- To understand the properties of Riemann integrable functions.
- To learn the basic concepts of complex analysis and complex integration.
- To gain knowledge in field of Bilinear Transformations and its applications.

Course Learning Outcomes: At the end of this course, the student will be able to:

- Compute upper and lower Riemann sums as well as integrals.
- Describe various criteria for Integrability of functions.
- Learn the concept of limits, continuity and differentiability of complex function. And understand analytic functions, harmonic functions and their properties.
- Develop a clear understanding of complex line integrals and Cauchy's Integral Theorem and Formula (including the generalized form), and apply these results to evaluate line integrals and derivatives of analytic functions.
- Learn about bilinear transformations, Cross ratio of four points and conformal mappings.

Unit-I: Riemann Integration

Definition and examples for partition of an interval, refinement of a partition and common refinement. Riemann Darboux Sums - Upper and lower (Darboux) sums - definition, properties and problems. Riemann Integral-Upper and Lower integrals (definition and problems), Darboux theorem and Criterion for Integrability, Integrability of sum, difference, product, quotient and modulus of integrable functions. Integral as a limit of sum (Riemann sum) - Problems. Integrability of continuous functions, monotonic functions, bounded functions with finite number of discontinuities. 16 Hours

Unit-II: Complex numbers and functions of complex variables

Complex numbers-Cartesian and polar form-geometrical representation-complex plane - Euler's formula. Functions of a complex variable - limit, continuity and differentiability of a complex function. Analytic function, Cauchy-Riemann equations in Cartesian form, conditions for analyticity, standard properties of analytic functions -construction of analytic function when real or imaginary part is given - Milne Thomson method. Harmonic functions and problems there on.
16 Hours

Unit-III: Complex Integration

Complex integration-definition, Line integral, properties and problems. Cauchy's Integral theorem -proof using Green's theorem. Direct consequences - Cauchy's

Integral formula with proof-Cauchy's generalized formula for the derivatives with proof and applications for evaluation of line integrals. 16 Hours

Unit-IV: Bilinear transformations

Bilinear transformations-Definition and examples. Cross- ratio of four points - Cross- ratio preserving property- Preservation of the family of straight lines and circles-Conformal mappings- Discussion of the transformations $w = z^2, w = Sin\ z, w = Cos\ z, w = e^z\ and\ w = \frac{1}{2}\left(z + \frac{1}{z}\right)$. 16 Hours

Reference Books

1. Mathematical Analysis - S. C. Malik, Savita Arora, New Age Science Ltd.
2. Principles of Mathematical Analysis - Walter Rudin, McGraw-Hill Publishing Company.
3. Real and Complex Analysis - Walter Rudin, McGraw-Hill Higher Education.
4. Elements of Real Analysis - Shanti Narayan, S. Chand & Company, New Delhi.
5. Complex Variables and Applications - James Brown, Ruel Churchill, McGraw-Hill.
6. Foundations of Complex Analysis - S. Ponnusamy, Narosa book distributors Pvt. Ltd.-New Delhi
7. Schaum's Outline of Complex Variables - Murray Spiegel, John Schiller, Seymour Lipschutz, McGraw-Hill Education.
8. Complex Analysis - Lars Ahlfors, McGraw-Hill Education.

THEORY PAPER
SEMESTER – VI, PAPER 6.2
24MCM -6.2: Differential Equations-IV and Integral Calculus

Course Learning Objectives: This course will enable the students

- To understand the basic idea of total and simultaneous differential equations.
- To learn to form and solve partial differential equations.
- To understand the concept of the line integrals, double and triple integrals.
- To understand what improper integrals are and why they arise.
- To learn to evaluate simple improper integrals.

Course Learning Outcomes: At the end of this course, the student will be able to

- Formulate partial differential equations by eliminating arbitrary constants and functions.
- Solve total and simultaneous differential equations and first-order partial differential equations, including Lagrange's linear form and standard non-linear types.
- Evaluate line, double, and triple integrals and apply them in appropriate mathematical contexts.
- Define improper integrals and apply Beta and Gamma functions, including their inter relations and duplication formula to evaluate integrals.

Unit I: Total and Simultaneous Differential Equations:

Necessary condition for the equation $Pdx + Qdy + Rdz = 0$ to be integrable-problems there on. Solutions of equation of the form $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$. 16 Hours

Unit II: Partial Differential Equations:

Formation of partial differential equation - Lagrange's linear equation: $Pp + Qq = R$. Four standard types of first order partial differential equations, Charpit's method.

16 Hours

Unit III: Line And Multiple Integrals:

Line integral: Definition of line integral and basic properties, examples on evaluation of line integrals. Double integral: Definition of Double integrals and evaluation. Triple integral: Definition of triple integrals and evaluation. 16 Hours

Unit IV: Improper Integrals:

Improper Integrals (definition only) - Gamma and Beta functions and results following the definitions - Connection between Beta and gamma functions - applications of evaluation of integrals - Duplication formula. 16 Hours

Reference Books:

1. Ordinary and Partial Differential Equations - M D Raisinghania, S. Chand and Co. Pvt. Ltd.
2. Schaum's outline of theory and problems of Differential Equations - Frank Ayres, McGraw-Hill Publishing Co.
3. Differential Equations and Its Applications - S Narayanan and T K Manicavachagom Pillay, S V Publishers Private Ltd.
4. Differential equation with Applications and Historical Notes - G F Simmons, 2nded.: McGraw-Hill Publishing Company.
5. Integral Calculus - H.S. Dhami, New Age International Pvt. Ltd Publishers.
6. Text Book of Multiple Integrals - A.K. Sharma, Discovery Publishing House, New Delhi.
7. Differential and Integral Calculus, Vol. II - N. Piskunov, CBS Publishers & Distributors Pvt. Ltd.
8. Advanced Engineering Mathematics by Erwin Kreyszig, Wiley; Ninth edition, ISBN:8126531355

PRACTICAL PAPER
SEMESTER-VI
24MCM -P6

Practical Hours: 4 Hours/Week **Credits:02**
Total Practical Hours :56 Hours **Max. Marks:50**

Course Learning Objectives:

- Foundation for introducing the programming.
- Enable the student to explore mathematical concepts and verify mathematical facts through the use of software.
- Enhance the skills in programming.
- Acquire knowledge of practical applications of Real Analysis, Complex Analysis, Differential Equations and Integral Calculus through FOSS tools.

Course Learning Outcomes: This course will enable the students to

- Learn Free and Open-Source Software (FOSS) tools for computer programming.
- Solve problem on numerical analysis, linear algebra and Fourier series studied in 24MCM-T7 and 24MCM-T8 by using FOSS tools.
- Acquire knowledge of applications of Real Analysis, Complex Analysis, Differential Equations and Integral Calculus through FOSS.

Practical / Lab Work to be performed in Computer Lab (FOSS)
Suggested Software: Maxima / Scilab /Python.

1. Program to find upper and lower Riemann sums with respect to given partition
2. Program to test Riemann Integrability of a given function.
3. Program to evaluate Riemann integral as a limit of sum.
4. Program to verify Cauchy- Riemann equations (Cartesian form) or to test analyticity.
5. Program to check whether a function is harmonic or not.
6. Program to construct analytic function by Milne-Thomson method when real part is given
7. Program to construct analytic functions by Milne-Thomson method when imaginary part is given

8. Program to find Cross ratio of points and related aspects.
9. Program to find fixed points of bilinear transformations.
10. Program to find the solution of the given total differential equation.
11. Program to find the solution of the given simultaneous differential equations.
12. Program to find the solution of the given partial differential equation.
13. Program to evaluate the line integral with constant limits.
14. Program to evaluate the double integral with constant limits.
15. Program to evaluate the triple integral with constant limits.
16. Program to evaluate the line integral with variable limits.
17. Program to evaluate the double integral with variable limits.
18. Program to evaluate the triple integral with variable limits.
19. Basic commands on beta and gamma functions with examples.
20. Program to evaluate integral of various functions using beta and gamma functions.

Kuvempu University

Bachelor of Science (B.Sc.) Semester Scheme
Curriculum Structure for Under Graduate Programme for 2025-26
Syllabus for Mathematics Skill

Sl No	Course /Paper Code	Title of the Paper	Subject Category	Teaching Hours per week	Semester End Exam	Internal Assessment	Total Marks	Credits	Examination Duration
1	2	3	4	5	6	7	8	9	10
SEMESTER-VI									
2	Mathematics Skill-3		24MATHCPS-3	04	40	10	50	02	3 Hrs

MATHEMATICS PRACTICAL KNOWLEDGE/SKILL-3
SEMESTER – VI
24MATHCPS-3: Mathematics Skill-3
Numerical Methods Using Python

Practical Hours: 4 Hours/Week **Credits: 02**
Total Practical Hours: 56 Hours **Max. Marks: 50**

Course Learning Objectives:

- Introduce fundamental numerical techniques.
- Develop computational skills for solving mathematical problems.

- Implement numerical algorithms using Python.
- Analyze accuracy, convergence, and errors.
- Apply numerical methods to scientific and engineering problems.

Course Outcomes:

This course will enable the students to

- Solve linear systems numerically
- Perform interpolation and integration
- Solve ODEs using numerical techniques
- Evaluate stability and convergence

Part I

Brief Introduction to:

Numerical Analysis Basics: Errors, Significant digits, Stability and convergence and Order of accuracy.

Solutions of Nonlinear Equations: Bisection Method, Regula Falsi Method, Newton–Raphson Method and Convergence analysis

Numerical Differentiation and Integration: Finite difference methods, Trapezoidal Rule , Simpson's 1/3 Rule and Error analysis

Numerical Solution of Differential Equations: Modified Euler Method, Runge–Kutta Method and Applications in population models and physics

Part II

Suggested Programs

- Implementation of Bisection Method.
- Implementation of Newton–Raphson Method.
- Secant or Regula Falsi Method.
- Curve fitting using Least Squares Method.
- Numerical differentiation using finite difference method.
- Numerical integration using Trapezoidal Rule.
- Numerical integration using Simpson's 1/3 Rule.
- Solution of first-order ODE using Euler Method.
- Solution of first-order ODE using Runge–Kutta (RK4) Method.

REFERENCES

1. Numerical analysis- Burden, R. L., & Faires, J. D. (2015). (10th ed.). Cengage Learning.
2. An introduction to numerical analysis (2nd ed.). Atkinson, K. E. (1989). Wiley.
3. Numerical methods for engineers (7th ed.). Chapra, S. C., & Canale, R. P. (2015). McGraw-Hill Education.
4. Numerical Python: Scientific computing and data science applications with NumPy, SciPy and Matplotlib (2nd ed.). Johansson, R. (2019). Apress.
5. Automate the Boring Stuff, Al Sweigart, No Starch Press, Inc, 2015.
6. Python documentation. *https://docs.python.org*
7. NumPy documentation. *https://numpy.org/doc/*
8. Matplotlib documentation. *https://matplotlib.org/stable/*

Internal Assessment for Theory Paper
I-VI semesters

Sl. No.	Internal Assessment	Maximum Marks
01.	Two Session Tests with proper record for assessment (5+5 = 10)	**10**
02.	Assessment of Skill Development activities/Seminars/Group Discussion/ Assignment etc., with proper record	**05**
03.	Attendance with proper record	**05**
	TOTAL MARKS	**20**

Attendance Marks-breakup

<75%	-	00 Marks
75-80%	-	01 Mark
80-85%	-	02 Marks
85-90%	-	03 Marks
90-95%	-	04 Marks
>95%	-	05 Marks

Internal Assessment for Practical Paper I-VI semester

- Attendance - 05 Marks
- Record/Journal - 05 Marks

Total **10 Marks**

Internal Assessment for Skill-Practical Paper IV-VI semesters

- Attendance - 05 Marks
- Record/Journal - 05 Marks

Total **10 Marks**

THEORY EXAMINATION QUESTION PAPER PATTERN
SEMESTERS V AND VI

B.Sc., Semester- V and VI-Degree Examination: 2026-27
(Semester Scheme; New Syllabus: 2026-27)
SUBJECT: MATHEMATICS

PAPER: _____
PAPER CODE: _____

Time: 3 Hours **Max. Marks: 80**

Instructions to Candidates:
1) All sections are Compulsory.
2) Draw neat labelled diagrams wherever necessary.

SECTION – A

1. Answer all the following questions: **10x2=20**

a)
b)
c)
d)
e)
f)
g)
h)
i)
j)

SECTION – B

Answer any SIX of the following: **6x5=30**

2.
3.
4.
5.
6.
7.
8.
9.

SECTION – C

Answer any THREE of the following: **3x10=30**

10. From Unit-I
11. From Unit-II
12. From Unit-III
13. From Unit-IV

QUESTION PAPER PATTERN FOR PRACTICAL PAPER EXAMINATION

(SEMESTERS I –VI)

Duration: 03 Hours

• **Experimentation (Major and Minor /Spotters)**		**30 Marks**
• **Viva Voce**		**10 Marks**

	Total	**40 Marks**

QUESTION PAPER PATTERN FOR PRACTICAL KNOWLEDGE/SKILL PAPER EXAMINATION

SEMESTER-IV-VI

Duration: 03 Hours

• **Experimentation (Major and Minor /Spotters)**		**30 Marks**
• **Viva Voce**		**10 Marks**

	Total	**40 Marks**
