



**VASANT SHIKSHAN PRASARAK MANDAL'S MUKHED
LATE. BHIMRAO CHAVAN ART'S & SCIENCE COLLEGE, CHAVANWADI
(BARHALI) Tal. MUKHED, Dist. NANDED.**



2.6 Students Performance and Learning outcomes

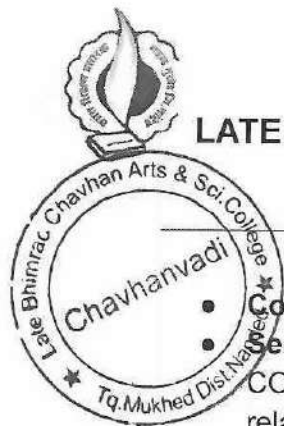
2.6.1 Programme outcomes (POs) and Course outcomes (COs) for B.Sc Chemistry.

• **Programme Outcomes (POs) of B.Sc (Mathematics)**

- PO1 Disciplinary Knowledge: B.A/ B.Sc in Mathematics is the zenith of in-depth knowledge of Algebra, Analysis, Geometry, Calculus and several other branches of mathematics. This also leads to study interdisciplinary areas such as computer science and other allied subjects.
- PO2 Communication Skills: Ability to communicate various mathematical concepts effectively using examples and their geometrical visualization. Skill and Knowledge attained during program will increase the ability to solve real world problems.
- PO3 Digital Proficiency: The completion of this programme will enable the learner to use appropriate software's to solve mathematical problems
- PO4 Ability to work Independently: The Learner completing this program will grow the capacity to do work independently.
- PO5 Critical Thinking and Logical Reasoning: Student will acquire ability of critical thinking and logical reasoning.
- PO6 Mathematical Principles: students will understand mathematical principles and their applications.
- PO7 Confidence of Learning: The B.Sc. Programme will develop learners mathematical knowledge and oral, written, and practical skills in a way which will encourage confidence, satisfaction and learning enjoyment.
- PO8 Ability to peruse advanced studies and research: Students will be motivated high for doing higher education and research in Academically strong institution
- PO9 Skill/Vocational Courses: Students will have to study skill/Vocational courses related to pure and applied Mathematics.
- PO10 Generic /Open Elective : As an interdisciplinary approach student will study GE/OE course in Mathematics.


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- **Course Outcomes (CO's)**

- **Semester I DSC-1 Topics in Algebra (CO's)**

CO1: Students can Sort one-one, onto functions and can compute equivalence relation.

CO2: Students Can compute Composite of functions

CO3: Student can compute REF, RREF and rank of any ordered matrix

CO4: Student can solve Linear System of Equation and apply Caley Hamilton Theorem

- **Semester I DSC-2: Lab Course -I (Calculus Using SAGE) (CO's)**

After successful completion of the course student will be able to

CO1: Do basic programming in Sage

CO2: Do practical's on Calculus

CO3: Know Programming and Data Structures

CO4: Plot 2D, 3D Curve and display solution of differential equation.

- **Semester I GE/OE: Foundation of Mathematics (CO's)**

After Successful completion of this course students can able to

CO1: Compute distance formula, midpoint formula, equation of lines ,parallel lines and perpendicular lines

CO2: Find symmetry of graphs

CO3: Discuss limit and continuity of given function'

CO4: Apply derivatives to compute maxima and minima

- **Semester I SEC- Basics of MATLAB/Scilab (CO's)**

After successful completion of the course student will be able to

CO1: Perform basic MATLAB/Scilab commands and will apply MATLAB/Scilab for elementary number theory problem.

CO2: Do Arithmetic Operations of Arrays

CO3: Solve elementary linear Algebra examples using MATLAB/Scilab

CO4: Compute Row Reduced Echelon Form

- **Semester II DSC-4: Analytical Geometry (CO's)**

After successful completion of this course students can able to

CO1: Study and analyse Geometry of three dimensions.

CO2: Learners can compute angle between two planes and lines

CO3: Learners can compute tangent to given Sphere

CO4: Student can study various forms of Sphere

- **Semester II DSC-5: Lab Course-II(Integral Calculus) (CO's)**

After Successful completion of this course students can

CO1: Discuss integral as limit of sum and apply fundamental theorems of Integral Calculus.

CO2: Study Beta and Gamma Functions.

CO3: Apply double integration to compute area bounded by region.

CO4: Study application of Multiple integral.


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Semester II GE/OE : Basic Algebra(CO's)

After Successful completion of this course students can

CO1: Understand matrices and determinants.

CO2: Solve system of linear equations.

CO3: Differentiate Simple and Compound Interest.

CO4: Compute the discount and profit on sell.

• **Semester II SEC- Programming Using MATLAB/Scilab (CO's)**

After successful completion of this course students are able to:

CO1: Do programming using MATLAB

CO2: Define function and function files

CO3: Plot two dimensional graphs

CO4: Plot three dimensional plots.

• **Semester III DSC-3(Theory) Real Analysis-I (CO's)**

After successful completion of the course student will be able to

CO1: Understand the basic concept of sets and their properties.

CO2: Apply the concept of a neighbourhood of a point, interior points of a set, open set.

CO3: Discuss concept of limit points of a set, closed set, closure of a set, dense set.

CO4: Study the basic concept of sequences, sub-sequences, bounds of sequences, limit point of

sequences, general principle of convergence, different types of sequences.

• **Semester III DSC-4(Theory) Group Theory (CO's)**

After successful completion of the course student will be able to

CO 1. Categorize group structures

CO 2. Compute subgroups of a given cyclic group.

CO-3. Solve examples based on permutation groups.

CO-4. Compute Normal Subgroup, factor group and apply first fundamental Isomorphism theorem.

• **Semester III DSC-3(Practical): Lab Course -III (Based on Real Analysis-I) (CO's)**

After successful completion of the course student will be able to

CO1: Understand the concept of Bounded and unbounded sets, Supremum, Infimum.

CO2: Apply the concept of open sets, closed sets and countable sets.

CO3: Identify whether sequences are bounded, monotonic, and convergent or divergent.

CO4: Investigate the conditions under which a sequence oscillates and does not have a limit.

• **Semester III DSC- 4(Practical): Lab Course -IV (Based on Group Theory)(CO's)**

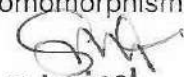
After successful completion of the course student will be able to

CO1: Apply SageMath for elementary concepts in group theory

CO2: Visualize group using SageMath/likewise software

CO3: Solve examples on homomorphisms, Isomorphism and automorphisms of groups.

CO4: Prepare quotient group and apply fundamental theorems of homomorphism.


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● **Semester III DSM-1(Theory) Fundamentals of Sequence and Group Theory(CO's)**

After successful completion of the course student will be able to

CO1: Understand the basic concept of sets and their properties.

CO2: Apply the concept of a neighbourhood of a point, interior points of a set, open set.

CO3: Study the basic concept of sequences, sub-sequences, bounds of sequences, limit

point of sequences, general principle of convergence, different types of sequences

CO 4. Categorize group structures

CO 5. Compute subgroups of a given cyclic group.

CO-6. Solve examples based on permutation groups.

CO-7. Compute Normal Subgroup, factor group and apply first fundamental Isomorphism theorem.

● **Semester III DSM-(Practical) : DSM Lab Course -I (Fundamentals of Sequence and Group Theory) (CO's)**

After successful completion of the course student will be able to

CO1: Understand the basic concept of sets and their properties.

CO2: Apply the concept of a neighbourhood of a point, interior points of a set, open set.

CO3: Study the basic concept of sequences, sub-sequences, bounds of sequences, limit

point of sequences, general principle of convergence, different types of sequences

CO 1. Categorize group structures

CO 4. Compute subgroups of a given cyclic group.

CO-5. Solve examples based on permutation groups.

CO-6. Compute Normal Subgroup, factor group and apply first fundamental Isomorphism theorem.

● **Semester III GE-3(Theory) Quantitative Aptitude and Logical Reasoning(CO's)**

After successful completion of the course student will be able to

CO1: Compute HCF and LCM of a given number.

CO2: Describe how to compute Fractions and how-to interpreter data.

CO3: Perform calculations & predictions based on given datasets

CO4: Attempt aptitude test of different multinational companies/Banking Examinations

● **Semester III VSC-1: Essential Mathematics for Data Science(CO's)**

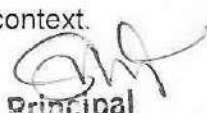
After successful completion of the course student will be able to

CO1: Use the mathematical concepts in the field of data science.

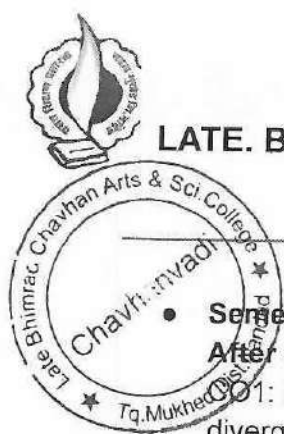
CO2: Employ the techniques and methods related to the area of data science in variety of applications.

CO3: Handle concepts of regression and correlation analysis.

CO4: Apply logical thinking to understand and solve the problem in context.


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- **Semester IV DSC-5(Theory) Real Analysis -II (CO's)**

After successful completion of the course student will be able to

CO1: Define and identify infinite series, distinguishing between convergent and divergent series.

CO2: Understand the sum and behaviour of an infinite series as the number of terms approaches infinity.

CO3: Analyse the conditions under which a series converges or diverges.

CO4: Apply various convergence tests to determine the behaviour of infinite series.

- **Semester IV DSC-6(Theory) Ring Theory (CO's)**

After successful Completion of the course students are able to

CO1: Grasp the definitions and properties of rings, fields, integral domains, subrings, etc.,

CO2: Construct composition tables for finite quotient rings and understand the relationship between ideals and quotient rings.

CO3: Study the properties of homomorphisms and isomorphisms, and apply them to solve problems.

CO4: Understand the division algorithm for polynomials over fields and its applications.

- **Semester IV DSC- 6(Practical) Lab Course -V (Based on Real Analysis -II)(CO's)**

After successful completion of the course student will be able to

CO1: Understand the role of partial sums in determining the behaviour of an infinite series.

CO2: Identify when a series converges or diverges.

CO3: Apply tests for convergence such as the Comparison Test, Cauchy's root test, D-Alembert's root test.

CO4: Differentiate between absolute and conditional convergence.

- **Semester IV DSC-6 (Practical): Lab Course -VI (Based on Ring Theory)(CO's)**

After successful completion of the course student will be able to

CO1: Study of Ring Theory using SageMath.

CO2: Create ideals and check ideal membership.

CO3: Define and verify ring homomorphisms between two rings.

CO4: Apply Eisenstein's criterion in Sage to test the irreducibility of polynomials

- **Semester IV DSM-2(Theory) Introduction to Infinite Series and Ring Theory(CO's)**

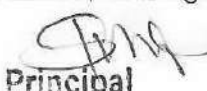
After successful completion of the course student will be able to

CO1: Define and identify infinite series, distinguishing between convergent and divergent series.

CO2: Understand the sum and behaviour of an infinite series as the number of terms approaches infinity.

CO3: Analyse the conditions under which a series converges or diverges

CO4: Grasp the definitions and properties of rings, fields, integral domains, subrings, etc.,


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CO5: Construct composition tables for finite quotient rings and understand the relationship between ideals and quotient rings.

CO6: Study the properties of homomorphisms and isomorphisms, and apply them to solve problems.

- **Semester IV DSM-(Practical) :DSM Lab Course -II (Introduction to Infinite Series and Ring Theory) (CO's)**

After successful completion of the course student will be able to

CO1: Understand the role of partial sums in determining the behaviour of an infinite series.

CO2: Identify when a series converges or diverges.

CO3: Apply tests for convergence such as the Comparison Test, Cauchy's root test, D-

Alembert's root test.

CO4: Study of Ring Theory using SageMath.

CO5: Grasp the definitions and properties of rings, fields, integral domains, subrings, etc.,

CO6: Construct composition tables for finite quotient rings and understand the relationship between ideals and quotient rings

- **Semester IV GE-4(Theory) Mathematics for Competitive Examination (CO's) .**

After successful completion of the course student will be able to

CO1: Solve examples of various competitive examinations.

CO2: Compute Simple and Compound interest.

CO3: Perform calculations based on permutations and Combinations.

CO4: Attempt aptitude test of different multinational companies/Banking Examinations

- **Semester IV VSC-2: Introduction to R Programming (CO's)**

After successful completion of the course student will be able to

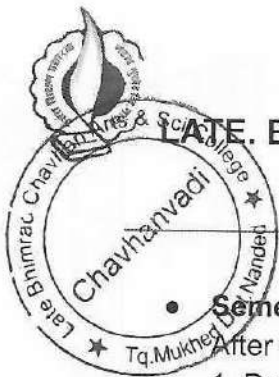
CO1: Learn the syntax and semantics of R, including data types, variables, and control structures.

CO2: Perform basic statistical analysis, including descriptive statistics and inferential statistics.

CO3: Import, manipulate, and visualize data in R.

CO4: Create informative and attractive data visualizations using R

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• **Semester V Paper XII: Metric Spaces (CO's)**

After successful completion of the course student will be able to

1. Demonstrate an understanding of metric spaces and subspaces by proving unseen results.
2. Produce examples and counterexamples illustrating the mathematical concepts.
3. Understand the concepts of open and closed sets.
4. Understand the concepts and develop skill to check the positions of a point in the space.
5. Understand the concepts of convergences and completeness.
6. Understand the concepts of fixed point and Banach principle.
7. Understand the concepts of continuity and uniform continuity.
8. Understand the concepts of compact and non-compact sets with various properties.
9. Understand the concepts of Lebesgue Number for Covers and connectedness of sets.
10. After completion of this course student can aware with basic concepts of functional analysis.

• **Semester V Paper XIII: Linear Algebra(CO's)**

After successful completion of the course student will be able to

1. Understand and prove algebraic statements about vector spaces, subspaces, basis, Inner product spaces.
2. Determine a basis and the dimension of finite dimensional space.
3. Understand and prove statements about linear transformations.
4. Find the kernel, range, rank and nullity of linear transformation.
5. Determine eigen values and eigen vectors.
6. Interpret a matrix as a representation of linear transformation.

• **Semester V Paper XIV (A): Operation Research (CO's)**

After successful completion of the course student will be able to

1. Formulate a given simplified description of a suitable real-world problem as a linear programming.
2. Sketch a graphical representation of a two-dimensional linear programming problem.
3. Solve a two-dimensional linear programming problem graphically
4. Use the simplex method to solve simple linear programming models by hand.
5. Understanding transportation problem and solve simple assignment problems.

• **Semester V Paper XIV (B): Mechanics-I (Statics) (CO's)**

After successful completion of the course student will be able to

1. Understand concepts of motion, force and its importance in Physical Sciences.
2. After learned this course , Student will be interested in Applied Mathematics.
3. Develop research oriented skills in Applied Mathematics
4. Know the principles of equilibrium of two forces.


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5. To realize the forces acting on a particle, forces acting on a rigid body and its derivations.

6. Analyze the equilibrium state of a particle and rigid body.

7. Obtain the equivalent force - couple system of a given system.

- **Semester V Paper XIV(C): Numerical Analysis (CO's)**

After successful completion of the course student will be able to

1. Estimate the value of a function under certain assumptions.
2. Find the missing terms in the given data using numerical techniques.
3. Apply numerical derivation and numerical integration methods.
4. Investigate numerical solutions of differential equations.
5. Find the integration of a functions using numerical methods.
6. Find the solutions of ordinary differential equations.

- **Semester VI Paper-XV: Complex Analysis (CO's)**

After successful completion of the course student will be able to

1. Operate basic mathematical operations with complex numbers in Cartesian and polar forms.
2. Demonstrate the ability of limit, continuity, analyticity of a function.
3. Find the derivative and integral of a complex variable function.
4. Work with exponential and logarithmic functions.
5. Use Cauchy integral theorem and Liouville's theorem.
6. Use Taylor and Laurent's series.

- **Semester VI Paper-XVI: Integral Transforms (CO's)**

After successful completion of the course student will be able to

1. Understand the concept of Integral Transforms
2. Identify integral transforms by their integration limits and kernels
3. Obtain integral transforms of functions
4. Know the formulae for integral transforms of standard functions
5. Understand various properties of integral transforms
6. Apply the integral transforms for evaluating integrals
7. Apply the integral transforms along with their inversion formulae for solving differential equations with initial conditions
8. Apply the integral transforms along with their inversion formulae for solving systems

of simultaneous differential equations with initial conditions

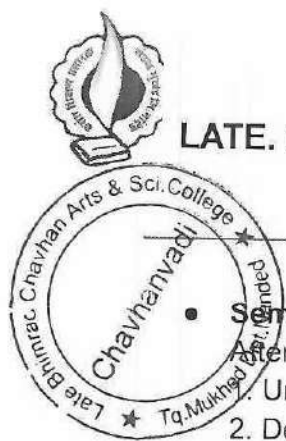
- **Semester VI Paper XVII(A): Topology (CO's)**

After successful completion of the course student will be able to

1. Understand Concept of Topological spaces.
2. Understand Topological Properties of Sets.
3. Understand the concept of order Topology and product topology.
4. Understand concept of Subspace topology.
5. Understand Concept of Closed and Open sets, limit points.
6. Understand of continuity, Concept of Homeomorphisms, Imbedding's.
7. Understand the separation properties like Hausdroff Spaces and T1 Axioms.
8. Understand basic Concept of Connected Spaces and compact Spaces.
9. Understand Utility of Connected and compactness.

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• **Semester VI Paper XVII (B): Mechanics-II (Dynamics) (CO's)**

After successful completion of the course student will be able to

1. Understand Newton's Laws of Motion and its importance in Physical Sciences.
2. Develop research oriented skills in Applied Mathematics.
3. Understand the expressions for Velocity and Acceleration, Components of Velocity and Acceleration and principles of equilibrium of two forces.
4. To realize the forces acting on a particle, forces acting on a rigid body and its derivations.
5. Analyze the Impulsive Force and its Impulse, Conservation of Linear Momentum and, Impact of two bodies.
6. Find the Motion of Projectile and Derivation of Equation of its trajectory, Cartesian Equation of the path of Projectile, equivalent force - couple system of a given system.

• **Semester VI Paper XVII(C): Elementary Number Theory (CO's)**

After successful completion of the course student will be able to

1. Apply different methods of proofs including induction, contradiction, counter examples to verify mathematical assertions.
2. Explain basic concepts like divisibility, greatest common divisor, congruences, linear congruences.
3. Solve systems of Diophantine equations using the Euclidean algorithm and Chinese remainder theorem
4. Demonstrate knowledge and understanding of prime numbers.


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Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

B.Sc. Computer Science (3 years)

(Revised CBCS pattern)

Introduced from Academic Year 2019-2020



Program Outcome(s): Students / graduates will be able to

PO1: Apply knowledge of mathematics, science and algorithm in solving Computer problems.

PO2: Generate solutions by conducting experiments and applying techniques to analyze and interpret data

PO3: Design component, or processes to meet the needs within realistic constraints.

PO4: Identify, formulate, and solve problems using computational temperaments.

PO5: Comprehend professional and ethical responsibility in computing profession.

PO6: Express effective communication skills.

PO7: Recognize the need for interdisciplinary, and an ability to engage in life-long learning.

PO8: Actual hands on technology to understand it's working.

PO9: Knowledge of contemporary issues and emerging developments in computing profession.

PO10: Utilize the techniques, skills and modern tools, for actual development process

PO11: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings in actual development work

PO12: Research insights and conduct research in computing environment.


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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.lbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachirao Patil

I/C Principal

Mobile – 840886294



Department of Computer Science

Second Year B.Sc. Computer Science (Revised CBCS pattern) Introduced from Academic Year 2020-2021

Program Outcome(s): Students / graduates will be able to

PO1: Apply knowledge of mathematics, science and algorithm in solving Computer problems.

PO2: Generate solutions by conducting experiments and applying techniques to analyze and interpret data

PO3: Design component, or processes to meet the needs within realistic constraints.

PO4: Identify, formulate, and solve problems using computational temperaments.

PO5: Comprehend professional and ethical responsibility in computing profession.

PO6: Express effective communication skills.

PO7: Recognize the need for interdisciplinary, and an ability to engage in life-long learning.

PO8: Actual hands on technology to understand it's working.

PO9: Knowledge of contemporary issues and emerging developments in computing profession.

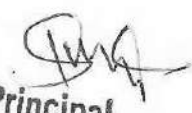
PO10: Utilize the techniques, skills and modern tools, for actual development process

PO11: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings in actual development work

PO12: Research insights and conduct research in computing environment

Course Outcome(s):

Every individual course under this program has course objectives and course outcomes (CO). The course objectives rationally match with program educational objectives. The mapping of PEO, PO and CO is as illustrated below


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Paper Title -Object Oriented Programming BCS-301**Course outcome :-**

- Ability to explain the difference between object oriented programming and procedural programming concepts.
- Ability to program using object oriented features such as inheritance and polymorphism, operator overloading, dynamic memory allocation, file I/O, exception handling, etc
- Ability to apply object oriented techniques to solve computing problems.

**Paper Title – Computer Network BCS-302****Course outcome:-**

After completing this course the student get the knowledge and ability to:

- Understand basic computer network technology.
- Students can identify the different types of network topologies and protocols.
- Students can identify the different types of network standards

Title of the Paper- Data Structure and Algorithms Course code- BCS-303**Course outcome:-**

- Ability to analyze algorithms and algorithm correctness.
- Ability to summarize searching and sorting techniques
- Ability to describe stack, queue and linked list operation.
- Ability to have knowledge of tree and graphs concepts.

Paper Title- Discrete Mathematics Code: BCS-304 A (Elective)**Course Outcome:**

- Apply mathematical foundation to the discipline of Computer Science

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Paper Title: Mathematical Technique in Computer Science (MTCS) BCS-304 B (Elective)

Outcomes:

- Able to use standard mathematical techniques to solve elementary problem.
- Understand the nature of mathematical proof & be able to write clear & concise proof.

BCS-305 B (Open Elective) Numerical Abilities

Course Outcomes: -

1. Solve mathematical problems using analytical methods;
2. Solve mathematical problems using computational methods;
3. Students can develop design and analyze numerical techniques to approximate solutions to problems.

Paper Title- Programming in JAVA BCS -401

Course outcome:-

- The knowledge of the structure and model of the Java programming language.
- To use the Java programming language for various programming technologies
- To develop software in the Java programming language.

Paper Title – Software Engineering BCS-402

Course outcome:-

- Ability to learn various methods of software development
- Ability to apply various software testing techniques

Paper Title :-Relational Database Management System BCS-403

Course Outcome:


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- To study the basic concepts of relational databases
- Learn and practice data modeling using the entity-relationship and developing database designs.
- Understand the use of Structured Query Language (SQL) and learn SQL syntax for writing queries.
- Apply normalization techniques to normalize the databases.



Paper Title :- Essentials of Computer Security BCS-404 B (Elective)

Course Outcomes:-

- To develop a basic understanding of cryptography
- To develop a basic understanding of security policies.
- To develop a basic understanding of authentication and access control
- To determine mechanism for protecting information

BCS -405 B (open Elective) Paper Title:-Logical Reasoning

Course Outcome:-

- Identify logical relations among statements.
- Analyse logically complex statements into their truth functional or quantificational components
- This enable students to develop their ability to reason by introducing them to elements of formal reasoning

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Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

Syllabus of Third Year B.Sc.(Computer Science) (Revised CBCS pattern)

Introduced from Academic Year 2021-2022

Program Outcome(s): Students / graduates will be able to

- PO1: Apply knowledge of mathematics, science and algorithm in solving Computer problems.
- PO2: Generate solutions by conducting experiments and applying techniques to analyze and interpret data
- PO3: Design component, or processes to meet the needs within realistic constraints.
- PO4: Identify, formulate, and solve problems using computational temperaments.
- PO5: Comprehend professional and ethical responsibility in computing profession.
- PO6: Express effective communication skills.
- PO7: Recognize the need for interdisciplinary, and an ability to engage in life-long learning.
- PO8: Actual hands on technology to understand it's working.
- PO9: Knowledge of contemporary issues and emerging developments in computing profession.
- PO10: Utilize the techniques, skills and modern tools, for actual development process
- PO11: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings in actual development work
- PO12: Research insights and conduct research in computing environment.




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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.lbccollege.com

Email – bcchavanvadi@gmail.com

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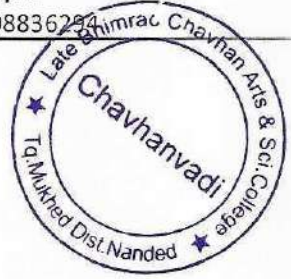
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Course Outcome(s):

Every individual course under this program has course objectives and course outcomes (CO).

The course objectives rationally match with program educational objectives.

The mapping of PEO, PO and CO is as illustrated below



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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

B.Sc. Computer Science (Third Year)



Name of Subject ----Windows Programming

Subject code-- BCS-501

Course Outcome:

1. Review the fundamental concepts of Windows Programming in C#.Net
2. Evaluate the logic of different programming concepts.
3. Evaluate the techniques of application development in windows environment.
4. To develop database connectivity application.
5. To evaluate different techniques to develop windows applications.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.lbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

Name of Subject Python

Subject code BCS-502



Course Outcome:

After successful completion of this course, learner will be able to-

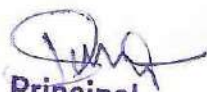
1. Write programs using Python programming constructs.
2. Design and Develop applications using Python programming.
3. Design object oriented programs with Python classes.
4. Use exception handling in Python applications for error handling.
5. Design and Develop applications connecting with database.

Name of Subject Data Science

Subject code BCS-503

Course Outcome:

1. Review the fundamental concepts of Data Science
2. Evaluate the techniques for better Data Science understanding.
3. Evaluate the techniques for perfect Data Analysis
4. To develop applications/algorithms in the field of Data Science
5. To evaluate different Data Science techniques & tools


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Name of Subject

Software Testing (Elective)

Subject code

BCS- 504A

**Course Outcomes:**

- i. Ability to learn various methods of software development.
- ii. Ability to apply various software testing techniques.
- iii. Ability to evaluate cost of software testing.
- iv. Ability to implement different software testing according to types of software.

Name of Subject

Basics of Linux (Elective)

Subject code

BCS-504 B

Course Outcomes:

- I. Awareness of existing demanding trends in IT industry in order to get placement & research in open source market.
- II. Understand the Linux OS architecture.
- III. Install and use different types of distributions available in market.
- IV. Understand the different Linux basic commands.
- V.


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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bccchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

Name of Subject

System Analysis and Design(SAD)—Open
elective

Subject code

BCS-505 B



Course Outcome :-

1. To learn basic things of systems, System development Life cycle, and System Analyst.
2. To determine specific needs of system.
3. Discuss approaches and tasks of system. Planning for developing system
4. Evaluate tools and techniques.
5. Use appropriate methods and techniques to design software.
6. Implementation of Developed System, Evaluation and Testing of system.

Name of Subject

Mobile Application Development

Subject Code

BCS-601

Course Outcome:

- Awareness of existing demanding trends in IT industry in order to get placement & research
- Understand the Android OS architecture
- Install and use appropriate tools for Android development, including IDE, device emulator, and profiling tools.
- Understand the Android application architecture, including the roles of the task stack, activities, & services.
- Build user interfaces with fragments, views, form widgets, text input, lists, tables, and more.

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Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website - www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

Name of Subject

Fundamentals of Image Processing

Subject code

BCS-602



Course Outcome: .

- 1 Review the fundamental concepts of digital image processing system.
- 2 Evaluate the techniques for image enhancement.
- 3 Evaluate the techniques for Image restoration.
- 4 To develop color based image processing applications.
- 5 To evaluate different filtering method.

Name of Subject

Software Process Management (Elective)

Subject code

BCS-604 A

Course Outcomes:

1. Analyze software process maturity, its framework and the reference models .
2. Understand the Capability Maturity Model and learn about conventional software management.
3. Understand how to manage software projects and project planning.
4. Analyze project tracking and control.
5. Understand the role of project closure analysis.

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Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225500

website-www.kbccollege.com

Email – bchavanvadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



Name of Subject

Linux Administration (Elective)

Subject code

BCS-604 B

Course Outcomes:

- I. Awareness of existing demanding trends in IT industry in order to get placement & research in open source market.
- II. Understand the Linux OS architecture.
- III. Install and use different types of distributions available in market.
- IV. Understand the different Linux administration commands.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



Name of Subject

Networking Essentials

Subject code

BCS-605 B (Open elective)

Course Outcomes:

- Evaluate the usability of mobile devices such as smart phones.
- Select appropriate network technologies in commercial and enterprise applications.
- Assess the capabilities of next generation networks and role of network technologies.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bccchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile – 8408836294

Third Year B.Sc.(Computer Science) (Revised CBCS pattern)

Introduced from Academic Year 2021-2022



Name of Subject

Windows Programming

Subject code

BCS-501

Course Outcome:

1. Review the fundamental concepts of Windows Programming in C#.Net
2. Evaluate the logic of different programming concepts.
3. Evaluate the techniques of application development in windows environment.
4. To develop database connectivity application.
5. To evaluate different techniques to develop windows applications.

Name of Subject

Python

Subject code

BCS-502

Course Outcome:

After successful completion of this course, learner will be able to-

1. Write programs using Python programming constructs.
2. Design and Develop applications using Python programming.
3. Design object oriented programs with Python classes.
4. Use exception handling in Python applications for error handling.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanwadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

5. Design and Develop applications connecting with database.

Name of Subject

Data Science

Subject code

BCS-503

Course Outcome:

1. Review the fundamental concepts of Data Science
2. Evaluate the techniques for better Data Science understanding.
3. Evaluate the techniques for perfect Data Analysis
4. To develop applications/algorithms in the field of Data Science
5. To evaluate different Data Science techniques & tools



Name of Subject

Software Testing (Elective)

Subject code

BCS- 504A

Course Outcomes:

- i i. Ability to learn various methods of software development.
- ii ii. Ability to apply various software testing techniques.
- iii iii. Ability to evaluate cost of software testing.
- iv iv. Ability to implement different software testing according to types of software.


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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website www.kbccollege.com

Email – kbccollege@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

Name of Subject

Basics of Linux (Elective)

Subject code

BCS-504 B



Course Outcomes:

- i. • Awareness of existing demanding trends in IT industry in order to get placement & research in open source market.
- ii. • Understand the Linux OS architecture.
- iii. • Install and use different types of distributions available in market.
- iv. • Understand the different Linux basic commands.

Name of Subject

System Analysis and Design(SAD)—Open
elective

Subject code

BCS-505 B

Course Outcome :-

1. To learn basic things of systems, System development Life cycle, and System Analyst.
2. To determine specific needs of system.
3. Discuss approaches and tasks of system. Planning for developing system
4. Evaluate tools and techniques.
5. Use appropriate methods and techniques to design software.
6. Implementation of Developed System, Evaluation and Testing of system.

Name of Subject

Mobile Application Development

Subject Code

BCS-601

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

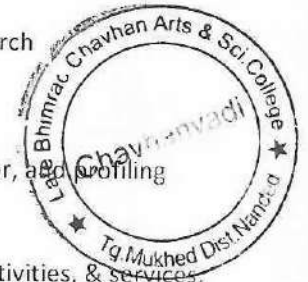
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I/C Principal

Mobile - 8408836294

Course Outcome:

- Awareness of existing demanding trends in IT industry in order to get placement & research
- Understand the Android OS architecture.
- Install and use appropriate tools for Android development, including IDE, device emulator, and profiling tools.
- Understand the Android application architecture, including the roles of the task stack, activities, & services.
- Build user interfaces with fragments, views, form widgets, text input, lists, tables, and more.



Name of Subject

Fundamentals of Image Processing

Subject code

BCS-602

Course Outcome:

- 1 Review the fundamental concepts of digital image processing system.
- 2 Evaluate the techniques for image enhancement.
- 3 Evaluate the techniques for Image restoration.
- 4 To develop color based image processing applications.
- 5 To evaluate different filtering method.

Name of Subject

Software Process Management (Elective)

Subject code

BCS-604 A

Course Outcomes:

1. Analyze software process maturity, its framework and the reference models .
2. Understand the Capability Maturity Model and learn about conventional software management.
3. Understand how to manage software projects and project planning.
4. Analyze project tracking and control.
5. Understand the role of project closure analysis.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbcccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

Name of Subject

Linux Administration (Elective)

Subject code

BCS-604 B



Course Outcomes:

- Awareness of existing demanding trends in IT industry in order to get placement & research in open source market.
- Understand the Linux OS architecture.
- Install and use different types of distributions available in market.
- Understand the different Linux administration commands.

Name of Subject

Networking Essentials

Subject code

BCS-605 B (Open elective)

Course Outcomes:

- Evaluate the usability of mobile devices such as smart phones.
- Select appropriate network technologies in commercial and enterprise applications.
- Assess the capabilities of next generation networks and role of network technologies.

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Er. Shri Sheshrao Bhimrao Chavan

President

website-www.kbccollege.com

Email – bcchavanwadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

Mobile – 9158225599

Third Year Effective from Academic Year (2018-2019)

Name of Subject Operating System

Subject Code S5.CC.5 (Core Course Elective - 1)

Course Outcomes:

- ☐ Fundamental understanding of the role of Operating Systems.
- ☐ To understand the concept of a process and thread.
- ☐ To apply the cons of process/thread scheduling.
- ☐ To apply the concept of process synchronization, mutual exclusion and the deadlock.
- ☐ To realize the concept of I/O management and File system.
- ☐ To understand the various memory management techniques

Name of Subject Elective- Mobile Communication

Subject Code S5.CC.5 (Core Course Elective – II)

Outcomes:

- ☐ Evaluate the usability of mobile devices such as smart phones.
- ☐ Select appropriate wireless technologies in commercial and enterprise applications.
- ☐ Assess the capabilities of next generation networks and role of mobile technologies.



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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.lbccollege.com

Email – bcchavanvadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

Name of Subject Distributed Computing

Subject Code S5.CC.5 (Core Course Elective – III)

Outcomes:

- ☐ Distinguish between distributed computing and parallel computing.
- ☐ Understand concepts of architectural Styles, Communication, and Synchronization.
- ☐ Demonstrate different naming & synchronization technologies
- ☐ Explore various distributed concepts.

Name of Subject JavaScript

Subject Code S5.SEC.1 (Skill Enhancement Course - 1)

Outcomes:

- ☐ Use operators, variables, arrays, control structures, functions and objects in JavaScript.
- ☐ Identify popular JavaScript Libraries.
- ☐ Use regular expressions for form validation.
- ☐ Use Array, Math and String methods to access proper data.
- ☐ To build dynamic web pages and web applications.




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Paper Name - Contemporary Social Institutions
Paper - IV



Course outcomes are:

CO1 - Students understood the formations. Institutions can refer to mechanism of social order

CO2 - Students were able to solve. which govern the behavior of set of individuals within a given community.

CO3 - Students acquired and understanding of various sociological issues, sociological processes and sociological activities.

CO4 - Moreover institution are identified with social purpose. Transferring individuals and interaction by modifying the roles that govern living behaviors. Debates about the social impacts of sociology. have been historically centered.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile – 8408836294

B. Sc. Third Year (V & VI - SEMESTER)

Effective from June 2021

FISHERY SCIENCE



Outcome

The new syllabus includes six theory papers, three practical papers and four Skill Enhancement Course (SEC) paper. Out of six theory papers, Section A in each semester (Sem V

and VI) contains one compulsory papers. On the other hand, Section B in each semester (Sem V

and VI) contains Two elective papers from which any one can be selected for teaching. Thus

student has to study four theory papers, two (one compulsory and one elective) theory paper for

each semester to complete fishery science subject for third year. Similarly, student can opt any

one SEC course in each semester out of two SEC papers offered in each semester for completion

of third year. Thus student has to undergo two SEC papers out of four papers offered. Out of three

practical papers, Practical paper no XVI based on section A of theory papers is compulsory. On

the other hand, Practical Paper XVII has two elective practical papers based on elective theory

papers of Section B, of which one paper has to be completed by the students.

All theory papers [XII, XIII (BI/BII), XIV & XV (BI/BII)], practical papers [XVI (A) &

XVII (BI/BII)] as well as SEC paper of Third year Fishery Science subject have been revised.

Theory Paper-XII entitled "Indian Marine Fisheries" from Section A of fishery science

subject for Semester V is compulsory paper encompassing the study of fisheries of different

marine finfish and shellfish species, study of mariculture activities of some commercially

important species as well as fisheries of important lakes and estuaries in India.

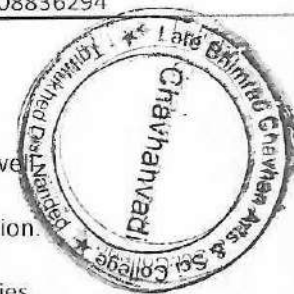
Theory Paper- XIII of Section B of Semester V contains two elective papers namely,

Aquaculture Technique and Fish nutrition (Elective B I) & Soil and Water Quality Management

in Aquaculture (Elective B II). Student has to complete any one of these two elective papers during

semester V. Aquaculture Technique and Fish nutrition (Elective B I) contains the detailed study


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of culture techniques of some commercially important finfishes and shell fishes along with detailed studies on fish nutrition, ingredients for fish feed, fish feed formulation & storage as well as probiotics in aquaculture along with their selection, composition, dosages and modes of action.

This paper will impart the knowledge and skills in the student to undertake aquaculture activities for their livelihood and self-employment. Second elective paper entitled Soil and Water Quality Management in Aquaculture (Elective B II) deals with the study of Physical and chemical properties of water and soil, Aquatic microorganism and their role in nutrient cycles, soil and water quality monitoring, fertilizers and manures as well as soil and water quality management in different aquaculture systems.

Section A of fishery Science subject for Semester VI contains compulsory Theory Paper no XIV entitled "Ornamental Fish Production and Management (A)". This paper will impart the knowledge as well as technical knowhow with respect to the ornamental fish production and management. This paper includes the study of different ornamental aquatics species, their breeding and larval rearing, disease management of ornamental fishes, aquarium fabrication, setting and management. On successful completion of this paper, student would be able to start their own ornamental related business ventures and activities.

Section B of Fishery Science Subject for Semester VI offers two elective theory papers viz. Fisheries Economics co-operative & marketing management XV (Elective B I), Nutrition and Feed Technology (Elective B II). Student has to study any one of these two courses based on the selection of elective paper from Section B in Semester V. Fisheries Economics co-operative & marketing management XV (Elective B I) provides detailed insight to student into fishery economics, fishery marketing, fish cooperative and fisheries extension. Nutrition and Feed Technology (Elective B II) offers study of Fish nutrition, nutritional requirements of fishes, nutritional physiology, fish feed resources, feed additives, fish feed formulation and manufacture,

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294

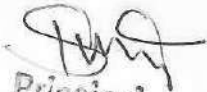
B.Sc. Second Year
Choice Based Credit System (CBCS) Semester Pattern
Effective from June - 2020



Program outcomes

After completing, one can work as a supervisor in a dairy plant either in equipment and plant design or project execution. He or She can also be a dairy consultant or take up entrepreneurial ventures in milk plants or ice cream, cheese, butter units. One can work as Dairy Farm manager.

1. To know the Western dairy products in Indian counterpart.
2. To know the heritage dairy products.
3. To know the economics of farm business.
4. To know the different breeds
5. Needs dairy equipments/instruments.


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Est. 1998

Vsanat Shikshan Prasarak Mandal's

College Code.150

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

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President

Mobile – 9158225599

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Email – bcchavanvadi@gmail.com

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I/C Principal

Mobile - 8408836294

B.Sc. Third Year

CHOICE BASED CREDIT SYSTEM(CBCS)

Semester Pattern

Effective from June 2021

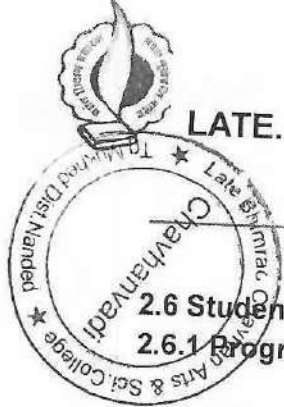


Program Outcomes:

- ❖ After completing one can work as a livestock supervisor in a various well established dairy farm and animal breeding farm.
- ❖ Understanding concept of cattle and buffalo breeding.
- ❖ Understanding concept of conservation of Animal Genetic Resources.
- ❖ Job Opportunities as wage employment in Veterinary Assistant/Livestock assistant/Dairy farm assistant, Artificial insemination assistant/inseminator/Farm supervisor/Farm assistant, Fodder production assistant/Supervisor/LSS.
- ❖ Self-Employment as Dairy farm owner , Fodder producer , Cattle feed , Artificial insemination centre owner

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2.6 Students Performance and Learning outcomes

2.6.1 Programme outcomes (POs) and Course outcomes (COs) for B.Sc Chemistry.

• Programme Outcomes (POs) of B.Sc (Botany)

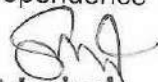
- PO1: Skill development for the proper description using botanical terms, identification, naming and classification of life forms especially plants and microbes.
- PO2: Acquisition of knowledge on structure, life cycle and life processes that exist among plant and microbial diversity through certain model organism studies.
- PO3: Understanding of various interactions that exist among plants and microbes; to develop the curiosity on the dynamicity of nature.
- PO4: Understanding of the major elements of variation that exist in the living world through comparative morphological and anatomical study.
- PO5: Ability to explain the diversity and evolution based on the empirical evidences in morphology, anatomy, embryology, physiology, biochemistry, molecular biology and life history.
- PO6: Skill development for the collection, preservation and recording of information after observation and analysis- from simple illustration to molecular database development.
- PO7: Making aware of the scientific and technological advancements- Information and Communication, Biotechnology and Molecular Biology for further learning and research in all branches of Botany..
- PO8: Internalization of the concept of conservation and evolution through the channel of pirity of inquiry.
- PO9: To enable the graduates to prepare for national as well as international level competitive examinations like UGC-CSIR, UPSC etc.
- PO10: To enable the students for practicing the best teaching pedagogy as a biology teacher including the latest digital modules.
- PO11: The graduates should be knowledgeable and competent enough to appropriately deliver on aspects of global importance like climate change, SDGs, green technologies etc at the right opportunity.
- PO12: The graduate should be able to demonstrate sufficient proficiency in the hands-on experimental techniques for their area of specialization within biology during research and in the professional career.
- PO13: The program enables the students to face NET, SET, MPSC, UPSC and other competitive examinations successfully.


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- **Course Outcomes (CO's)**
- **Semester I VIRUSES, BACTERIA AND ALGAE(CO's)**
 1. The students understand the morphology, structure, and evolution of various organisms like Viruses, Bacteria and Algae.
 2. The students are able to differentiate between various groups of Viruses, Bacteria and Algae.
 3. The students learn the importance of Viruses, Bacteria and Algae for human beings.
- **Semester I Practical based on SBOTCT 1101(CO's)**
 1. Students develop skill and technique for handling microscope and different instruments in the Botany lab.
 2. The students understand the morphology, structure, and interdependence of various organisms like Viruses, Bacteria and Algae.
 3. The students learn the importance of Viruses, Bacteria and Algae for human beings.
- **Semester I MEDICINAL PLANTS AND THEIR USES-I(CO's)**
 1. Understand history, Scope and Importance of Medicinal Plants & indigenous Medicinal Sciences
 2. Describe the common medicinal plants in the neighbourhood for therapeutical use.
 3. Conserve endangered and endemic medicinal plants.
 4. Efficient in modern tool use to get additional knowledge from the internet.
- **Semester I SEC-TRICHODERMA CULTIVATION TECHNIQUE(CO's)**
 1. Understanding the role of organic farming.
 2. Understanding the potential of Trichoderma as an alternative to chemical fertilizers
 3. Role of Trichoderma in protecting the environment and managing the waste.
- **Semester II FUNGI, LICHENS AND MYCORRHIZA(CO's)**
 1. The students understand the morphology, structure, and interdependence of various organisms like Fungi, Lichens and Mycorrhiza.
 2. The students are able to differentiate between various groups of Fungi, Lichens and Mycoplasma.
 3. The students learn the importance of Fungi, Lichens and Mycoplasma for human beings.
- **Semester II Practical based on SBOTCT 1151(CO's)**
 1. Students develop skill and technique for handling microscope and different instruments in the Botany lab.
 2. The students understand the morphology, structure, and interdependence of various


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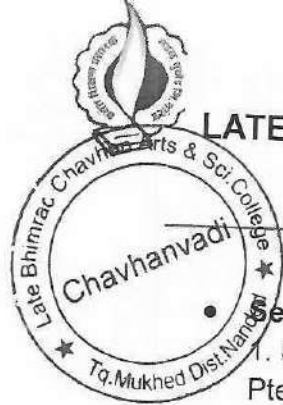
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- organisms like Viruses, Bacteria, Algae, Fungi, Lichens and Mycoplasma.
3. The students learn the importance of Fungi, Lichens and Mycoplasma for human beings.
- **Semester II MEDICINAL PLANTS AND THEIR USES-II GE-II (CO's)**
 1. Understand history, Scope and Importance of Medicinal Plants & indigenous Medicinal Sciences
 2. Describe the common medicinal plants in the neighbourhood for therapeutical use.
 3. Conserve endangered and endemic medicinal plants.
 4. Efficient in modern tool use to get additional knowledge from the internet.
 - **Semester II MUSHROOM CULTIVATION TECHNIQUE(SEC-II) (CO's)**
 1. Students understand mushroom cultivation technique
 2. Students understand the potential of mushroom cultivation as a source of food.
 3. Students understand the potential of mushroom cultivation as a source of self-employment.
 - **Semester III TAXONOMY OF ANGIOSPERMS(CO's)**
 1. The students understand the morphology, classification, and evolution of flowering plants.
 2. The students differentiate between various families of flowering plants and their collection and preservation.
 3. The students learn the utilization of flowering plants for human welfare.
 - **Semester III CELL BIOLOGY(CO's)**
 1. Students understand ultra structure of a cell, cell wall, cell membrane, cell organelles and chromosomes, cell cycle and cell division.
 2. The students understand in detail the structure of DNA and RNA and protein synthesis.
 3. Students acquire knowledge of cell and molecular biology.
 - **Semester III Practical based on SBOTCT 1201(CO's)**
 1. Students develop skill to study the flowering plants.
 2. The students understand the morphology and classification of flowering plants.
 3. The students learn the evolution of flowering plants and their utilization for human welfare.
 - **Semester III Practical based on SBOTCT 1202(CO's)**
 1. Students understand the structure and function of cell and cell organelles.
 2. The students understand the morphology and behavior of genetic material.
 3. The students learn the nature and function of genetic material.
 - **Semester III DIVERSITY OF CRYPTOGRAMS(CO's)**
 1. Students understand the morphology, structure and importance Bryophytes and Pteridophytes.
 2. Students learn the evolutionary trends in plants and how they progressed from water to land; from gametophytes to sporophytes.
 3. Students are acquainted with development of vasculature in the plants.

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Semester III Practical based on SBOTMT 1201(CO's)

1. Students understand the morphology, structure and importance Bryophytes and Pteridophytes.
2. Students learn the evolutionary trends in plants and how they progressed from water to land; from gametophytes to sporophytes.
3. Students are acquainted with development of vasculature in the plants.

• **Semester III DIVERSITY OF CRYPTOGRAMS(CO's)**

1. Students understand the morphology, structure and importance Bryophytes and Pteridophytes.
2. Students learn the evolutionary trends in plants and how they progressed from water to land; from gametophytes to sporophytes.
3. Students are acquainted with development of vasculature in the plants.

• **Semester III Practical based on SBOTMT 1201(CO's)**

1. Students understand the morphology, structure and importance Bryophytes and Pteridophytes.
2. Students learn the evolutionary trends in plants and how they progressed from water to land; from gametophytes to sporophytes.
3. Students are acquainted with development of vasculature in the plants.

• **Semester III PLANTS AND HUMAN WELFARE-I (GE)(CO's)**

1. Understanding the economically important plants.
2. Understanding the potential of plants for human welfare
3. Understanding the role of plants in human health.

• **Semester III BIOFERTILIZER TECHNOLOGY(VC) (CO's)**

1. Understanding the role of organic farming.
2. Understanding the potential of biofertilizers as an alternative to chemical fertilizers
3. Role of biofertilizers in protecting the environment and managing the waste.

• **Semester IV BRYOPHYTES AND PTERIDOPHYTES(CO's)**

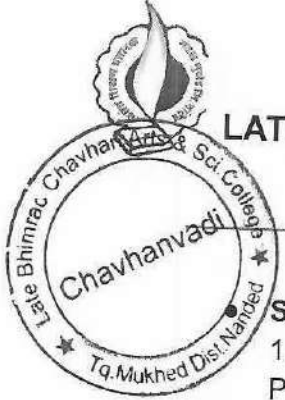
1. Students understand the morphology, structure and importance Bryophytes and Pteridophytes
2. Students learn the evolutionary trends in plants and how they progressed from water to land; from gametophytes to sporophytes.
3. Students are acquainted with development of vasculature in the plants.

• **Semester IV GENETICS AND PLANT BREEDING(CO's)**

1. The students understand sex-determination, linkage, sex linked inheritance and genetic variations.
2. Students know about crop improvement methods in plant breeding.


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Semester IV Practical based on SBOTCT 1251

1. Students understand the morphology, structure and importance Bryophytes and Pteridophytes
2. Students learn the evolutionary trends in plants and how they progressed from water to land; from gametophytes to sporophytes.
3. Students are acquainted with development of vasculature in the plants.

• **Semester IV Practical based on SBOTCT 1252 (CO's)**

1. Students understand heredity and variation, Mendelian genetics and gene interactions.
2. The students understand sex-determination, linkage, sex-linked inheritance and genetic variations.
3. Students know about crop improvement methods in plant breeding.

• **Semester IV DIVERSITY OF PHANEROGAMS(CO's)**

1. Students understand the classification, morphology and anatomy of seed plants
2. Students learn about the process of evolution of seed plants.
3. Students know the importance of Gymnosperms and Angiosperms for human welfare.

• **Semester IV Practical based on SBOTMT 1251(CO's)**

1. Students understand the classification, morphology and anatomy seed plants
2. Students learn about the process of evolution of seed plants.
3. Students know the importance of Gymnosperms and Angiosperms for human welfare.

• **Semester IV PLANTS AND HUMAN WELFARE-II (GE) (CO's)**

1. Understanding the economically important plants.
2. Understanding the potential of plants for human welfare
3. Understanding the role of plants in human health.

• **Semester IV BIO-PESTICIDE AND PEST MANAGEMENT(VC) (CO's)**

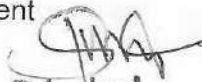
1. Understanding the role of organic farming.
2. Understanding the potential of Bio-pesticide as an alternative to chemical pesticide
3. Role of bio-pesticide in protecting the environment and managing the waste.

• **Semester V DSCB-I: CELL AND MOLECULAR BIOLOGY(CO's)**

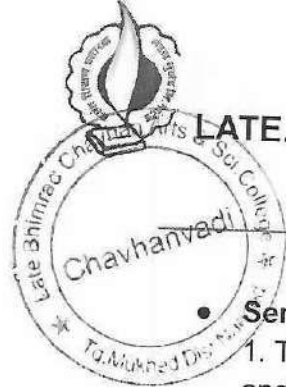
1. The students will be able to understand ultra structure of a cell, cell wall, cell membrane, cell organelles and chromosomes, cell cycle and cell division.
2. The students will be able to understand in detail the structure of DNA and RNA, protein synthesis, gene structure, gene mutation and related diseases.
3. Students will acquire knowledge of cell and molecular biology

• **Semester V DECB-I: PLANT PATHOLOGY-I(CO's)**

1. The students will be able to understand fundamentals of plant pathology.
2. The students will be able to understand in detail the process of plant disease development.
3. Students will acquire knowledge of different plant diseases in different plants.


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- **Semester V DECB-I: SYSTEMATIC BOTANY-I(CO's)**
 1. The students will be able to understand fundamentals of classification of angiosperms.
 2. The students will be able to understand in detail the principles of plant taxonomy.
 3. Students will acquire knowledge of different families of polypetalae, gamopetalae and apetalae.
- **Semester V DECB-I: HERBAL TECHNOLOGY-I(CO's)**
 1. The students will be able to understand fundamentals of medicinal and aromatic plants.
 2. The students will be able to understand in detail the crude plant drugs and pharmacognosy.
 3. Students will acquire knowledge of standardization of drugs.
- **Semester VI DSCB-I: GENETICS AND PLANT BREEDING(CO's)**

Students shall

 1. Understand Mendelian genetics, gene interaction.
 2. Learn the sex determination, linkage, sex linked inheritance and genetic variations.
 3. Understand various crop improvement methods in plant breeding.
- **Semester VI DECB-I: PLANT PATHOLOGY-II(CO's)**
 1. The students will be able to understand fundamentals of aerobiology and seed pathology.
 2. The students will be able to understand in detail the process of plant Defense mechanism and management.
 3. Students will acquire knowledge of different plant diseases in different plants.
- **Semester VI DECB-I: SYSTEMATIC BOTANY-II(CO's)**
 1. Students will acquire knowledge of different families of monocotyledons
 2. The students will be able to understand principles of taxonomy
 3. The students will be able to understand in detail the origin of angiosperms.
- **Semester VI DECB-I: HERBAL TECHNOLOGY-II(CO's)**
 1. The students will be able to understand fundamentals of herbal formulation, drug constituent and biosynthetic pathway.
 2. The students will be able to understand in detail about the analytical and chromatographic techniques.
 3. Learner will get information about drug constituents and biosynthetic pathways.
- **Semester VI Practical paper-XVI: Practicals based on theory paper-XII&XIV**

Students shall

 1. Understand Cell biology
 2. Learn the molecular biology
 3. Understand genetics and plant breeding


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B.Sc. CHEMISTRY

Criterion-II

- 2.6 Students Performance and Learning outcomes
 - 2.6.1 Programme outcomes (POs) and Course outcomes (COs) for B.Sc Chemistry.
 - **Programme Outcomes (POs) of B.Sc.**
 1. Graduates will be knowledgeable about the fundamental principles of science.
 2. Graduates will be able to analyze and solve problems using scientific methods.
 3. Graduates will be able to perform experiments and interpret results correctly.
 4. Graduates will be able to use modern tools and technology in scientific work.
 5. Graduates will be able to think critically and carry out basic research.
 6. Graduates will be able to communicate ideas clearly in oral and written forms.
 7. Graduates will be able to work effectively in teams and demonstrate leadership qualities.
 8. Graduates will be responsible and ethical in their scientific practices.
 9. Graduates will be aware of environmental and societal impacts of science.
 10. Graduates will be lifelong learners, ready to adapt to new knowledge and skills.
 11. Graduates will be able to apply knowledge creatively for innovation and entrepreneurship.

- **Program Specific Outcomes (PSO's)**

The students graduating with degree having chemistry as a major or Minor should be able to acquire/have:


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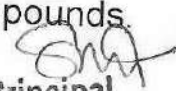
1. Core competency in subject chemistry and in allied subject areas.
2. Students are expected to have coherent understanding of fundamental principles, current trends as well as future opportunities in subject area.
3. Knowledge of basic principles in instrumental techniques used laboratory.
4. Capability to characterize, identify and separate components of unknown compounds using modern instrumental methods.
5. Competency in critical thinking after identifying assumption that frames our thinking and action, checking out their degree of accuracy, validity and finally our response from different Perspective.
6. Skill to apply role of chemistry in safe handling of chemicals, environmental issues and other societal concerns.
7. Awareness of different value systems including our own, understand moral dimensions of our decision and accept responsibility for them.
8. The ability to engage in lifelong learning in broadest context of socio-technological change
9. Ability to elicit views of others, mediate disagreements and come up with healthy conclusion in group discussion.

- **Course Outcomes (CO's)**

- **Semester I Organic Chemistry & Inorganic Chemistry (Theory)**

Students will gain an understanding of:

1. The basic things for chemical reactions i.e. Substrate and Reagents
Types of reagents Electrophilic and Nucleophilic Homolytic and heterolytic fission. Electronic displacement effect.
2. Aromatic, antiaromatic and nonaromatic for organic compounds.


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3. The different intermediates in chemical reactions and their uses in synthesis

4. Appreciate the concept of grouping elements in accordance to their properties led to the development of Periodic Table.

5. compare the reactivity of elements and correlate it with their occurrence in nature;

6. Understand the ideas related to periodic properties of elements such as atomic radii, ionization

enthalpy, electron gain enthalpy, electronegativity.

• **Semester I Organic Chemistry & Inorganic Chemistry (Practicals)**

After successfully performing practicals, students will be able to:

1. Identify type of titration and estimation of ions.
2. Prepare required standard solution.
3. Determine hardness of any water sample.
4. Handle protocol for the synthesis of organic compound.
5. Select suitable purification method for synthesized organic compound.
6. Determine physical constant of solid/liquid.

• **Semester I GE (Everyday Chemistry)**

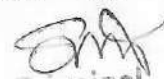
After studying this students will be able

- to understand the chemistry behind the product which we use in our day to day life.
- enlightened about the pros and cons of using processed food.
- to create curiosity among the readers about chemicals.

• **Semester I SEC (Water pollution)**

Upon completion of this course, students should be able to:

1. List the main water pollutants and their effects on human health and the environment.
2. Discuss several types of water pollution problems and their chemical aspects affecting them.
3. Interpret the results of laboratory analysis for water characterization.


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4. Develop a broad overview understanding of the strategies, regulations and policies to manage water pollution.
5. Describe unit operations used for wastewater treatment.
6. Select methods to control and prevent water pollution to meet effluent requirements within realistic constraints, such as economic, environmental and social aspects, health and safety.
7. Design and optimize various unit operations and unit processes used in water treatment and configure processes in a treatment plant. This includes obtaining and applying appropriate design values and making appropriate assumptions when needed.

● **Semester II Physical Chemistry & Inorganic Chemistry (Theory)**

After studying mentioned topics students will able to know:

1. Intermolecular forces of interactions.
2. Distinguish between true solution, colloidal solution and suspension solution.
3. Applications of adsorption and colloids.
4. Define the acidic and basic radicals.
5. Uses of noble gases in diversified fields.
6. Explain the role of common ion effect, solubility product and complex formation during the separation metal ions.
7. Define the terms oxidation, reduction, oxidising agent and reducing agent.
8. Use the concept of oxidation number to identify oxidant and reductant in a reaction.
9. Balance chemical equations using (i) ion electron method (ii) oxidation number method.

● **Semester II Physical Chemistry & Inorganic Chemistry (Practicals)**

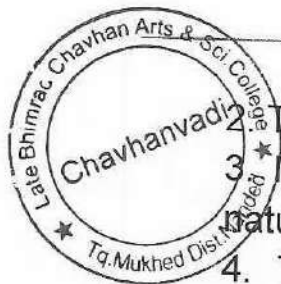
After Performing experiments students will able to know:

1. Properties of water i.e. surface tension, viscosity, density etc.

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2. To prepare solutions of desired concentrations.
3. Nature of aqueous solution of substance i.e. acidic, basic or natural.
4. The quantity of solute in solution using different titrimetric techniques.
5. The ideas to identify acidic or basic radicals qualitatively.

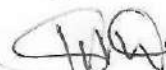
- **Semester II GE-II (Soil and Fertilizer Chemistry)**

After completion of syllabus students will be able to understand following outcomes.

- To define the concept of soil and fertilizer.
- To aware about the soil and effect of excessive fertilizers.
- To understand the importance of agriculture on global economy.
- To explain the seriousness of agro problems.

- **Semester II SEC (Soil Pollution)**

1. Apply knowledge of soil structure and soil formation to address soil environment issues.
 2. Apply physical and chemical parameters of soil environment in the process of soil degradation and pollution assessment.
 3. Evaluate the soil degradation, advantages and disadvantages of preventing and improving methods for soil pollution.
 4. Assess the causes and sources of pollution to treat soil contamination.
 5. Read English documents for describing soil degradation and pollution phenomena.
 6. Practise the role and responsibility of an environmental engineer in soil environment toward the society.
 7. Conceive ideas of soil environment improvement in soil degradation and pollution.
- **Semester III Organic and Inorganic Chemistry (Theory)**


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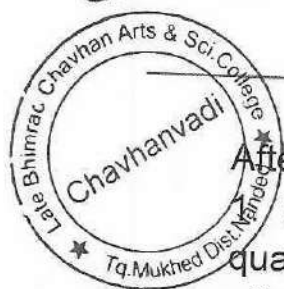
1. Students are able to write and discuss the mechanism of reactions of carbonyl compounds.
2. Students are able to correlate between the reagent and reactions of carbonyl compounds.
3. Students can understand the importance and application of aromatic carbonyl compounds.
4. Students will learn the concept of reaction mechanism.
5. Students can identify and draw the structures carboxylic acids and their derivatives from their names or from structure name.
6. Students can explain and discuss synthesis of carboxylic acids and their derivatives.
7. Students can explain acidity of carboxylic acids and effect of substituents on its strength.
8. Students are able to explain and discuss Interconversions of acid derivatives.
9. Students can correlate between reagent and reactions of carboxylic acids and their derivatives.
10. Students can elucidate synthesis and synthetic applications of organometallic compounds.
11. Apply qualitative analysis techniques to identify basic and acidic radicals, accounting for interfering radicals and using solubility product and complex formation principles for group separation.
12. Compare various acid-base theories, including Arrhenius, Bronsted-Lowry, Lewis, solvent system, and Pearson's HSAB principle, to understand acid-base behavior in different systems.
13. Classify acids and bases based on strength and type, and explain advanced concepts like super acids and super bases with relevant chemical trends.

• **Semester III Physical and Inorganic Chemistry (Theory)**


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- After completion of these courses students should be able to,
1. Explain key concepts of quantum theory, including Planck's quantum theory, photoelectric effect, and the Compton effect, highlighting their significance in the development of modern physics.
 2. Apply the de-Broglie hypothesis and Heisenberg's uncertainty principle to solve problems and understand the wave-particle duality of matter.
 3. Interpret the Schrödinger wave equation and explain the physical significance of wave functions (Ψ and Ψ^2) in describing atomic behavior.
 4. Understand and apply the laws of thermodynamics, including the first and second laws, and explain concepts like Carnot's cycle, entropy, and thermodynamic efficiency.
 5. Analyze entropy changes in physical processes, such as phase transitions and behavior of ideal gases, using thermodynamic principles.
 6. Solve numerical problems related to thermodynamic efficiency and entropy, enhancing problem-solving skills in thermal systems.
 7. Differentiate various types of catalysis (homogeneous, heterogeneous, acid-base, enzyme) and explain the characteristics and mechanisms with relevant examples.
 8. Describe the role of catalysts, promoters, and inhibitors, and analyze phenomena like autocatalysis and catalytic poisoning.
 9. Evaluate the industrial and biological significance of catalytic processes, emphasizing the role of enzymes and acid-base catalysis in real-world systems.
 10. Students will be able to understand the nature of Chemical bond, cause of chemical combination and different types of bonding.

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Students will be able to understand the Concept of Hybridization, VSEPR & Molecular Orbital theory.

- **Semester III Organic and Inorganic Chemistry (Practicals)**

1. Students can determine R_f values of organic compounds.
2. Students learn about the fundamentals of organic qualitative analysis.
3. Students are able to identify the functional groups present in organic compounds using appropriate reagents.

- **Semester III Physical and Inorganic Chemistry (Theory)**

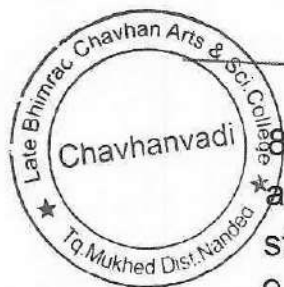
1. Explain the basic concepts of catalysts and catalysis, including different types (positive, negative, homogeneous, and heterogeneous) with appropriate examples.
2. Describe the characteristics of catalytic reactions, autocatalysis, and enzyme catalysis, and distinguish between promoters and catalytic poisons with examples.
3. Classify acids and bases as strong or weak and explain their behavior in aqueous solutions using dissociation constants and degree of dissociation.
4. Apply Ostwald's dilution law and the concept of ionic product of water to determine the behavior of weak electrolytes in solution.
5. Calculate pH and pOH of strong and weak acids and bases, their mixtures, and buffer solutions; analyze the interrelationship between pH and pOH.
6. Identify various water pollutants, their sources, and effects; perform basic water quality analysis including chloride, acidity, alkalinity, and hardness.
7. Recognize types, causes, and impacts of soil pollution and carry out simple soil analyses including moisture content, pH, nitrogen, and lime estimation.

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8. Differentiate between precision and accuracy in analytical data and calculate mean, median, standard deviation, and coefficient of variation.
9. Identify and categorize errors in analytical measurements, apply significant figures and confidence limits, and suggest ways to minimize errors.
10. Evaluate and interpret experimental data using statistical tools like t-test, f-test, and correlation coefficient to ensure reliability of analytical results.

- **Semester III GE-III (Clinical Chemistry)**

Upon successful completion of the course, the student will be able to:

1. Explain the scope and importance of clinical chemistry in modern medical diagnostics.
2. Describe enzyme structure, kinetics, and their diagnostic relevance through clinical assays.
3. Analyze disorders related to carbohydrate metabolism such as diabetes and interpret related test results.
4. Understand lipid metabolism and its implications in cardiovascular health, including interpreting lipid profile tests.
5. Apply biochemical knowledge to assess and interpret laboratory results in a clinical context.

- **Semester III Chemistry in daily life**

1. Students will develop comprehensive product to meet new product criteria in desired timings.
2. Students will identify Food additives, adulterants, and contaminants in common food items.
3. Student will acquire skills in the preparation of Cosmeceuticals.


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4. Students will be enlightened about the theoretical and applied knowledge of perfumes, such as classification, composition and testing.

- **Semester IV Organic and Inorganic Chemistry (Theory)**

1. Students can identify and draw the structures of heterocyclic compounds from their names or from structure to name.
2. Students are able to understand and write preparation methods and reactions with mechanism of heterocyclic compounds.
3. Students are able to understand the substitution reactions of heterocyclic compounds with their mechanism.
4. Students will learn the applications of Nitrogen containing organic compounds.
5. Students can explain / discuss synthesis of aromatic nitro and amine compounds.
6. Students can infer synthesis and reactions diazomethane and urea.
7. Students can coordinate between reagents and their uses in organic synthesis.
8. Students can understand the preparation and various applications of Reagents in organic synthesis.
9. Students will be able to understand the position of s blocks elements in periodic table and variation in properties.
10. Students will be able to understand the position of p blocks elements in periodic table and variation in properties.

- **Semester IV Physical and Inorganic Chemistry (Theory)**

After completion of these courses students should be able to,

1. Students will be able to define and distinguish between rate, rate constant, order, and


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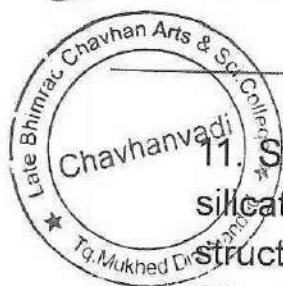
- molecularity of a reaction and explain their significance in chemical kinetics.
2. Students will be able to derive and interpret rate laws for first- and second-order reactions and analyze their characteristics using appropriate mathematical expressions.
 3. Students will be able to determine the order of a chemical reaction using experimental data and perform numerical calculations involving rate constants.
 4. Students will be able to describe various types of conductance (specific, equivalent, molecular) and their dependence on dilution and temperature.
 5. Students will be able to differentiate between strong and weak electrolytes using Arrhenius and Debye-Huckel theories and explain their limitations and mathematical treatments.
 6. Students will be able to solve numerical problems related to specific conductance, equivalent conductance, and cell constant using provided data and equations.
 7. Students will be able to apply Kohlrausch's Law in determining important physical and chemical parameters such as dissociation degree, solubility, and ionic mobility.
 8. Students will be able to explain and analyze various types of conductometric titrations, including acid-base and precipitation titrations with appropriate titration curves.
 9. Students will be able to perform and interpret numerical problems based on Kohlrausch's Law and its applications in electrochemical systems.
 10. Students will be able to describe the structure, properties, and applications of fullerenes, carbides, silicates, and zeolites.


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11. Students will be able to classify different types of carbides and silicates based on their structural features and chemical behavior.
 12. Students will be able to explain the industrial and environmental significance of zeolites and related compounds.
 13. Students will be able to explain the preparation, properties, and structures of interhalogen compounds, pseudo-halogens, and polyhalides.
 14. Students will be able to analyze the structures and oxidation states of oxyacids of halogens and correlate them with their strength and stability.
 15. Students will be able to classify and compare various halogen-based compounds based on their bonding, reactivity, and molecular structure.
- **Semester IV Organic and Inorganic Chemistry (Practicals)**
 1. Students can be able to do estimation of organic compounds.
 2. Students can synthesize some organic compounds.
 3. Students get knowledge about separation of organic compounds from crude sample with percentage yield, recrystallization of organic compounds.
 - **Semester IV Organic & Inorganic Chemistry Minor (Theory)**

Upon successful completion of this course, the student will be able to:

 1. Explain the importance and classification of biomolecules, including carbohydrates (monosaccharides, oligosaccharides) and their biological significance.
 2. Describe the structure and classification of proteins, peptide bonds, and the hierarchy of protein structure; understand protein denaturation and enzyme function.



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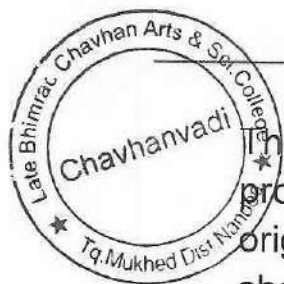
3. Classify vitamins and explain their biological functions; understand the chemical composition and role of nucleic acids (DNA & RNA) and hormones.
4. Define medicinal drugs, list ideal drug characteristics, and differentiate between generic, brand, and systematic names of drugs.
5. Distinguish between prescription and over-the-counter (OTC) drugs and interpret medicine labels to identify manufacturing and expiry dates.
6. Understand proper storage, handling, and disposal of medicines; identify the role and function of commonly used drugs like antacids, antihistamines, antidiabetics, etc.
7. Compare and contrast various acid-base theories including Arrhenius, Bronsted-Lowry, Lewis, Lux-Flood, and Usanovich concepts.
8. Explain the concept of hard and soft acids and bases using Pearson's SHAB principle, and analyze the trends in acid and base strength.
9. Identify the physical properties and classifications of non-aqueous solvents, including ionizing vs non-ionizing and protic vs aprotic solvents
10. Describe the autoionization of ammonia and interpret various types of reactions (acid-base, redox, solvolysis, etc.) in non-aqueous solvents like ammonia and sulfur dioxide.
- **Semester IV GE-IV (Chemistry for farming)**
 1. The students will get knowledge of the chemistry of pesticides and Fertilizers.
 2. Students will be aware about the soil fertility and soil productivity.
 3. Students will learn about methods and time of fertilizer application
 - **Semester IV Oil & Fat Technology**


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This course deals with the History, sources, composition and properties of plant and animal

origin oils and fats. Upon completion of this course, Students should be able to:

1. Understand the importance of oils and their effects on human health.
2. Discuss on physical properties of oils.
3. Learn the different extraction process of oils.
4. Understand the Biological aspects of oils.
5. Learn the experimental skill of oil technology.

- **Semester V Organic + Inorganic Chemistry (CO's)**

CO1 After completion of this course, student will be able to Organic reaction and mechanism pathways.

CO2 Nomenclature of various heterocycles

CO3 Recognize and comment on different synthetic drugs and dyes

CO4 Able to discuss the uses and synthesis of some vitamins and pesticides

CO5 Understand the basic principle and application of coordination complexes

CO6 Know the application of elements in Medicine

- **Semester V Physical & Inorganic Chemistry (CO's)**

CO1 Understand the concepts of molecular Spectroscopy and its applications

CO2 Analyze Rotational, Vibrational and Raman Spectra

CO3 Interpret the theoretical and experimental methods of chemical kinetics

CO4 Know the theory and application of Distribution law

CO5 Explain the Nomenclature, classification and application of Organometallic

Compounds

CO6 Illustrate the classification and application of Metal Carbonyls.

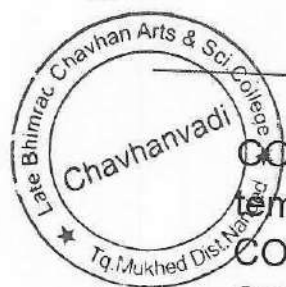
- **Semester V Physical + Inorganic Chemistry (CO's)**

CO1 Know the importance of Solutions of Non Electrolytes


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CO2 Explain the types of magnetic substances and effect of temperature on it.

CO3 Study the theory and application of Polarography.

CO4 Analyze the application of Isopoly and Heteropoly acids and anions.

CO5 Introduction and application of Isolobality and Isolobality analogies.

• **Semester V Spectroscopic Techniques and Cosmetic Preparation (SEC-III) CO's**

CO1 Able to know analytical and instrumental methods

CO2 Grasp the concept of errors, evaluation and statistics

• **Semester VI Organic & Inorganic Chemistry (CO's)**

CO1 Learn the basic principle and terms used in UV, IR & NMR Spectroscopy.

CO2 Apply spectroscopic techniques in analyzing the structure of simple organic molecules.

CO3 Acquire the basic knowledge and synthesis of polymers.

CO4 Describe the types of Rearrangement.

CO5 Postulates and limitations of VBT and CFT

CO6 Calculation of CFSE for Tetrahedral and Octahedral Complexes

CO7 Explain the types of electronic transition and selection rule

CO8 Apply spectroscopic techniques in analyzing the structure of simple organic Molecules.

• **Semester VI Organic + Inorganic Chemistry (CO's)**

CO1 Understand the Basic concept of Sugar and Alcohol Industry

CO2 Synthesis and uses of Agro Chemicals

CO3 To enable the students to understand the classification of Fibers

CO4 To learn the basic concept and classification of Inorganic Polymers

CO5 Able to understand the theory of green chemistry

CO6 Ability to apply green chemical laboratory techniques

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CO7 To stimulate the learner in understanding the basic concepts and applications of nanotechnology.

- **Semester VI Physical & Inorganic Chemistry (CO's)**

CO1 Basic concepts of electrochemistry and its applications

CO2 Understanding the Nernst heat theorem and the Thermodynamics open system

CO3 Know the Vant-Hoff's Reaction Osochore and numerical on it

CO4 Biological role of alkali and alkaline earth metal ions

CO5 Describe the structures and functions of Metal Cluster

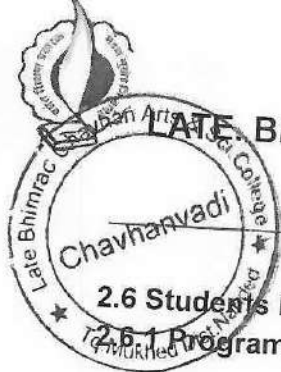
- **Semester VI SEC-IV FUEL CHEMISTRY (CO's)**

CO1 Able to know types of fuels

CO2 Grasp the concept of calorific value of a fuel, flash point and fire point

CO3 Able to know the use of software and Excel in Chemistry.

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2.6 Students Performance and Learning outcomes

2.6.1 Programme outcomes (POs) and Course outcomes (COs) for B.Sc Chemistry.

• **Programme Outcomes (POs) of B.Sc (Zoology)**

1. Knowledge and Understanding

Graduates will be able to understand the structure, function, classification, and evolution of animals from molecular to ecosystem levels.

2. Practical and Analytical Skills

Graduates will be able to apply laboratory techniques, field methods, and modern tools to study and analyze animal life.

3. Research and Problem-Solving

Graduates will be able to design small research projects, collect and interpret data, and suggest scientific solutions to biological problems.

4. Environmental Awareness

Graduates will be able to recognize the importance of biodiversity, conservation, and sustainable use of natural resources.

5. Ethics and Values

Graduates will be able to demonstrate ethical responsibility and respect for life, animals, and the environment.

6. Communication Skills

Graduates will be able to effectively present scientific information through oral, written, and digital formats.

7. Teamwork and Leadership

Graduates will be able to work independently as well as in teams, showing leadership and collaborative skills.

8. Application in Real Life

Graduates will be able to apply zoological knowledge in fields like agriculture, aquaculture, medicine, wildlife management, and biotechnology.

9. Lifelong Learning

Graduates will be able to pursue higher education, professional courses, and adapt to advances in science and technology.

• **Course Outcomes (CO's)**

• **Semester I SZOOC1101 : Biodiversity of Non-chordates(CO's)**

1. The student will be able to identify a given non-chordates upto class level.

2. Ability to understand the contribution of non-chordates in the biodiversity index of any given habitat.

3. Ability to understand and appreciate the ecological and economic importance of non-chordates.

4. Ability to identify and describe external morphology and internal anatomical features of representative non-chordates species.

• **Semester I SZOOC1101 : Biodiversity of Non-Chordates(CO's)**



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1. Ability to understand the anatomical organization of organs and systems in representative species.
 2. Ability to identify and describe structure and functions of different body parts of non- chordates.
 3. Students would be able to prepare temporary and permanent mountings of biological material.
 4. Students would make observations of organisms in their natural environment and document them.
- **Semester I SZOOG1101: Animal Diversity - I(CO's)**
Upon completion of the course, students will be able to:
 1. Distinguish between major phyla of animals through a demonstrated understanding of their taxonomic classification and diversity.
 2. Describe the distinguishing characteristics of all major phyla.
 3. Understand the fundamental differences among animal body plans and relate them to function, taxonomic classification, and evolutionary relationships among phyla.
 4. Illustrate lifecycles, structure, function and reasons for importance of few representative organisms from different groups of animals.
 5. Identify anatomical structures from prepared tissues.
 6. Observe living animals in the environment and relate observations to theory from the course.
 7. Recognize major animal phyla and animals on the basis of their external characteristics.
 - **Semester I SZOOSC1101: (A) Parasites of Public Health Importance(CO's)**
 1. Due to this, the study of these parasites is of paramount significance, to which this skill set attempts to address.
 2. Knowledge and understanding of biology of parasites of public health importance.
 3. Recognize and appreciate the medical importance of common arthropods and diseases caused by them.
 3. Flawlessly perform collection, processing, identification and reporting of parasites of public health importance.
 - **Semester I SZOOSC1101: (B) Vermiculture & Vermicomposting(CO's)**
 1. Knowledge of morphology and biology of earthworms used in vermiculture.
 2. Ability and skill of rearing earthworms and using them in vermicomposting.
 3. Proper operating of implements and equipment used in vermicomposting.
 - **Semester II SZOOC1151 : Biodiversity of Chordates(CO's)**
 1. The student will be able to identify and understand the Biodiversity of Chordates.
 2. Ability to understand anatomical relation between different vertebrate classes.
 3. The learner will be able to understand the economic importance of Chordates.
 - **Semester II SZOOC1151 : Biodiversity of Chordates(CO's)**
 1. Ability to understand the anatomical organization of organs and systems in representative species.


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2. Ability to identify and describe structure and functions of different body parts of vertebrates.

3. Students would be able to prepare temporary and permanent mountings of biological material.

4. Students would be able to relate different bones and be able to articulate them to form a skeleton.

5. Students would make observations of organisms in their natural environment and document them.

• **Semester II SZOGE1151: Animal Diversity - II (GE) (CO's)**

Upon completion of the course, students will be able to:

1. Distinguish between major phyla of animals through a demonstrated understanding of their taxonomic classification and diversity.

2. Describe the distinguishing characteristics of all major phyla.

3. Understand the fundamental differences among animal body plans and relate them to function, taxonomic classification, and evolutionary relationships among phyla.

4. Illustrate lifecycles, structure, function and reasons for importance of few representative organisms from different groups of animals.

5. Identify anatomical structures from prepared tissues.

6. Observe living animals in the environment and relate observations to theory from the course.

7. Recognize major animal phyla and animals on the basis of their external characteristics.

• **Semester II SZOOSC1151: (C) Aquarium Keeping (SEC)**

1. Describe different types of aquariums and raw material used to fabricate them.

2. Ability to properly handle material and accessories for aquarium fabrication and installation.

3. Identify water parameters and adjust them to normal conditions.

• **Semester II SZOOSC1151: (D) Animal Museology (SEC) (CO's)**

1. After completion of the course the students self-sufficient in the preservation techniques of biological specimens, which would be an asset for safeguarding artifacts derived from animal and plants act as to provide great opportunity for self-employment.

2. Learners are expected to be able to handle museum objects, identify the factors and causes of deterioration and be able to take proper preservative measures.

3. Job opportunity as a curator.

• **Semester III SZOOC1201: Animal Physiology (CO's)**

On successful completion of the course, the students will be able to :-

1. Monitor their blood pressure and identify blood groups.

2. Understand function and types of heart & circulatory system.

3. Appreciate the basic function of kidney, main function of nerves.

4. Acquire knowledge on the nature and functions of hormones and learn the mechanism of hormone action.

5. Learn the structure and functions of Endocrine glands.

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6. Understand the structure, development and function of reproductive organs in human.

Semester III SZOOC1202: Biochemistry(CO's)

On successful completion of the course, the students will be able to :-

1. Understand the chemical structure and functions of various biomolecules.
2. Learn the signaling of biomolecules in cell membrane.
3. Understand the correlation between metabolism of different types of biomolecules.

• **Semester III Practical SZOOC1201: Animal Physiology(CO's)**

1. Students able to improve the skills in microscopy, slide preparation, observations, drawings and laboratory techniques.
2. To acquaint the students with operations of the different laboratory equipment.
3. Ability to understand the detection of blood groups of humans.
4. Ability to Understand the estimation of blood cell counts, Haemoglobin content in humans.
5. To acquaint the students with the operation of clinical procedures for blood analysis.

• **Semester III Practical SZOOC1202: Biochemistry(CO's)**

1. Students are able to improve their skills in laboratory techniques.
2. To acquaint the students with operations of the different laboratory equipment.
3. To acquaint the students with the operation of clinical procedures for urine analysis.

• **Semester III SZOOMB1201: Developmental Biology(CO's)**

On successful completion of the course, the students will be able to :-

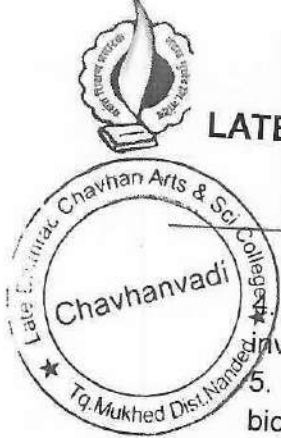
1. Students learned the major stages of embryonic development, including fertilization, gastrulation, and organogenesis.
2. To explain the processes of cellular differentiation and how they contribute to the formation of tissues and organs.
3. Can able to apply principles of developmental biology to real-world problems, including the understanding of birth defects and developmental disorders.
4. Students can be able to think critically about developmental biology concepts and apply problem-solving skills to complex problems.
5. The student can be able to explain the basics processes of vertebrate embryonic development.
6. Ability to describe the various steps in vertebrate development.
7. Identify and explain about the different embryonic structures.
8. Describe the functions of different extra-embryonic structures.
9. Understanding of the Assisted Reproductive Technologies.

• **Semester III Practical SZOOMB1201: Developmental Biology(CO's)**

1. Students will be able to describe the major stages of embryonic development, including fertilization, gastrulation, and organogenesis.
2. To explain the processes of cellular differentiation and how they contribute to the formation of tissues and organs.
3. Ability to understand the anatomical organization of organs and systems in representative species.

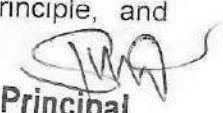

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4. Ability to identify and describe structure and functions of different body parts of invertebrates and vertebrates.
 5. Students would be able to prepare temporary and permanent mountings of biological material.
 6. Students would make observations of organisms in their natural environment and document them.
- **Semester III SZOOG1201: Poultry Farming(CO's)**
After successful completion of the course the students will be able to:-
 1. Understand and evaluate current status, prospects and opportunities in poultry science.
 2. understand the science and scientific methods of poultry farming and management.
 3. Differentiate poultry breeds and their importance.
 - **Semester III SZOVC1201: (A) Haematology(CO's)**
After successful completion of the course the students will be able to:-
 1. Ability to explain composition and functions of blood.
 2. Knowledge about compounds used in processing and storage of blood.
 3. Skill to be able to use different techniques used in study of blood cells.
 4. Ability to collect, preserve and analyze blood samples.
 5. Knowledge of changes in blood composition in disease.
 - **Semester III SZOVC1201: (B) Urinology(CO's)**
After successful completion of the course the students will be able to:-
 1. Ability to describe the function of the human urinary system.
 2. Learned Skill to collect, preserve, process and store urine samples.
 3. Skill to perform physical, chemical and microscopic examination of urine samples.
 4. Ability to document findings of urine examination/analysis.
 - **Semester IV SZOCT1251: Cell Biology and Genetics(CO's)**
On successful completion of the course, the students will be able to
 1. Understand the structure and function of the cell as the fundamentals for understanding the functioning of all living organisms.
 2. Understand structures and various cellular functions associated with the macromolecules found in cells.
 3. Acquire knowledge of Mendelian Genetics and its Extension.
 4. Graduates will be able to explain and interpret various processes, phenomena, states and evolutionary tendencies at a biological system level.
 - **Semester IV SZOCT1252: Evolutionary Biology & Genetic Engineering(CO's)**
On successful completion of the course, the students will be able to
 1. Distinguish between key evolutionary theories (Lamarckism, Darwinism, etc.) through a demonstrated understanding of their principles.
 2. Describe the mechanisms of natural selection, genetic drift, and speciation in evolutionary processes.
 3. Understand the biological species concept, Hardy-Weinberg Principle, and adaptive radiation in the context of evolution.


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LATE. BHIMRAO CHAVAN ART'S & SCIENCE COLLEGE, CHAVANWADI
(BARHALI) Tal. MUKHED, Dist. NANDED.**

4. Explain the foundational concepts of genetic engineering and its significance.
5. Illustrate the structure, types, and functions of DNA and RNA, along with the genetic code's role.
6. Comprehend the principles of recombinant DNA technology, including enzymes, vectors, and techniques like PCR and blotting.
7. Recognize the concepts behind CRISPR-Cas9, transgenesis, and cloning and their theoretical applications.
8. Describe the construction of recombinant DNA, cDNA/genomic libraries, and DNA fingerprinting applications.
- **Semester IV Practical SZOOC1251: Cell Biology and Genetics (CO's)**
 1. Students would be able to prepare temporary squash preparations of onion root tips for mitosis.
 2. Demonstrate the genetic traits in Man.
 3. Ability to culture Drosophila flies in the laboratory.
 4. Ability for mounting of salivary glands of Drosophila larvae.
- **Semester IV SZOOMT1251: Cell Biology(CO's)**
 1. Students will be able to understand the ultrastructure of the cell, cell membrane and cell organelles.
 2. The students will be able to understand the details of the cell cycle, cell division and chromosomes.
 3. Students will acquire knowledge of the cell at a molecular level.
- **Semester IV Practical SZOOMP1251: Cell Biology(CO's)**
 1. Students would be able to prepare temporary squash preparations of onion root tips for mitosis.
 2. Students will be able to describe, sketch, analyze, and explain the structure and function of the cell organelles.
 3. Students could describe, sketch, analyze, and explain the structure and function of nucleus and chromatin structure, its location.
 4. Students will be able to describe, sketch, analyze, and explain the basic principle of life.
 5. They could also demonstrate and explain how a cell divides leading to the growth of an organism.
 6. Students will be able to describe, sketch, analyze, and explain the abnormality in structural and functional aspects of cells.
 7. Students will be able to handle and use microscopes and camera Lucida.
- **Semester IV SZOOG1251: Goat Farming (CO's)**

After successful completion of the course the students will be able to:-

 1. Understand and evaluate current status, prospects and opportunities in goat farming.
 2. Will be able to understand the science and scientific methods of goat farming and management.
 3. Able to start their own business.
 4. He can also guide the newly entered goat farming business.
- **Semester IV SZOOVC1251: (C) Histotechnology (CO's)**

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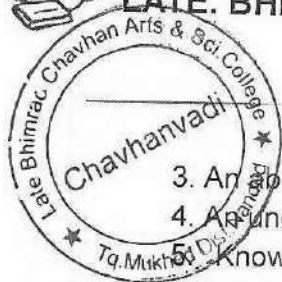
- ★ Ability to identify different types of tissues and distinguish between different components of cells.
- 2. Skill related to fixation of tissue samples and microtechnic processing of tissues.
- 3. Ability to identify, handle and catalogue slides of different tissues.
- 4. Students' skill in operating and maintaining different types of microtomes.
- **Semester IV SZOOVC1251: (D) Medical Lab Techniques (CO's)**
 - 1. Students will be able to describe laboratory safety protocols and regulations, including biosafety and biohazard handling.
 - 2. To explain the principles of laboratory testing, including specimen collection, processing, and analysis.
 - 3. To analyze and interpret laboratory results, including quality control and quality assurance.
 - 4. To pursue ongoing education and professional development, including staying current with advances in medical laboratory technology.
- **Semester V Paper-XII -Ecology & Zoo-geography (CO's)**
 - 1. Demonstrate knowledge of biotic and abiotic interactions.
 - 2. Express understanding of environmental issues, and inter-relation between different components of ecosystems.
 - 3. Ability to elaborate about distribution and abundance of organisms.
 - 4. Apply different experimental techniques to study any ecosystem or its components.
 - 5. Describe the relation between structure and function species in the environment.
 - 6. Display knowledge of natural resources and pollution management techniques.
- **Semester V Paper-XIIIA -Pisciculture(CO's)**
 - 1. Ability and skill to design and construct a fish farm.
 - 2. Skill to describe and undertake different methods of fish breeding.
 - 3. Describe different food fish species and their capture methods used in India.
 - 4. Elaborate about different fishing craft and gear used in Indian capture fishery.
 - 5. Knowledge of fish diseases and skill to treat sick fish with appropriate techniques.
- **Semester V Paper-XIIIB -Applied Parasitology-I(CO'S)**
 - 1. Demonstrate understanding of basics Applied parasitology; host-parasite relationships and life cycle of parasites.
 - 2. An understanding of epidemiology, disease transmission and control & treatment of parasitic diseases caused by protozoans and platyhelminthes.
 - 3. An ability to identify and describe common protozoan and helminth parasites.
 - 4. Knowledge of locally occurring human parasites and national parasitic diseases.
 - 5. An understanding of the economic cost of animal and human parasitic diseases.
- **Semester V Paper- XIII (C)- Entomology-I (General Entomology)(CO's)**
 - 1. Ability to describe general entomology and elaborate on taxonomy of insects.
 - 2. Describe the morphology and anatomy of insects.
 - 3. An understanding of biology and ecology of insects.
 - 4. Knowledge and skill of insect collection, preservation and curation.
- **Semester V III (D)-Environmental Biology- I(CO's)**
 - 1. Knowledge of the structure and function of earth's ecosystem.
 - 2. An understanding of different types of ecosystems and biodiversity

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3. An ability to classify biodiversity and identify threats to biodiversity.
 4. An understanding of human influence on biodiversity.
 5. Knowledge of modern tools and techniques for study and conservation of ecosystem and wildlife.
- **Semester VI XIV-Ethology, Biometry and Bioinformatics(CO's)**
 1. An appreciation of animal behavior and complexities of ethology.
 2. Knowledge of basic concepts and techniques of biometry.
 3. Knowledge and skill to apply the techniques of statistical methods in biology.
 4. Knowledge and understanding of practical use of computers in bioinformatics.
 5. An understanding of the use of biological databases in research.
 - **Semester VI Paper- XV(A)-Aquaculture (CO's)**
 1. Knowledge and understanding of aquaculture methods, mariculture, and fish processing.
 2. An understanding of the different man-made hazards to aquaculture.
 3. Knowledge and skill to use different species of locally available larvivorous fish in vector control.
 4. Knowledge and understanding of the role of Government agencies in development of aquaculture.
 - **Semester VI Paper- XV (B) Applied Parasitology-II (CO's)**
 1. An understanding of Parasitology of Nematodes and Arthropods.
 2. Knowledge of morphology, biology, taxonomy & pathogenicity of nematodes in plants and animals.
 3. Knowledge and skill to implement control measures against nematode parasites.
 4. Understanding and knowledge of arthropods of public health importance.
 5. Knowledge of vector-host-pathogen relationships in arthropod transmitted diseases.
 6. An understanding of the different surveillance techniques and diagnosis methods used in control of and management of vector-borne diseases.
 - **Semester VI Paper- XV (C)-Entomology-II (CO's)**
 1. An understanding and knowledge of ecology & biology of medically and agriculturally important insects.
 2. Knowledge of the different beneficial and harmful insects.
 3. An understanding of insect control methods- cultural, physical, biological, chemical & IPM.
 4. Knowledge of types of insecticides and problems associated with their use.
 5. Knowledge and skill of application of insecticides & maintaining pest control equipment.


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Paper Name - Contemporary Social Institutions
Paper - IV



Course outcomes are:

CO1 - Students understood the formation of institutions can refer to mechanism of social order

CO2 - Students were able to solve which govern the behavior of set of individuals within a given community.

CO3 - Students acquired and understanding of various sociological issues, sociological processes and sociological activities.

CO4 - Moreover institutions are identified with social purpose through sending individuals and interaction by modifying the roles that govern living behaviors. Debts about the social impacts of sociology have been historically centered.

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BA / BSC FIRST YEAR 2019-20
PAPER NAME : COMPULSORY ENGLISH

- 1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner.
- 2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English.
- 3) Learners will value and appreciate the importance of the English language as a key to learning.
- 4) Learners will gain the personal enrichment from study of literary pieces in English.
- 5) Learners will acquire ability to communicate through oral and written text.

BA / BSC FIRST YEAR
PAPER NAME : OPTIONAL ENGLISH

PAPER 1 : UNDERSTANDING PROSE FICTION

OUTCOMES :

- 1) Learners will be able to appreciate the texts in English Prose Fiction genre.
- 2) Through responding to different texts of Prose Fiction, the learners will acquaint themselves with the wide range of expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of novels and short stories by studying the critical analyses of the prescribed texts.

Paper 2 : Understanding Poetry in English

OUTCOMES

- 1) Learners will be able to appreciate English Poetry with an understanding of diverse poetic forms and themes.
- 2) Through responding to different Poetic texts the learners will acquaint themselves with the various nuances of poetic expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of poems by studying the critical analyses of the prescribed texts.

Paper 3- : Understanding Non-Fictional Prose in English


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OUTCOMES



- 1) Learners will be able to appreciate English Non-fictional prose with an understanding of various prose writings as developed through ages.
- 2) Through responding to different Prose writings learners will be enriched in the use of prose for diverse thematic expressions.
- 3) Learners will attain a certain degree of proficiency in the interpretation of English prose.

Paper 4- : Understanding Drama in English

OUTCOMES

- 1) Learners will be able to appreciate English Drama with an understanding of various dramatic texts.
- 2) Through responding to different plays learners will be introduced to various types of dramatic experiences.
- 3) Learners will be able to critically analyze texts from different dramatic genres.

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BA/BSC SY COMPULSORY ENGLISH 2019-20



OUTCOMES

- 1) The learners will be able to use the English language in a refined way for the personal and social purposes.
- 2) The students will attain a higher level of understanding and skills in order to carry out communicative activities.
- 3) Learners will be able to make practical use of the mechanics of the English language.
- 4) Learners will be acquiring the skill of using English for media and electronic communication.
- 5) The ability to communicate and interpret written texts shall be augmented.

BA/BSC SY OPTIONAL ENGLISH
PAPER NAME : Indian Writing in English

OUTCOMES

- 1) To introduces students to Indian Writing in English from Colonial Age up to the contemporary Age, through the study of various literary genres such as poetry, prose, essay and drama.
- 2) To refine the skills of critical thinking and rhetoric through thought-provoking personal response writing, essay writing and research assignments.
- 3) To equip students with the knowledge and skills to read and comprehend texts in Indian Writing in English

BA/BSC SY OPTIONAL ENGLISH
PAPER NAME : AMERICAN LITERATURE

OUTCOMES

- 1) The learners will gain an overall insight of the American literature, and understand the background, historical context, the importance of American literature and its role in the society.
- 2) The learners will identify, explicate, and respond to key themes and elements in American literature in various literary genres.
- 3) Students will be enabled to review and recognize the body of literary works from America and will be able to understand the American spirit as well as to analyze various literary innovations and their culture.


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BA/BSC SY OPTIONAL ENGLISH
PAPER NAME : Indian Literature in English Translation

- 1) The students will acquire an introductory knowledge of Indian literary heritage.
- 2) The students will be familiarized with the significant socio-cultural issues in India through close reading of literary texts from diverse regions.
- 3) The students will realize the intellectual potential available from the Indian literary texts from various Indian languages.

BA/BSC SY OPTIONAL ENGLISH
PAPER NAME : Women's Literature

OUTCOMES

- 1) Students will be able to critically analyze the structure and meaning of various literary works written by women authors.
- 2) Students will acquire knowledge of the major concerns of the women through a reading of the representative works from different nations.
- 3) Students will be acquainted with the richness and depth of the female experience as depicted through their literary representations.


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BA TY OPTIONAL ENGLISH 2019-20

PAPERNAME : Literary Criticism I

OUTCOMES

- 1) Learners will be able to understand the historical background of the canon of Western Literary Criticism
- 2) Learners will appreciate the various theories developed during the Classical times and European Renaissance
- 3) Learners will be sensitized to the foundations of different critical traditions.

PAPERNAME : Understanding English

OUTCOMES

- 1) The learners will be able to perceive, and transcribe the sounds of the English language, while learning the acoustic and articulatory properties.
- 2) The learners will gain practical skills of transcribing data in the International Phonetic Alphabet (IPA).
- 3) The ability of synthesizing speech will be acquired.

PAPERNAME: Literary Criticism II

OUTCOMES

- 1) Learners will understand the basic principles of Literary Criticism as revealed from the study of the individual critics.
- 2) Learners will perceive the development of English Literary Criticism through the ages.
- 3) An ability to appreciate literary text through the practice of actual critical analysis will be gained.


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PAPER NAME : Understanding ENGLISH GRAMMER

- 1) The learners will be able to have an appreciable understanding of English grammar.
- 2) The learners will gain capability of producing grammatically and idiomatically correct spoken and written discourse.
- 30 The learners will acquire the skill of locating language errors and ambiguities.

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BA / BSC FIRST YEAR
PAPER NAME : COMPULSORY ENGLISH 2020-21

Outcomes :

- 1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner.
- 2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English.
- 3) Learners will value and appreciate the importance of the English language as a key to learning.
- 4) Learners will gain the personal enrichment from study of literary pieces in English.
- 5) Learners will acquire ability to communicate through oral and written text.

BA / BSC FIRST YEAR
PAPER NAME : OPTIONAL ENGLISH

PAPER 1 : UNDERSTANDING PROSE FICTION

OUTCOMES :

- 1) Learners will be able to appreciate the texts in English Prose Fiction genre.
- 2) Through responding to different texts of Prose Fiction, the learners will acquaint themselves with the wide range of expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of novels and short stories by studying the critical analyses of the prescribed texts.

Paper 2 : Understanding Poetry in English

OUTCOMES

- 1) Learners will be able to appreciate English Poetry with an understanding of diverse poetic forms and themes.
- 2) Through responding to different Poetic texts the learners will acquaint themselves with the various nuances of poetic expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of poems by studying the critical analyses of the prescribed texts.

Paper 3- : Understanding Non-Fictional Prose in English


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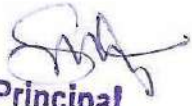
OUTCOMES

- 1) Learners will be able to appreciate English Non-fictional prose with an understanding of various prose writings as developed through ages.
- 2) Through responding to different Prose writings learners will be enriched in the use of prose for diverse thematic expressions.
- 3) Learners will attain a certain degree of proficiency in the interpretation of English prose.

Paper 4- : Understanding Drama in English

OUTCOMES

- 1) Learners will be able to appreciate English Drama with an understanding of various dramatic texts.
- 2) Through responding to different plays learners will be introduced to various types of dramatic experiences.
- 3) Learners will be able to critically analyze texts from different dramatic genres.


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BA/BSC SY COMPULSORY ENGLISH 2020-21

OUTCOMES

- 1) The learners will be able to use the English language in a refined way for the personal and social purposes.
- 2) The students will attain a higher level of understanding and skills in order to carry out communicative activities.
- 3) Learners will be able to make practical use of the mechanics of the English language.
- 4) Learners will be acquiring the skill of using English for media and electronic communication.
- 5) The ability to communicate and interpret written texts shall be augmented.

BA/BSC SY OPTIONAL ENGLISH PAPER NAME : Indian Writing in English

OUTCOMES

- 1) To introduces students to Indian Writing in English from Colonial Age up to the contemporary Age, through the study of various literary genres such as poetry, prose, essay and drama.
- 2) To refine the skills of critical thinking and rhetoric through thought-provoking personal response writing, essay writing and research assignments.
- 3) To equip students with the knowledge and skills to read and comprehend texts in Indian Writing in English

BA/BSC SY OPTIONAL ENGLISH PAPER NAME : AMERICAN LITERATURE

OUTCOMES

- 1) The learners will gain an overall insight of the American literature, and understand the background, historical context, the importance of American literature and its role in the society.
- 2) The learners will identify, explicate, and respond to key themes and elements in American literature in various literary genres.
- 3) Students will be enabled to review and recognize the body of literary works from America and will be able to understand the American spirit as well as to analyze various literary innovations and their culture.

BA/BSC SY OPTIONAL ENGLISH PAPER NAME : Indian Literature in English Translation

OUTCOMES


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- 1) The students will acquire an introductory knowledge of Indian literary heritage.
- 2) The students will be familiarized with the significant socio-cultural issues in India through close reading of literary texts from diverse regions.
- 3) The students will realize the intellectual potential available from the Indian literary texts from various Indian languages.

BA/BSC SY OPTIONAL ENGLISH
PAPER NAME : Women's Literature

OUTCOMES

- 1) Students will be able to critically analyze the structure and meaning of various literary works written by women authors.
- 2) Students will acquire knowledge of the major concerns of the women through a reading of the representative works from different nations.
- 3) Students will be acquainted with the richness and depth of the female experience as depicted through their literary representations.


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BA TY OPTIONAL ENGLISH 2020-21

PAPERNAME : Literary Criticism I

OUTCOMES

- 1) Learners will be able to understand the historical background of the canon of Western Literary Criticism
- 2) Learners will appreciate the various theories developed during the Classical times and European Renaissance
- 3) Learners will be sensitized to the foundations of different critical traditions.

PAPERNAME : Understanding English

OUTCOMES

- 1) The learners will be able to perceive, and transcribe the sounds of the English language, while learning the acoustic and articulatory properties.
- 2) The learners will gain practical skills of transcribing data in the International Phonetic Alphabet (IPA).
- 3) The ability of synthesizing speech will be acquired.

PAPERNAME: Literary Criticism II

OUTCOMES

- 1) Learners will understand the basic principles of Literary Criticism as revealed from the study of the individual critics.
- 2) Learners will perceive the development of English Literary Criticism through the ages.
- 3) An ability to appreciate literary text through the practice of actual critical analysis will be gained.

PAPER NAME : Understanding ENGLISH GRAMMER

OUTCOMES


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- 1) The learners will be able to have an appreciable understanding of English grammar.
- 2) The learners will gain capability of producing grammatically and idiomatically correct spoken and written discourse.
- 30 The learners will acquire the skill of locating language errors and ambiguities.




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BA / BSC FIRST YEAR 2021-22
PAPER NAME : COMPULSORY ENGLISH

Outcomes :

- 1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner.
- 2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English.
- 3) Learners will value and appreciate the importance of the English language as a key to learning.
- 4) Learners will gain the personal enrichment from study of literary pieces in English.
- 5) Learners will acquire ability to communicate through oral and written text.

BA / BSC FIRST YEAR
PAPER NAME : OPTIONAL ENGLISH

PAPER 1 : UNDERSTANDING PROSE FICTION

OUTCOMES :

- 1) Learners will be able to appreciate the texts in English Prose Fiction genre.
- 2) Through responding to different texts of Prose Fiction, the learners will acquaint themselves with the wide range of expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of novels and short stories by studying the critical analyses of the prescribed texts.

Paper 2 : Understanding Poetry in English

OUTCOMES

- 1) Learners will be able to appreciate English Poetry with an understanding of diverse poetic forms and themes.
- 2) Through responding to different Poetic texts the learners will acquaint themselves with the various nuances of poetic expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of poems by studying the critical analyses of the prescribed texts.


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Paper 3- : Understanding Non-Fictional Prose in English

OUTCOMES

- 1) Learners will be able to appreciate English Non-fictional prose with an understanding of various prose writings as developed through ages.
- 2) Through responding to different Prose writings learners will be enriched in the use of prose for diverse thematic expressions.
- 3) Learners will attain a certain degree of proficiency in the interpretation of English prose.

Paper 4- : Understanding Drama in English

OUTCOMES

- 1) Learners will be able to appreciate English Drama with an understanding of various dramatic texts.
- 2) Through responding to different plays learners will be introduced to various types of dramatic experiences.
- 3) Learners will be able to critically analyze texts from different dramatic genres.


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BA/BSC SY COMPULSORY ENGLISH 2021-22

OUTCOMES

- 1) The learners will be able to use the English language in a refined way for the personal and social purposes.
- 2) The students will attain a higher level of understanding and skills in order to carry out communicative activities.
- 3) Learners will be able to make practical use of the mechanics of the English language.
- 4) Learners will be acquiring the skill of using English for media and electronic communication.
- 5) The ability to communicate and interpret written texts shall be augmented.

BA/BSC SY OPTIONAL ENGLISH PAPER NAME : Indian Writing in English

OUTCOMES

- 1) To introduces students to Indian Writing in English from Colonial Age up to the contemporary Age, through the study of various literary genres such as poetry, prose, essay and drama.
- 2) To refine the skills of critical thinking and rhetoric through thought-provoking personal response writing, essay writing and research assignments.
- 3) To equip students with the knowledge and skills to read and comprehend texts in Indian Writing in English

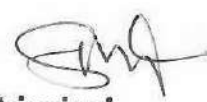
BA/BSC SY OPTIONAL ENGLISH PAPER NAME : AMERICAN LITERATURE

OUTCOMES

- 1) The learners will gain an overall insight of the American literature, and understand the background, historical context, the importance of American literature and its role in the society.
- 2) The learners will identify, explicate, and respond to key themes and elements in American literature in various literary genres.
- 3) Students will be enabled to review and recognize the body of literary works from America and will be able to understand the American spirit as well as to analyze various literary innovations and their culture.

BA/BSC SY OPTIONAL ENGLISH PAPER NAME : Indian Literature in English Translation

OUTCOMES


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- 1) The students will acquire an introductory knowledge of Indian literary heritage.
- 2) The students will be familiarized with the significant socio-cultural issues in India through close reading of literary texts from diverse regions.
- 3) The students will realize the intellectual potential available from the Indian literary texts from various Indian languages.

BA/BSC SY OPTIONAL ENGLISH
PAPER NAME : Women's Literature

OUTCOMES

- 1) Students will be able to critically analyze the structure and meaning of various literary works written by women authors.
- 2) Students will acquire knowledge of the major concerns of the women through a reading of the representative works from different nations.
- 3) Students will be acquainted with the richness and depth of the female experience as depicted through their literary representations.

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BA TY OPTIONAL ENGLISH 2021-22

PAPERNAME : Literary Criticism I

OUTCOMES

- 1) Learners will be able to understand the historical background of the canon of Western Literary Criticism
- 2) Learners will appreciate the various theories developed during the Classical times and European Renaissance
- 3) Learners will be sensitized to the foundations of different critical traditions.

PAPERNAME : Understanding English

OUTCOMES

- 1) The learners will be able to perceive, and transcribe the sounds of the English language, while learning the acoustic and articulatory properties.
- 2) The learners will gain practical skills of transcribing data in the International Phonetic Alphabet (IPA).
- 3) The ability of synthesizing speech will be acquired.

PAPERNAME: Literary Criticism II

OUTCOMES

- 1) Learners will understand the basic principles of Literary Criticism as revealed from the study of the individual critics.
- 2) Learners will perceive the development of English Literary Criticism through the ages.
- 3) An ability to appreciate literary text through the practice of actual critical analysis will be gained.


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PAPER NAME : Understanding ENGLISH GRAMMER

- 1) The learners will be able to have an appreciable understanding of English grammar.
- 2) The learners will gain capability of producing grammatically and idiomatically correct spoken and written discourse.
- 3) The learners will acquire the skill of locating language errors and ambiguities.


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BA / BSC FIRST YEAR 2022-23
PAPER NAME : COMPULSORY ENGLISH

Outcomes :

- 1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner.
- 2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English.
- 3) Learners will value and appreciate the importance of the English language as a key to learning.
- 4) Learners will gain the personal enrichment from study of literary pieces in English.
- 5) Learners will acquire ability to communicate through oral and written text.

BA / BSC FIRST YEAR
PAPER NAME : OPTIONAL ENGLISH

PAPER 1 : UNDERSTANDING PROSE FICTION

OUTCOMES :

- 1) Learners will be able to appreciate the texts in English Prose Fiction genre.
- 2) Through responding to different texts of Prose Fiction, the learners will acquaint themselves with the wide range of expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of novels and short stories by studying the critical analyses of the prescribed texts.

Paper 2 : Understanding Poetry in English

OUTCOMES

- 1) Learners will be able to appreciate English Poetry with an understanding of diverse poetic forms and themes.
- 2) Through responding to different Poetic texts the learners will acquaint themselves with the various nuances of poetic expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of poems by studying the critical analyses of the prescribed texts.

Paper 3- : Understanding Non-Fictional Prose in English


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OUTCOMES

- 1) Learners will be able to appreciate English Non-fictional prose with an understanding of various prose writings as developed through ages.
- 2) Through responding to different Prose writings learners will be enriched in the use of prose for diverse thematic expressions.
- 3) Learners will attain a certain degree of proficiency in the interpretation of English prose.

Paper 4- : Understanding Drama in English

OUTCOMES

- 1) Learners will be able to appreciate English Drama with an understanding of various dramatic texts.
- 2) Through responding to different plays learners will be introduced to various types of dramatic experiences.
- 3) Learners will be able to critically analyze texts from different dramatic genres.


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BA/BSC SY COMPULSORY ENGLISH 2022-23

OUTCOMES

- 1) The learners will be able to use the English language in a refined way for the personal and social purposes.
- 2) The students will attain a higher level of understanding and skills in order to carry out communicative activities.
- 3) Learners will be able to make practical use of the mechanics of the English language.
- 4) Learners will be acquiring the skill of using English for media and electronic communication.
- 5) The ability to communicate and interpret written texts shall be augmented.

BA/BSC SY OPTIONAL ENGLISH PAPER NAME : Indian Writing in English

OUTCOMES

- 1) To introduces students to Indian Writing in English from Colonial Age up to the contemporary Age, through the study of various literary genres such as poetry, prose, essay and drama.
- 2) To refine the skills of critical thinking and rhetoric through thought-provoking personal response writing, essay writing and research assignments.
- 3) To equip students with the knowledge and skills to read and comprehend texts in Indian Writing in English

BA/BSC SY OPTIONAL ENGLISH PAPER NAME : AMERICAN LITERATURE

OUTCOMES

- 1) The learners will gain an overall insight of the American literature, and understand the background, historical context, the importance of American literature and its role in the society.
- 2) The learners will identify, explicate, and respond to key themes and elements in American literature in various literary genres.
- 3) Students will be enabled to review and recognize the body of literary works from America and will be able to understand the American spirit as well as to analyze various literary innovations and their culture.

BA/BSC SY OPTIONAL ENGLISH PAPER NAME : Indian Literature in English Translation

OUTCOMES


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- 1) The students will acquire an introductory knowledge of Indian literary heritage.
- 2) The students will be familiarized with the significant socio-cultural issues in India through close reading of literary texts from diverse regions.
- 3) The students will realize the intellectual potential available from the Indian literary texts from various Indian languages.

BA/BSC SY OPTIONAL ENGLISH
PAPER NAME : Women's Literature

OUTCOMES

- 1) Students will be able to critically analyze the structure and meaning of various literary works written by women authors.
- 2) Students will acquire knowledge of the major concerns of the women through a reading of the representative works from different nations.
- 3) Students will be acquainted with the richness and depth of the female experience as depicted through their literary representations.


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BA TY OPTIONAL ENGLISH 2022-23

PAPER NAME : Literary Criticism I

OUTCOMES

- 1) Learners will be able to understand the historical background of the canon of Western Literary Criticism
- 2) Learners will appreciate the various theories developed during the Classical times and European Renaissance
- 3) Learners will be sensitized to the foundations of different critical traditions.

PAPERNAME : Understanding English

OUTCOMES

- 1) The learners will be able to perceive, and transcribe the sounds of the English language, while learning the acoustic and articulatory properties.
- 2) The learners will gain practical skills of transcribing data in the International Phonetic Alphabet (IPA).
- 3) The ability of synthesizing speech will be acquired.

PAPERNAME: Literary Criticism II

OUTCOMES

- 1) Learners will understand the basic principles of Literary Criticism as revealed from the study of the individual critics.
- 2) Learners will perceive the development of English Literary Criticism through the ages.
- 3) An ability to appreciate literary text through the practice of actual critical analysis will be gained.

PAPER NAME : Understanding ENGLISH GRAMMER

OUTCOMES


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- 1) The learners will be able to have an appreciable understanding of English grammar.
- 2) The learners will gain capability of producing grammatically and idiomatically correct spoken and written discourse.
- 3) The learners will acquire the skill of locating language errors and ambiguities.




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BA / BSC FIRST YEAR 2023 - 2024
PAPER NAME : COMPULSORY ENGLISH

Outcomes :

- 1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner.
- 2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English.
- 3) Learners will value and appreciate the importance of the English language as a key to learning.
- 4) Learners will gain the personal enrichment from study of literary pieces in English.
- 5) Learners will acquire ability to communicate through oral and written text.

BA / BSC FIRST YEAR 2023 - 2024
PAPER NAME : OPTIONAL ENGLISH

PAPER 1 : UNDERSTANDING PROSE FICTION

OUTCOMES :

- 1) Learners will be able to appreciate the texts in English Prose Fiction genre.
- 2) Through responding to different texts of Prose Fiction, the learners will acquaint themselves with the wide range of expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of novels and short stories by studying the critical analyses of the prescribed texts.

Paper 2 : Understanding Poetry in English

OUTCOMES

- 1) Learners will be able to appreciate English Poetry with an understanding of diverse poetic forms and themes.
- 2) Through responding to different Poetic texts the learners will acquaint themselves with the various nuances of poetic expressions in the English language.
- 3) Learners will carry out the tasks of interpretation of poems by studying the critical analyses of the prescribed texts.

Paper 3- : Understanding Non-Fictional Prose in English


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OUTCOMES

- 1) Learners will be able to appreciate English Non-fictional prose with an understanding of various prose writings as developed through ages.
- 2) Through responding to different Prose writings learners will be enriched in the use of prose for diverse thematic expressions.
- 3) Learners will attain a certain degree of proficiency in the interpretation of English prose.

Paper 4- : Understanding Drama in English

OUTCOMES

- 1) Learners will be able to appreciate English Drama with an understanding of various dramatic texts.
- 2) Through responding to different plays learners will be introduced to various types of dramatic experiences.
- 3) Learners will be able to critically analyze texts from different dramatic genres.


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BA/BSC SY COMPULSORY ENGLISH 2023-24

OUTCOMES

- The learners will be able to use the English language in a refined way for the personal and social purposes.
- 2) The students will attain a higher level of understanding and skills in order to carry out communicative activities.
 - 3) Learners will be able to make practical use of the mechanics of the English language.
 - 4) Learners will be acquiring the skill of using English for media and electronic communication.
 - 5) The ability to communicate and interpret written texts shall be augmented.

BA/BSC SY OPTIONAL ENGLISH 2023-24

PAPER NAME : Indian Writing in English

OUTCOMES

- 1) To introduces students to Indian Writing in English from Colonial Age up to the contemporary Age, through the study of various literary genres such as poetry, prose, essay and drama.
- 2) To refine the skills of critical thinking and rhetoric through thought-provoking personal response writing, essay writing and research assignments.
- 3) To equip students with the knowledge and skills to read and comprehend texts in Indian Writing in English

BA/BSC SY OPTIONAL ENGLISH 2023-24

PAPER NAME : AMERICAN LITERATURE

OUTCOMES

- 1) The learners will gain an overall insight of the American literature, and understand the background, historical context, the importance of American literature and its role in the society.
- 2) The learners will identify, explicate, and respond to key themes and elements in American literature in various literary genres.
- 3) Students will be enabled to review and recognize the body of literary works from America and will be able to understand the American spirit as well as to analyze various literary innovations and their culture.

BA/BSC SY OPTIONAL ENGLISH 2023-24

PAPER NAME : Indian Literature in English Translation

OUTCOMES


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- 1) The students will acquire an introductory knowledge of Indian literary heritage.
- 2) The students will be familiarized with the significant socio-cultural issues in India through close reading of literary texts from diverse regions.
- 3) The students will realize the intellectual potential available from the Indian literary texts from various Indian languages.

BA/BSC SY OPTIONAL ENGLISH 2023-24
PAPER NAME : Women's Literature

OUTCOMES

- 1) Students will be able to critically analyze the structure and meaning of various literary works written by women authors.
- 2) Students will acquire knowledge of the major concerns of the women through a reading of the representative works from different nations.
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BA TY OPTIONAL ENGLISH 2023-24

PAPERNAME : Literary Criticism I

- 1) Learners will be able to understand the historical background of the canon of Western Literary Criticism
- 2) Learners will appreciate the various theories developed during the Classical times and European Renaissance
- 3) Learners will be sensitized to the foundations of different critical traditions.

PAPERNAME : Understanding English

OUTCOMES

- 1) The learners will be able to perceive, and transcribe the sounds of the English language, while learning the acoustic and articulatory properties.
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OUTCOMES

- 1) Learners will understand the basic principles of Literary Criticism as revealed from the study of the individual critics.
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PAPER NAME : Understanding ENGLISH GRAMMER

- 1) The learners will be able to have an appreciable understanding of English grammar.
- 2) The learners will gain capability of producing grammatically and idiomatically correct spoken and written discourse.
- 30 The learners will acquire the skill of locating language errors and ambiguities.


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B.A SY HINDI OUTCOMES SEM-III PAPER-V

मध्ययुगीन काव्य

- १) ईश्वर भक्ति से परिचित कराना।
- २) नैतिकता और जीवन मार्गदर्शन कराना।
- ३) मानवता और सामाजिक एकता का संदेश देना।
- ४) शृंगारिक सौन्दर्य का चित्रण करना।
- ५) लोकजीवन से दुराव।
- ६) धार्मिक और सांस्कृतिक चेतन जगाना।

B.A SY HINDI OUTCOMES SEM-IV PAPER-VII

आधुनिक काव्य

- १) कविता की समझ विकसित करना।
- २) काव्य सृजन की प्रेरणा विकसित करना।
- ३) कविता के भाव एयर कला सौन्दर्य का परिचय।
- ४) यथार्थ का चित्रण करना।
- ५) सामाजिक चेतना जागृत करना।
- ६) मानविय संवेदनाओं को महत्व देना।


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B.A SY HINDI OUTCOMES SEM-III PAPER-VI&VIII

निबंध तथा कथेतर गद्य

- I) पठन ,चिंतन तथा लेखन कौशल्य का विकास करना।
- II) नैतिक मूल्य का विकास करना।
- III) छात्रों की प्रतिभा ,कल्पना,तर्कशक्ती का विकास करना।
- IV) कथेतर गद्य विधाओण से परिचित करना।
- V) विचार शक्ति का विकास करना ।
- VI) कल्पना शिलता ,अभिव्यक्ति क्षमता ,ज्ञानवृद्धी ,आत्मविश्वास आदि का विकास करना

B.A SY HINDI OUTCOMES SEM-III PAPER-III

कथेतर गद्य SL-III

- I) ज्ञानवर्धन करना।
- II) बौद्धिक विकास ।
- III) सामाजिक चेतन जागृत करना ।
- IV) मूल्य एव संस्कार देना ।
- V) जीवनियो ,आत्मकथाओ, नैतिक शिक्षा ,आदर्श और प्रेरणा प्राप्त कराना ।
- VI) भाषा और शियाळी का ज्ञान प्राप्त कराना ।
- VII) तथ्यपरख दृष्टीकोन विकसित करना ।


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B.A SY HINDI OUTCOMES SEM-IV PAPER-IV

नाटक तथा प्रयोजन्मूलक हिंदी SL-IV

- १) नाटक विधा से परिचित करना।
- २) नाटक के प्रति छात्रों में रुचि उत्पन्न करना।
- ३) संवाद लेखन-वाचन कौशल का विकास करना।
- ४) रंगमंच से संबंधित जानकारी छात्रों को देना।
- ५) अभिनय के प्रति आकर्षण निर्माण करना।
- ६) ईमेल लेखन के निर्माण और ऑरेशन विधी से परिचित करना ।
- ७) विज्ञापन लेखन के प्राविधी से छात्र को रोजगार मिलेगा ।
- ८) विभिन्न मोबाइल अप्प और रोजगार की जाणकारी देना ।

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B.A TY HINDI OUTCOMES SEM-V PAPER-IX

हिंदी साहित्य का इतिहास

- i) हिंदी साहित्य के बृहत इतिहास का परिचय कराना।
- ii) हिंदी साहित्य के सृजन की पृष्ठभूमि को समझना।
- iii) साहित्यिक प्रवृत्तियों की परम्परा को समझना।
- iv) साहित्य के माध्यम से जीवनमूल्यों एवं जीवन दर्शन को समझना।
- v) भाषाई शिल्प के परिवर्तनों को समझना।
- vi) हिंदी साहित्य के आदिकाल तथा रीतिकाल का संक्षिप्त परिचय देना।
- vii) भक्तिकाल तथा आधुनिक काल की प्रवृत्तियों से छात्रों को अवगत कराना।

B.A TY HINDI OUTCOMES SEM-VI PAPER-XI

साहित्य शास्त्र

- I) साहित्य का शास्त्रीय पद्धति से अध्ययन करना।
- II) साहित्यशास्त्र के महत्व को प्रतिपादित करना।
- III) छात्रों में साहित्य के प्रति शास्त्रीय दृष्टिकोण विकसित करना।
- IV) शब्द और अर्थों के सम्बन्धों को समझना।
- V) आलोचना की मानवीय सहज प्रवृत्ति का साहित्यिक विश्लेषण करना।


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B.A fy – HINDI sem-I OUTCOMES (2019-23)

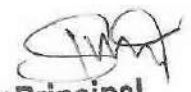
कथा साहित्य - (OPTIONAL) PAPER-I&III

- १) हिंदी साहित्य की कहानी और उपन्यास विधा से छात्रों को परिचित कराना।
- २) कथा साहित्य की लेखन शैली से परिचित कराना।
- ३) कथा साहित्य के माध्यम से छात्रों की चिंतन तथा लेखन कौशल की क्षमता को विकसित करना।
- ४) कथा साहित्य के माध्यम से छात्रों को विविध समस्याओं से अवगत कर उन समस्याओं के समाधान के लिए उन्हें प्रेरित करना।
- ५) विविध पात्रों की मानसिकता एवं क्रिया कलापों से छात्रों में सही और गलत को परखने की क्षमता विकसित करना।

B.A FY- HINDI SEM-I OUTCOMES

नाटक तथा एकांकी PAPER-II&IV

- १) नाटक और एकांकी विधा से परिचित करना।
- २) नाटक के प्रति छात्रों में रुचि उत्पन्न करना।
- ३) संवाद लेखन-वाचन कौशल का विकास करना।
- ४) रंगमंच से संबंधित जानकारी छात्रों को देना।
- ५) अभिनय के प्रति आकर्षण निर्माण करना।


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**B.A FY NEP Outcomes Semester - I****Indian Economy-I**

2024-25

Course Outcomes :

At the end of the course the students should be able to :

1. Acquaint the students with structure of the Indian Economy and changes taking place therein.
2. Know the progress of Indian planning and policy frame work of Indian Economy.
3. Understand the problems of the Indian Economy i.e. , Unemployment, Poverty.
4. Get aware of challenges before Indian Economy and remedies for it.
5. Know about sector wise contribution in Indian Economy.
6. Able to formulate the strategy for the economic development in India.

B.A FY NEP Outcomes Semester - I**Environmental Economics-I****Course Outcomes:**

1. Students will have full knowledge of the interrelationship between economy and environment and students will love the environment.
2. By educating the students about the environmental issue, they become aware of what to do for environmental conservation.
3. Students understand the importance of natural resources in human life and economy.
4. Students realize the importance of environmental education and social awareness for environmental conservation.


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B.A FY NEP Outcomes Semester – I Generic Elective
Economics for Competitive Examination Part – I

Outcomes:

2024-25

At the end of the course the students should be able to:

1. Acquaint the student with the nature of Indian Economy
2. Student know about the procedure of budget and types of expenditure
3. Student get aware of sectoral structure of Indian Economy like agricultural and industry
4. Student know about scenario of overall Indian Economy

B.A FY NEP Outcomes Semester – I

(Vocational & Skill Enhancement Course) E-Banking

Outcomes:

At the end of the course the students should be able to:

5. Acquaint the student with the nature of E-banking transaction
6. Student know about the difference between traditional banking and modern E-banking
7. Student get aware E-banking tools developed through internet
8. Student know about scenario of overall E-banking


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B.A SY NEP Outcomes Semester – III

Micro Economics - I (Major)

2025-26

Learning Outcomes :

After completing this course, students will be able to:

1. Describe the meaning, nature and significance of economics, including different economists' definitions.
2. Analyze the factors influencing demand and supply and understand the laws governing them.
3. Explain the different types of elasticity and apply them to real-world scenarios.
4. Understand utility analysis and apply the laws of marginal and Equi-marginal utility in consumer decision-making.
5. Evaluate consumer behavior using indifference curve analysis and distinguish between income, price, and substitution effects.

B.A SY NEP Outcomes Semester – III

Agricultural Economics - I (Major)

Course Outcome:

After successful completion of this course, students will be able to:

- 1) Acquire the knowledge of Indian agriculture and their linkages.
- 2) Know about the production and productivity of the Indian agriculture.
- 3) Understand the agricultural finance system in India.
- 4) Understand about the Agricultural Price Policy and their instruments.

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B.A SY NEP Outcomes Semester – III

Indian Economics for Competitive Examination (Minor)

2025-26

Learning Outcomes : After completing this course, undergraduate students will be able to:

1. Describe the major features and structure of the Indian economy.
2. Understand and explain economic indicators such as GDP, inflation, and fiscal deficit in simple terms.
3. Trace the evolution of the Indian economy from colonial times to the present.
4. Identify and analyze key policy initiatives like the Green Revolution and LPG reforms.
5. Discuss the role and challenges of the agricultural, industrial, and service sectors.
6. Understand the importance of rural development programs and infrastructure growth.
7. Develop informed opinions on current economic issues affecting India.
8. Apply basic economic reasoning to real-life problems and policy debates

B.A SY NEP Outcomes Semester – III

Economic Literacy (GE)

Course Outcomes:

1. Through financial literacy of students, the country and society will move towards financial literacy.
2. Investment through savings and capital formation through investment.
3. By expanding the banking sector, the people of the society will be more connected with the banking sector.
4. It will help to keep individuals and society safe from Ponzi schemes.


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B.A SY NEP Outcomes Semester – III

Entrepreneurship Development (SEC) 2025-26

Learning Outcomes –

After completing this course, student will be able to -

1. Learners will be able to define and explain the concept, nature, and significance of entrepreneurship in the modern economic context.
2. Learners will analyze the essential qualities and functions of successful entrepreneurs and understand their role in national and local economic development.
3. Learners will gain practical knowledge about generating business ideas, conducting market surveys.
4. Learners will be equipped with the skills to apply theoretical knowledge to create and evaluate small business plans or start-up ideas in their local context.

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B.A SY NEP Outcomes Semester – IV

Micro Economics - II (Major)

Learning Outcomes:

2025-26

After completing this course, students will be able to:

1. Explain the concept of production function and apply the laws of diminishing returns, variable proportions, and returns to scale.
2. Identify different cost concepts and construct short-run and long-run cost and revenue curves.
3. Describe the characteristics of various market structures and analyze firm behavior and equilibrium in each.
4. Understand and apply the marginal productivity theory in the context of income distribution.
5. Evaluate modern economic theories related to rent, wage, interest, and profit.

B.A SY NEP Outcomes Semester – IV

Agricultural Economics - II (Major)

Course Outcome:

After successful completion of this course, students will be able to:

- 1) Recognize the issues in Indian agriculture.
- 2) Understand the diversification process in Indian agriculture.
- 3) Know new trends in agriculture in India.
- 4) Acquire the knowledge of globalization and agricultural policy.


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B.A SY NEP Outcomes Semester – IV

Banking for Competitive Examination (Minor) 2025-26

Learning Outcomes : After completing this course, students will be able to:

1. Describe the evolution and structure of the Indian banking system.
2. Identify various types of banks and their respective functions.
3. Explain the key roles and instruments of the Reserve Bank of India and its impact on the economy.
4. Understand and apply knowledge of banking services such as account types, loans, NEFT/RTGS, mobile banking, etc.
5. Interpret current trends and government schemes in the banking sector.
6. Confidently attempt banking awareness sections in competitive exams.

B.A SY NEP Outcomes Semester – IV

Economics of Share Market (GE)

Course Outcomes:

After completion of this course students can able to:

1. Gain an understanding of share market and financial instruments traded in a share market.
2. Understand how to measure and assess risk and returns in the context of stock market investment.
3. Students will develop an understanding of the basic principles of the stock market including the role of stocks, bonds, portfolio, IPO etc.
4. Aware the regulatory frameworks governing the stock market, including the role of institution like SEBI.
5. Analyze the major stock exchange in India like BSE and NSE.


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B.A SY NEP Outcomes Semester – IV

Rural Entrepreneurship (SEC)

2025-26

Outcomes –

Upon completing this course, students will be able to:

1. Understand the fundamental concepts and importance of rural entrepreneurship.
2. Identify and analyze different types of rural businesses and their feasibility.
3. Gain awareness of the challenges and problems in rural entrepreneurship and suggest solutions.
4. Explore new and emerging entrepreneurial opportunities in agriculture and allied sectors.
5. Utilize government schemes and policies to establish and support rural businesses.
6. Develop practical skills in business planning, analysis, and reporting through hands-on experiences.

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BA FY PUBLIC ADMINISTRATION

NEP

First Year Programme, Semester-I
Paper Code: HPUBCT1101
Title: Introduction to public Administration

Course outcomes:

1. Students will understand the Evolution and importance of Public Administration.
2. Students will understand the basic knowledge of discipline.
3. Students will understand new concept and roles of Public Administration.

First Year Programme, Semester-I
Paper Code: HPUBCT1102
Title: Indian Constitution & Administration-II

Course Outcomes:

1. It will be Possible to understand the importance of Constitution of Indian as a fundamental law.
2. Exercise his fundamental rights in proper sense at the same time identifies his responsibilities in national building.
3. Students will become responsible Citizens of India.

Paper Code: HPUBGE1101
Generic Elective course (GE)
Title: E-Administration-I

Course outcomes:

1. To learn students about the basic elements of E-Administration.
2. It will provide knowledge of E-devices in Public Administration.
3. Students will Aware of the basic knowledge of E- administrative system as well as various issues in E-Administration

SEC)

Paper Code: HPUBSC1101
Title: Personality Development & Communication Skills-I

Course outcomes

1. Students will acquire theoretical knowledge of concepts such as personality, skills, values, communication, motivation and leadership
2. Students will develop self-understanding based on theoretical understanding of personality, skills, values, communication, motivation and leadership.
3. It will help to acquire attitude, manners and communication skills necessary for rational decision making.


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Paper Code: HPUBCT1151

Title: Principles of Administrative organization-III

Course outcomes:

1. The importance of organization in human life will be realized.
2. Theories, approaches, concepts and principles of public administration will be studied.
3. Understand the role of the Chief Executive in public administration.
4. Understanding the functions of line and staff agencies
5. The depart

Paper Code: HPUBCT1152

Title: Indian Administrative system-IV

Course outcomes

1. Understand the form and substance of Indian Administration
2. Learn the significance of Indian Parliament.
3. Acquaint with the functioning of the Indian administration, at central levels and the responses of these systems in addressing the concerns of the people
4. Analyze the executive role of Constitutional Bodies

Semester-II

Paper Code: HPUBGE1151

Title: Administration of Non-Government Organizations-II

Course outcomes

1. Understand the concept of NGO, its types and registration procedure.
2. Ability to critically analyze challenges faced by NGOs.
3. Develop Knowledge & skills with regards to fund raise strategies.
4. Analyze the various schemes provided by the government.
5. Understand the process of projects and its management

Semester-II

Paper Code: HPUBSC1151

Title Leadership Styles and Conflict Management-II

Course Outcomes:

1. Understand the different styles of leadership given by administrative thinkers.
2. They will also understand the causes and level of conflicts in an organization.
3. Students will also be able to understand the handling of inter-personal conflict
4. Describe a leader's role in managing conflict in the Organization
5. Understand how to turn conflict into an opportunity for redemption and reconciliation.


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B A S Y PUBLIC ADMINISTRATION

NEP

Optional Subject: Public Administration (Major)

Under Graduate Second Year Programme, Semester-III

Paper Code: HPUBCT1201

Title: Personnel Administration

Courseoutcomes:

1. It will offer information about Personnel Administration.
2. Discuss the value of human resources and their effectiveness in administration.
3. Discuss recruiting concepts, including the benefits and drawbacks of direct and indirect recruitment methods.
4. Examine the major concerns of promotion, merit, and the seniority principle, among

Under Graduate Second Year Programme, Semester-III

Paper Code: HPUBCT1202

Title: Administrative System of Maharashtra State

Course Outcomes:

1. Enhanced Knowledge of Maharashtra State Administration.
2. Students will be able to critically analyze the processes of policy formulation, Decisionmaking and governance in Maharashtra.
3. Students will empower to understand the implications of governance at the grassroots level

Paper Code: HPUBMT1201

Title: District Revenue Administration

Course Outcomes:

2. Enhanced Knowledge of Maharashtra State Administration.
3. Students will be able to critically analyze the processes of policy formulation, Decisionmaking and governance in Maharashtra.
4. Students will empower to understand the implications of governance at the grassroots level


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Title: Central Civil Services-III
Course outcomes:

1. Students are equipped to effectively manage government functions, ensuring the smooth delivery of public services and implementation of policies for national development.
2. Civil servants develop strong leadership, problem-solving, and decision-making capabilities, enabling them to handle complex administrative challenges and lead teams effectively.
3. The course instills a deep understanding of ethical governance, ensuring that civil servants uphold integrity, accountability, and transparency in their duties, fostering trust in public institutions.

Paper Code: HPUBVC1201

Title: Principles of Management-III

Course outcomes

1. Understand the fundamental concepts and functions of management.
2. Analyse the role and responsibilities of managers in different organizational structures.
3. Apply planning and decision-making techniques in hypothetical business scenarios.
4. Examine the importance of leadership and motivation in achieving organizational goals.
5. Evaluate communication processes and teamwork dynamics within organizations.
6. Develop

Public Administration (Major)

Under Graduate Second Year Programme, Semester-IV

Paper Code: HPUBCT1251

Title: Financial Administration

Course outcomes:

1. **Grasp of Public Financial Systems:** Students will be able to understand the structure and functioning of public financial administration in India.
2. **Budget Analysis Skills:** Students will develop the ability to analyse government budgets, including revenue and expenditure patterns.
3. **Knowledge of Financial Institutions:** Students will gain insight into the roles of key financial institutions like the Finance Ministry, CAG, and Finance Commission.
4. **Awareness of Fiscal Responsibility:** Students will be able to evaluate issues related to financial accountability, transparency, and fiscal discipline in public administration.


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Public Administration (Major)
Under Graduate Second Year Programme, Semester-IV
Paper Code: HPUBCT1252

Course outcomes

1. Comprehension of District Administrative Structure:

Students will be able to understand the hierarchical structure of district administration, its components, and the roles of key officials like the District Collector, Revenue Officers, and Police Officers.

2. Knowledge of District Revenue Administration:

Students will gain knowledge about the revenue management system in the district, including land records, revenue collection, and related legal procedures.

3. Insight into Law-and-Order Administration:

Students will learn how law and order are maintained at the district level, with an emphasis on the role of district police and the judiciary in maintaining peace and security.

4. Awareness of Public Services and Welfare Programs:

Students will understand the implementation of government welfare programs at the district level, covering sectors like education, health, rural development, and poverty alleviation.

5. Critical Understanding of Administrative Reforms and Challenges:

Students will develop an understanding of the current challenges faced by district administration and explore reforms in governance, administrative efficiency, and citizen services.

Semester-IV

Paper Code: HPUBMT1251

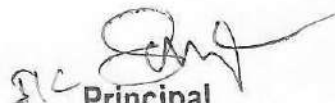
Course outcomes

1. Students will be able to explain the organizational structure and functions of district police administration. They will gain clarity on the hierarchy, roles, and responsibilities of various police officers at the district level.

2. Students will develop the ability to analyse law and order issues in a district context. This includes understanding how police handle public unrest, crime trends, and emergency situations in coordination with other administrative bodies.

3. Students will be able to critically evaluate the challenges and limitations in district-level policing. They will explore issues like political interference, resource constraints, and lack of accountability in the system.

4. Students will be equipped to recommend reforms and suggest improvements for better policing and public service delivery. They will be familiar with models of community policing, police modernization, and legal frameworks guiding police conduct.


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Second Year Programme Semester-IV
Paper Code: HPUBGE1251
Generic Elective (GE) In Public Administration

Title: State Civil Services

Course Outcomes:

1. In-depth understanding of the state administrative framework
2. Knowledge of civil services recruitment and career progression
3. Ability to analyse the role of civil servants in governance
4. Awareness of contemporary challenges and reforms in civil services

Second Year Programme Semester-IV

Paper Code: HPUVC1251

Title: Business Administration

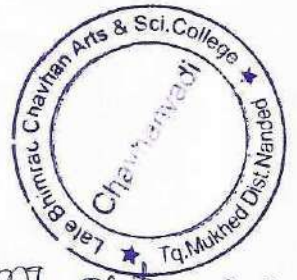
Course Outcomes:

1. Proficiency in Business Management
2. Decision-Making and Problem-Solving Skills
3. Leadership and Communication Skills
4. Ethical and Socially Responsible Practices Proficiency


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Criterion - II

2:6 Students Performance and learning outcomes.

2.6.1. program outcomes (POs) and (Course Outcomes: COs) For B.A.

* Programme outcomes (POs) of B.A.

SR. NO.	PO. NO.	Programme outcomes (POs) of B.A.
1>	PO ₁	graduates will be able to critically analyse complex Ideas, Texts and social issues, demonstrate ability to evaluate different perspectives and articulate articulate Reasoned Arguments.
2>	PO ₂	Graduates will be demonstrate effective writing and oral communication skills, including the ability to present Ideas clearly and Persuasively to different audiences.
3>	PO ₃	Graduates will integrate knowledge from various disciplines to better understand stand the human experience Making connections between arts humanities and social sciences to better understand the human experience.
4>	PO ₄	prepare themselves for various competitive exams and choose post graduate programme of their choice.

04.

PO5. Graduates will develop creative and effective solutions to problems by employing analytical critical and reflective thinking skills.


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Late. Bhimrao Chavan Arts & Science College
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paper Name:- Introduction to sociology



* course outcomes sociology.

* B. A. R.Y. Semester-I Paper-I.

Course outcomes are. student will be able to demonstrate understanding of how social call affects individual life.

CO2: students understood and analysed different the course is developing awareness among a good number students. who in turn may be able to address to problems arising in and out of society.

CO3: - This paper is introductory paper. the student learn basic of sociology and acquire scientific knowledge.

CO4: - The course is designed to develop awareness of the Relationship between individuals, families.


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Paper Name: - New changes in social
Sem-I Page-II.



Course outcomes are,

CO1: - Student will obtain a sociological understanding of disease, social groups, organizations and social institutions.

CO2: - Social institutions are usually conceived of as the basic focus of social organizations common to all societies.

CO3: - Social Institutions are systems of behavioral and relationship patterns that are densely interwoven and enduring and functioning across an entire society.

CO4: - They order and structure the behaviour of individual by means of their normative characters.


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Paper Name: Basic concepts in Sociology

Course outcomes are:

Sem II paper



CO1 - students studying various to understand the Basic concepts in Sociology and their Fundamental theoretical inter relationship such that students will be able to define gives ex ples show.

CO2 - students explored the five sociological concepts in an Idea that helps us to organize our thoughts and perception or make sense of what we observe

CO3 - sociology the concepts socialization culture, personality, social process and social control.

CO4 - Basic concepts in sociology - Tools of thinks with society humanly created organizations of inter Relationship that ~~concep~~ concepts individuals in common culture.



Resant SHIKSHAN PRASARAK MANDALS
Mukhed.

LATE. Bhimrao Chavan Arts & Science college
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PSDs. (Program specific outcomes) For
B.A. (Sociology.)

1) graduates will gain deep a understanding
of key sociological theories, Ideologies,
and concept sociological theories and classical
thinking thoughts are the study of questioning
Human society and social relations also studying
about development stage of sociology.

2) graduates will demonstrate a through knowledge
of Sociological Institutions at the marriage,
domestic violence, social Institutions, family
Institutions Religion Institutions. Basic concept
in sociology social groups and social process etc.

3) Graduates will analyse sociological social change
and development because this course
enhance students understanding on Indian
social structure and the social value in
compatible the structure must embrace
social change to allow the society to survive.

- 4) graduates will develop an understanding of this course focuses in Indian society, structure and change, such as Religious pluralism and Unity and Diversity, in Indian cultural also focus on Tribal, Rural & Urban communities so to provide development and Emerging trends in Indian society.



- 5) Graduates will explore the sociologist are typically motivated the desire to better understand the principles of social life and by the conviction that understanding these principles may aid in the formulation of enlightened and effective social policy.
- 6) Graduates will gain deep understanding up India is a Land of diverse religions. Social structure of India underwent some changes the Indian society, in the recent past particularly since the independence. There are two main factors of social stratification caste and class both are the agencies of social mobility and selection. They decided largely the position that man occupies in society. Democracy is very much linked with modernization, secularism and national integration are souls of India. The courses gives insights about social change in India.

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(Chavanvadi (Bahruli))



B.A. S.Y. Sem III.

Paper Name:- Indian society: structure and change - V

Course outcome are

CO1:- This courses students understanding on Indian socials structure and the societal value in compatible.

CO2. students were exposed to Fundamental. The structure embrace social change to allow the society to service. This courses focuses in Indian society structure and change such as - religious pluralism and unity and diversity in Indian cultural al so focus on tribal and Rural and Urban communities.

CO3 :- students were introduced to the social values in Indian society and changing nature of modern society.

CO4 :- students developed a sense of sensitive

~~the~~ The ~~society~~ positions that man occupies

~~Society~~ Society, Democracy of very much much linked with modernization secularism and National Integration are soul of India.

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Semester - III.

Paper Name: Human Rights and Social Justice. - VI.



CO1:- Students gained the knowledge and skills necessary to effectively prepare to competitive exams like upse, mpse and other semminar examinations.

CO2:- students developed a thorough understanding of key principles of human rights and fundamental rights. Justice is the concept of fairness.

CO3:- ~~CO3~~ students were introduced to the social justice and human rights have a shared good human dignity, equally for all.

CO4:- students studied and understood the issues that make social justice different to achieve such as poverty exclusion and discrimination are the direct contradiction with human rights.

CO5:- Human Rights provide legal frame work that always Individuals to hold governments to accounts and require the state to create conditions necessary for the achievement for social justice.

B.A.S. Sem III

Sec-I personality development.



Co1! - personality development course will polish students presenting and communications skills and paper to successful career.

Co2! - students apply the understanding of communications skills in to every day practice and understanding the importance of human life.

Co3! - personality of a person is defined on the amalgamation of qualities and attributes which contribute the person character and how of contents are process of personality development.

Co4! - The courses aims to basic awareness about significance skills and achievement. Such objectives are to help students positive ~~interest~~ increase improve self confidence.

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Late Bhimrao Chavan Arts and Science College
Chavanwadi (Barahali)



B.A. S.Y. Sem IV.

Paper Name: - Issues and problems in India
in Society - VII.

CO1: - Students were "Thomas pain address."

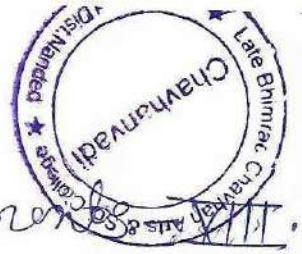
The Individual duty to recall the sense
Rights to other as we allow ourselves.
A social issues is problems that influences
many citizenries within a society and one
that many peoples strive to solve.

CO2: - A social issues is a problems that
influences many citizenries within a society
and one that many peoples strive to
solve.

CO3: - It is obtain the consequence of factors
extending beyond in Individual other
studying this course students should able
to illustrate ~~what~~ what's a social about
social science.

CO4: - Distinguish how labeling some thing
can create expectation how certain social
contention become dominant. Distinguish
how labeling and action.


Principal



Paper Name - New social movements.

Co 1 - Social movements are a type of group action. The knowledge obtained in this social movements was valuable because they could use it for the cause.

Co 2 - Social movements play such an important role in bringing about social change in political religious.

Co 3 - Educational health cooperative, government and other institutions areas.

Co 4 - Finally learning outcomes for social movements more rewarding than other learning outcomes because the outcomes includes a direct impact on social change.


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Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



बी. ए. प्रथम वर्ष
अभ्यासक्रम

द्वितीय भाषा मराठी (Second Language)

शैक्षणिक वर्ष २०१९-२०२० पासून

सत्र पहिले

Hi-MAR-S.L. - I

'अक्षरलेणी'

उपयोगिता

१. मध्ययुगीन व आधुनिक गद्य पद्य वाङ्मयाचा परिचय.
२. मराठीतील वाङ्मयप्रकारांची ओळख.
३. मराठी साहित्यनिर्मिती आणि त्यांच्या प्रेरणासंबंधी आकलन
४. मराठी भाषेतील व्याकरणाचे उपयोजन
५. भाषाज्ञान.

Head

Department of Marathi

Principal

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanwadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



सत्र - पहिले

अभ्यासपत्रिका : आधुनिक मराठी कथा वाङ्मय

. उपयोगिता

- 1) कथा वाङ्मयाच्या विविध प्रकारांची ओळख.
- 2) विद्यार्थ्यांची कथात्मदृष्टी विकसित करणे.
- 3) साहित्याभिरुचीच्या आकलनकक्षा रुंदावणे.
- 4) भाषिक आणि वाङ्मयीन सौंदर्यदृष्टीचा विकास.
- 5) मराठीच्या विविध बोलींचा परिचय.

Head

Department of Marathi

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Principal

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Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanwadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम - मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०१९-२०२० पासून

संकेतांक - MAR-II

सत्र पहिले

अभ्यासपत्रिका - दुसरी

अभ्यासपत्रिका : मध्ययुगीन आणि आधुनिक मराठी पद्य वाङ्मय -II

उपयोगिता

१. काव्यप्रवाहातील विचारधारांची ओळख.
२. कवितेमधून प्रकट झालेल्या मानवी मूल्यांचे आकलन.
३. भाषिक आणि वाङ्मयीन सौंदर्यदृष्टीचे विकसन.
४. कवितेच्या विविध रचनाप्रकारांचा परिचय.
५. प्राचीन आणि आधुनिक काव्यप्रकारांची ओळख.

Head

Department of Marathi

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Principal

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Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanwadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम- मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०१९-२०२० पासून

सत्र - दुसरे

सांकेतांक - MAR-III

अभ्यासपत्रिका : मराठी कथात्म साहित्य

अभ्यासपत्रिका - तिसरी

उपयोगिता

१. महामानवाच्या व्यक्तिमत्वामधून प्रेरणा.
२. मानवी मूल्यांची रुजवणूक करणे.
३. आत्मकथनपर, चरित्रपर, प्रवासवर्णनपर व इतर कथात्म साहित्यनिर्मितीस प्रेरक वतावरणनिर्मिती.
४. वाचन आणि लेखन अभिरुची वृद्धिंगत करणे.

Shetkar

Head

Department of Marathi

L.B.C Arts & Science College Chavhanvadi

Tq. Mukhed Dist. Nanded

Shivaji

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi(Barahali)
Tq. Mukhed Dist. Nanded

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Vsanat Shikshan Prasarak Mandal's

College Code.150

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Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanwadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम -मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०१९-२०२० पासून

सांकेतांक - MAR- IV

अभ्यासपत्रिका : आधुनिक मराठी कविता

सत्र - दुसरे

अभ्यासपत्रिका - चौथी

उपयोगिता

१. आधुनिक मराठी कवितेचा परिचय
२. काव्यप्रवाहातील प्रकटलेल्या मानवी मूल्यांचे आकलन .
३. कवितेचे रचनाप्रकार, भाषा आणि प्रतिमासृष्टीचा अभ्यास .
४. मराठी काव्य प्रवाहातील वैचारिक अधिष्ठानांचा शोध.

Chatter

Head

Department of Marathi

L.B.C. Arts & Science College, Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded

Shivaji

Principal

**Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barahali)
Tq. Mukhed Dist. Nanded**

Est. 1998

Vsanat Shikshan Prasarak Mandal's

College Code.150

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanwadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम - द्वितीय भाषा - मराठी (Second Language)

शैक्षणिक वर्ष - 2020-21 पासून

सत्र - तिसरे

सकेतांक - MAR- S. L. - III

अभ्यासपत्रिका - तिसरी

उपयोगिता

1. मध्ययुगीन व आधुनिक गद्य-पद्य वाङ्मयाचा परिचय.
2. मराठीतील वाङ्मयप्रकारांची ओळख.
3. मराठी साहित्यनिर्मिती आणि त्यांच्या प्रेरणा यांचे आकलन
4. मराठी भाषेतील व्याकरणाचे उपयोजन
5. मराठी गद्य-पद्य घटकांच्या स्वरूपाचे ज्ञान.

Head

Department of Marathi

L.B.C. Arts & Science College Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded (M.S.)

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barahali)
Tq. Mukhed Dist. Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

College Code.150

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम - मराठी (ऐच्छिक)
शैक्षणिक वर्ष - 2020-2021 पासून

सत्र - तिसरे

सकेतांक - MAR-V

अभ्यासपत्रिका चवी

निवडक मराठी गद्य

उपयोगिता

1. गद्य संकल्पनेचा परिचय.
2. मानवी मूल्यांची रुजवण .
3. आत्मकथनपर, चरित्रपर, प्रवासवर्णनपर व इतर गद्यसाहित्य निर्मितीस प्रेरक .
4. वाचन आणि लेखन यांची अभिरुची वृद्धिंगत करणे.
5. मराठी साहित्याकडे वाचकांना आकर्षित करणे.

Head

Department of Marathi

L.B.C.Arts & Science College Chavhanvadi
(Barhali)Tq.Mukhed Dist.Nanded (M.S)

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi(Barahali)
Tq.Mukhed Dist.Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

College Code.150

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम -मराठी (ऐच्छिक)
शैक्षणिक वर्ष 2020-2021 पासून
सत्र - - तिसरे
सकेतांक - MAR- VI
मराठी नाट्यात्म साहित्य
अभ्यासपत्रिका - सहावी

उपयोगिता

1. आधुनिक मराठी नाटकाचा परिचय .
2. नाट्यप्रवाहातून प्रकटलेल्या मानवी मूल्यांचे आकलन
3. मराठी वाक्य प्रवाहाच्या स्वरूप आणि व्याप्तीचा मागोवा.
4. नाट्यरचना, प्रकार, भाषा आणि प्रतिमासृष्टीचा अभ्यास.
5. मराठी नाट्यप्रवाहातील वैचारिक अधिष्ठानाचा शोध.

Head

Department of Marathi

L.B.C.Arts & Science College Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded (M.S)

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barhali),
Tq. Mukhed Dist. Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

College Code.150

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbcccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम - द्वितीय भाषा - मराठी (Second Language)

शैक्षणिक वर्ष - 2020-21 पासून

सांकेतांक - MAR-SL. - IV

सत्र - चौथे

'साहित्यसरिता'

अभ्यासपत्रिका - चौथी

उपयोगिता

1. मध्ययुगीन व आधुनिक गद्य - पद्य वाक्याचा परिचय,
2. मराठीतील वाक्यप्रकारांची ओळख.
3. मराठी साहित्यनिर्मिती आणि त्यांच्या प्रेरणा यांचे आकलन
4. मराठी भाषेतील व्याकरणाचे उपयोजन
5. मराठी गद्य-पद्य घटकांच्या स्वरूपाचे ज्ञान.

Head

Department of Marathi

L.B.C. Arts & Science College Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi(Barahali)
Tq.Mukhed Dist.Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

College Code.150

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbcccollege.com

Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



Skill Enhancement Course

शैक्षणिक वर्ष 2020-21 पासून

सकेतांक - MAR- SEC - १

सत्र - तृतीय

अभ्यासपत्रिका - पहिली

'मराठी भाषिक कौशल्ये: संभाषण कौशल्ये

उपयोगिता

1. संभाषण कौशल्य विकासाला सहाय्य.
2. मराठी भाषा क्षमतेच्या वाढीस मदत.
3. संभाषण क्षेत्राची दारे खुली
4. विविध व्यवसाय क्षेत्रात संधी

Head

Department of Marathi

L.B.C. Arts & Science College Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded (M.S.)

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barahali)
Tq. Mukhed Dist. Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

College Code.150

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanwadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम - मराठी (ऐच्छिक)
शैक्षणिक वर्ष 2020 2021 पासून

सत्र - चौथे

सकेतांक - MAR- VII

अभ्यासपत्रिका - सातवी

निवडक कादंबरी वाङ्मय

उपयोगिता

- १) कादंबरी वाङ्मयाच्या विविध प्रकाराची ओळख होते.
- २) विद्यार्थ्यांची कथात्मदृष्टी विकसित होते.
- ३) कादंबरी अध्ययनामुळे जीवन आकलनकक्षा रूढावतात.
- ४) भाषिक आणि वाङ्मयीन सौन्दर्यदृष्टीचा विकास.
- ५) मराठीच्या विविध बोलींचा परिचय.

Head

Department of Marathi

L.B.C. Arts & Science College Chavhanvadi

(Barhali) Tq. Mukhed Dist. Nanded (M.S.)

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barhali)
Tq. Mukhed Dist. Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

College Code.150

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



अभ्यासक्रम - मराठी (ऐच्छिक)
शैक्षणिक वर्ष 2020 2021 पासून

सत्र - चौथे

सांकेतांक - MAR- VIII

अभ्यासपत्रिका - आठवी

मराठी लोकवाङ्मय

उपयोगिता

1. लोकधारांची ओळख.
2. मानवी मूल्यांचं आकलन.
3. भाषिक आणि वाङ्मयीन सौन्दर्य दृष्टीचे विकसन.
4. विविध लोकपरंपरांचा परिचय.
5. सांस्कृतिक प्रश्नांची ओळख.

Head

Department of Marathi

L.B.C. Arts & Science College Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded (M.S)

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barhali)
Tq. Mukhed Dist. Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

College Code.150

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanwadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



Skill Enhancement Course शैक्षणिक वर्ष 2020-21 पासून

सकेतांक - MAR- SEC - II

सत्र - चतुर्थ

'मराठी भाषिक कौशल्ये: लेखन कौशल्ये

अभ्यासपत्रिका - दुसरी

उपयोगिता

1. लेखन कौशल्य विकासासाठी सहाय्य.
2. मराठी भाषा क्षमतेच्या वाढीस मदत.
3. लेखन क्षेत्राची दारे खुली
4. विविध व्यवसाय क्षेत्रात संधी

Head

Department of Marathi

Late Bhimrao Chavan Arts & Science College Chavhanvadi

Principal

**Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barahali)
Tq. Mukhed Dist. Nanded**

Est. 1998

Vsanat Shikshan Prasarak Mandal's

College Code.150

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Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



जून - 2021 पासून लागू

सत्र - पाचवे

अभ्यासपत्रिकेचे शीर्षक - मध्ययुगीन मराठी वाङ्मयाचा इतिहास

उपयोगिता

- 1) मध्ययुगीन कालखंडातील महत्त्वपूर्ण भक्तिसंप्रदायांची ओळख .
- 2) मध्ययुगीन कालखंडातील वाङ्मयातून प्रकट झालेल्या मानवी मूल्यांचे आकलन
- 3) मध्ययुगीन मराठी वाङ्मयीन चळवळी व प्रेरणांचे आकलन.
- 4) मध्ययुगीन वाङ्मयाच्या निर्मितीवर आणि वाङ्मयाच्या स्वरूपाचे ज्ञान,
- 5) मध्ययुगीन कालखंडातील वाङ्मयीन रचना प्रकारांचा परिचय.

Head

Department of Marathi

L.B.C. Arts & Science College Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barahali)
Tq. Mukhed Dist. Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

College Code.150

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Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



विषय : मराठी (वैकल्पिक (Generic) अभ्यासक्रम

जून 2021 पासून लागू

सत्र - पाचवे

अभ्यासपत्रिकेचे शीर्षक - साहित्यविचार

अभ्यासपत्रिका संकेतांक - GE-MAR-१

उपयोगिता :

- 1) वाङ्मयीन दृष्टिकोनाचे विकसन.
- 2) भारतीय साहित्यशास्त्राची ओळख.
- 3) पश्चिमात्य साहित्यविचारांचा परिचय.
- 4) रसविचारांचे पायाभूत ज्ञान.
- 5) शब्दांच्या विविध अर्थांचे ज्ञान.

Head

Department of Marathi

L.B.C.Arts & Science College Chavhanvadi
Barhali Tq. Mukhed Dist. Nanded-431715

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi(Barahali)
Tq.Mukhed Dist.Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

College Code.150

LATE BHIMRAO CHAVHAN ART'S & SCIENCE COLLEGE CHAVHANVADI

Chavhanvadi (Barhali) Tq. Mukhed Dist. Nanded-431715.

Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



विषय : मराठी (वैकल्पिक - Elective) अभ्यासक्रम

जून 2021 पासून लागू

सत्र - पाचवे

अभ्यासपत्रिकेचे शीर्षक - मध्ययुगीन मराठी वाङ्मयाचा इतिहास अभ्यासपत्रिका संकेतांक -

DSE-MAR-२

उपयोगिता :

- 1) मध्ययुगीन कालखंडातील महत्त्वपूर्ण भक्तिसंप्रदायांची ओळख.
- 2) मध्ययुगीन कालखंडातील वाङ्मयातून प्रकट झालेल्या मानवी मूल्यांचे आकलन
- 3) मध्ययुगीन मराठी वाङ्मयीन चळवळी व प्रेरणांचे आकलन.
- 4) मध्ययुगीन वाङ्मयाच्या निर्मितीचे आणि वाङ्मयाच्या स्वरूपाचे ज्ञान.
- 5) मध्ययुगीन कालखंडातील वाङ्मयीन रचनाप्रकारांचा परिचय.

Head

Department of Marathi

L.B.C. Arts & Science College Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded (M.S.)

Principal

Late Bhimrao Chavan Arts's &
Science College Chavawadi (Barhali)
Tq. Mukhed Dist. Nanded

Est. 1998

Vsanat Shikshan Prasarak Mandal's

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College Code.150

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanwadi@gmail.com

Dr.Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



बी.ए. तृतीय वर्ष

श्रेयांक (CBCS) पद्धतीनुसार

विषय : मराठी (वैकल्पिक-Generic) अभ्यासक्रम

जून - 2021 पासून लागू सत्र - सहावे

अभ्यासपत्रिकेचे शीर्षक - भाषाविज्ञान व व्याकरण

अभ्यासपत्रिका संकेतांक - GE-MAR-२

- 1) भाषिक ज्ञानाची वृद्धी.
- 2) मराठी भाषेच्या इतिहासाची ओळख.
- 3) लेखनविषयक सजगता.
- 4) मराठी व्याकरणिक घटकांचे ज्ञान.

Head

Department of Marathi

L.B.C.Arts & Science College Chavhanvadi
(Barhali) Tq. Mukhed Dist. Nanded (M.S)

Principal

Late Bhimrao Chavan Arts's &
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Affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Er. Shri Sheshrao Bhimrao Chavan

President

Mobile – 9158225599

website-www.kbccollege.com

Email – bcchavanwadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



सत्र पाचवे

अभ्यास पत्रिकेचे शीर्षक - मराठी भाषिक : कौशल्ये विकास

भाग- एक

अभ्यासपत्रिका संकेतांक - SEC-III

उपयोगिता :

- 1) मराठी भाषिक क्षमतांच्या वाढीस मदत.
- 2) मराठी भाषिक कौशल्ये विकासाला वाव.
- 3) विविध क्षेत्रातील व्यावसायिक संधी.
- 4) मराठी भाषेतील ग्रंथ प्रकाशनाचे स्वरूप समजून घेण्यास मदत.

Head

Department of Marathi

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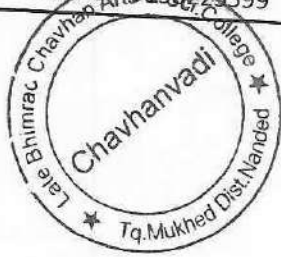
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Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

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Mobile - 8408836294



BSC FY PHYSICS 2023-24

Paper Name : Fundamental of Physics- I

- 1) This course being pre requisite for many advance courses hence students will be able to learn
hand on experiments, program designing.
- 2) Students will be made aware with computer systems and its functioning.
- 3) Students will be able to understand the fundamental nature of Physics.
Students will be enabled to handle different types of problems and other advanced courses in
Physics and Chemistry.
- 4) Students will be able to understand different concepts and principles of Physical instrumentations.
- 5) Student will learn about validity of concepts by doing the experiment.


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President

Mobile – 9158225599

website-www.kbccollege.com
Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod
I/C Principal
Mobile - 8408836294



Paper Name : Computational Physics

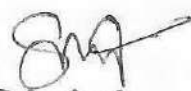
1) This course being pre requisite for many advance courses hence students will be able to learn hand on experiments, program designing.

2) Students will be made aware with computer systems and its functioning.

PAPER NAME : RENEWABLE ENERGY

Course outcome:

- 1) After completing this course the students will gain knowledge of various non-conventional energy sources.
- 2) Students will be able to understand use of renewable energy sources in day to life.
Hand on experiments will provide them an expertise to resolve the basic issues of functioning of renewable energy source.
- 3) Students will be trained to harvest non-conventional energy sources and design their own gadgets to convert and use them for their house hold purposes.

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Er. Shri Sheshrao Bhimrao Chavan

President

Mobile - 9158225599

website-www.kbccollege.com

Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



PAPER NAME : Fundamentals of Physics II TECH

Course Outcomes:

- 1) Students will be able to understand the fundamental nature of Physics.
- 2) Students will be enabled to handle different types of problems and other advanced courses in
Physics.
- 3) Students will be able to understand different concepts and principles of Physical instrumentations.
- 4) Student will learn about validity of concepts by doing the experiment.

PAPER NAME : ELECRTICAL MEASUREMENTS

OUTCOMES :

- 1) After completing this course the students will gain knowledge of various electrical gadget
installations at domestic levels.
- 2) Students will be able to understand wiring systems and electrical connections of different
phases at house hold appliances.
- 3) Hand on experiments will provide them an expertise for electrical installations, maintenance
and wiring repairs.

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President
Mobile - 9158225599

website - www.kbccollege.com
Email - bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod
I/C Principal
Mobile - 8408836294

PAPER NAME : WONDERS IN THE SKY

Course outcome:

- 1) Identify the objects visible to the unaided eye in the night sky.
- 2) Explain the phenomenon like seasons on earth, solar and lunar eclipse.
- 3) Explain the dynamics of planet in solar system, use the orbital properties to estimate mass of the sun.
- 4) Compare and contrast the terrestrial planets and the Jovian planets
- 5) Derive the scientific understanding and explain the observed properties of stars and estimate their temperature, mass, size etc
- 6) Describe the scale of universe and relative sizes of the different objects within the Universe
- 7) Describe the Earth's place in the solar system, Galaxy and Universe.


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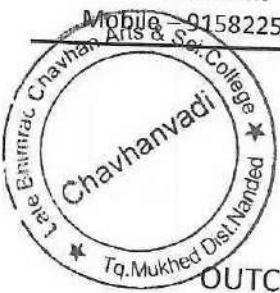
website-www.kbccollege.com

Email – bcchavanvadi@gmail.com

Dr. Shivaji Lachiram Rathod

I/C Principal

Mobile - 8408836294



BSC SY 2023-24

PAPER NAME : MMP & APPLICATION IN E AND M I

OUTCOMES

- 1) Implementation of impedance and reactance of the ac circuit as a complex quantity.
Utilization of concepts of complex algebra to solve the problems related to AC circuits.
- 2) Implementation of different electric and magnetic entities as scalars and vectors.
Utilization of concepts (grad, div. and curl) of vector analysis to resolve the laws of electrostatics and Magnetostatics.
- 3) Utilization of grad, div and curl to derive the mathematical expressions of the applications of the laws of electrostatics and Magnetostatics.

BSC SY 2023-24

PAPER NAME : Waves and Oscillations

OUTCOMES

- 1) Understands the transfer of energy by means of progression of mechanical vibrations.
Utilization of concepts of transverse waves along the string to understand the working of string instruments.
- 2) Implementation of the knowledge of reverberation time and absorption coefficient in
designing of the acoustically good auditoriums and halls.

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Er. Shri Sheshrao Bhimrao Chavan
President

Mobile - 9158225599

website-www.kbccollege.com
Email - bcchavanwadi@gmail.com

Dr. Shivaji Lachiram Rathod
I/C Principal
Mobile - 8408836294



OUTCOMES

After successful completion of the course the learners will be able:

- To calculate the length of objects in different system of units.
- To demonstrate the use of friction in daily life.
- To evaluate temperature in Celsius, kelvin and Fahrenheit scales.
- To acquire the knowledge of the working of various household equipment.
- To gain a systematic and coherent understanding of the basic concept of electricity, sound and light system.

BSC SY 2023-24

PAPER NAME : Mathematical Methods and Applications in

Electricity and
Magnetism - II

OUTCOMES

- 1) To use advanced mathematical methods and theories on various mathematical and physics problems.
- 2) To develop the skill of problem-solving ability.
- 3) To understand electromagnetic theory with Vector Calculus.
- 4) To better understanding of optics and Lasers phenomena in daily life.
- 5) To develop the skill of problem-solving ability.
- 6) To study the characteristics and uses of lasers.
- 7) To study the fundamental physics behind Interference.


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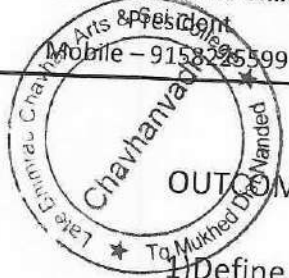
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OUTCOMES

Physics in Daily Life-II

- 1) Define and explain the laws of physics and chemistry.
- 2) Apply the principles of optics to the biological instruments.
- 3) Understand the basics of light propagation and light reflection.
- 4) Apply the principles of thermodynamics to biological systems.
- 5) Students will be able to understand different concepts and principles of Physical instrumentations.
- 6) Student will learn about validity of concepts by doing the experiment.

BSC SY 2023-24

PAPER NAME : Physics in Daily Life-II

OUTCOME

- 1) After successful completion of the course the learners will be able to:
To facilitate the students to achieve a clear conceptual understanding of technical aspects
of Physics in daily life.
- 2) Discuss how changes in pressure, temperature, and density affect atmospheric properties
and behavior.
- 3) After completing this course the students will gain knowledge of various electrical gadget installations at domestic levels.
Students will be able to understand wiring systems and electrical connections of different house hold appliances.
- 4) Hand on experiments will provide them an expertise for electrical installations, maintenance and wiring repairs.


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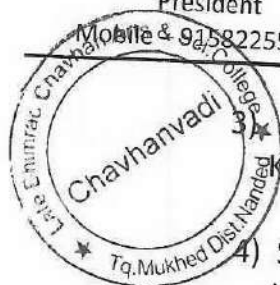
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Dr. Shivaji Lachiram Rathod

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3) Utilization of concepts of ultrasonics in different applications such as SONAR. Knows the production ultrasonics with controlled frequency.

4) Students will be able to understand different concepts and principles of Physical instrumentations.

5) Student will learn about validity of concepts by doing the experiment.

6) Students will be able to understand different concepts and principles of Physical instrumentations.

Student will learn about validity of concepts by doing the experiment.

BSC SY 2023-24

PAPER NAME : General Properties of Matters

OUTCOMES

1) Students will be able to understand the fundamental nature of Physics. Students will be enabled to handle different types of problems and other advanced courses in Physics and Chemistry.

2) Students will be able to understand different concepts and principles of Physical
3) instrumentations.
4) Student will learn about validity of concepts by doing the experiment.

BSC SY 2023-24

PAPER NAME : Physics in Daily Life-I TEACHING


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Er. Shri Sheshrao Bhimrao Chavan
President

Mobile - 9158225599

website-www.kbccollege.com
Email - bcchavanwadi@gmail.com

Dr. Shivaji Lachiram Rathod
I/C Principal
Mobile - 8408836294



BSC SY 2023-24

PAPER NAME : MMP & APPLICATION IN E AND M I

OUTCOMES

- 1) Implementation of impedance and reactance of the ac circuit as a complex quantity.
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BSC SY 2023-24

PAPER NAME : Waves and Oscillations

OUTCOMES

- 1) Understands the transfer of energy by means of progression of mechanical vibrations.
Utilization of concepts of transverse waves along the string to understand the


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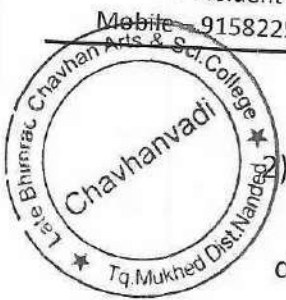
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working of string instruments.

- 2) Implementation of the knowledge of reverberation time and absorption coefficient in designing of the acoustically good auditoriums and halls.
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PAPER NAME : General Properties of Matters

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- 2) Students will be able to understand different concepts and principles of Physical
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PAPER NAME : Physics in Daily Life-I TEACHING

OUTCOMES

After successful completion of the course the learners will be able:

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PAPER NAME : Mathematical Methods and Applications in

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- 1) To use advanced mathematical methods and theories on various mathematical and physics


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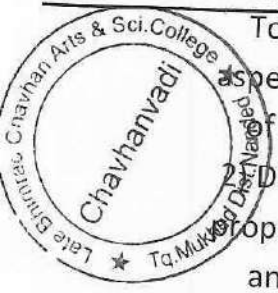
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Email – bcchavanvadi@gmail.com

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To facilitate the students to achieve a clear conceptual understanding of technical

aspects

1) Physics in daily life.

2) Discuss how changes in pressure, temperature, and density affect atmospheric properties and behavior.

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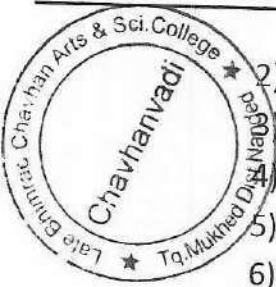
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- 2) To develop the skill of problem-solving ability.
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Physics in Daily Life-II

OUTCOMES

- 1) Define and explain the laws of physics and chemistry.
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BSC SY 2023-24

PAPER NAME : Physics in Daily Life-II

OUTCOME

- 1) After successful completion of the course the learners will be able to:


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