

## **Department of Chemistry**

### **Sardar Patel Mahavidyalaya, Chandrapur**

#### **Programme Specific Outcomes and Course Outcomes**

##### **Under Graduate Programme In Chemistry**

##### **Programme Outcomes of the B. Sc. Chemistry programme**

- 1) The Programme enables the students to understand basic facts and concepts in Chemistry while retaining the exciting aspects of Chemistry so as to develop interest in the study of chemistry as a discipline.
- 2) Attains the ability to apply the principles of Chemistry.
- 3) Gets approach to appreciate the achievements in Chemistry and to know the role of Chemistry in nature and in society.
- 4) Develops problem solving skills.
- 5) Gets familiarized with the emerging areas of Chemistry and their applications in various spheres of Chemical sciences and to get apprised with its relevance in future studies.
- 6) Attains to some extent certain skills in the proper handling of apparatus and chemicals.
- 7) Get exposed to the some different processes used in industries and their applications.
- 8) The students will learn the important analytical and instrumental tools used for practicing chemistry.

##### **Inorganic Chemistry**

Attains interest in various branches of Inorganic chemistry. To impart essential theoretical knowledge on atomic structure, periodic properties, chemical bonding, and nuclear chemistry.

Students are able to understand the general characteristics of the s, p, d and f block elements. They get knowledge of the different theories to explain the bonding in

coordination compounds and the level of understanding of the chemistry of organometallic compounds, metal carbonyls and metal clusters.

### **Practical**

Attains skills for quantitative estimation using the different branches of volumetric Analysis.

Students attains a thorough knowledge of Systematic qualitative analysis of mixtures containing two acid and two basic radicals with interfering radical by Semimicro method.

The students will get training in the quantitative analysis of metal ions and anions using gravimetric method.

### **Organic Chemistry**

Becomes capable of understanding and studying nomenclature and classification of organic compounds, organic reactions .To have exposure to various emerging new areas of organic chemistry.

Attains elementary idea of chromatography, organic spectroscopy and photochemistry. Also able to identify organic compound using UV, IR and PMR spectroscopic techniques.

### **Practical**

Becomes skilled for the qualitative analysis of organic compounds,determination of physical constants and Synthesis.

Students attain knowledge about the chemistry of some selected functional groups with a view to develop proper aptitude towards the study of organic compounds and their reactions. They are able to understand and study Organic reaction mechanisms.

### **Physical Chemistry**

Students are able to understand the general characteristics of different states of matter. Gets knowledge about the intermolecular forces in gases and liquids, the structure of solids, Defects in solids.

Students are able to understand concepts of the fundamentals of quantum mechanics, distillation, solvent extraction, TLC and column chromatography and in quantitative dilution.

Students get an insight into the thermodynamic and kinetic aspects of chemical reactions and phase equilibria, to derive some thermochemical equations and kinetic equations. And study phase diagrams and elementary idea of catalysis.

To provide an insight into the characteristics of different types of solutions and electrochemical phenomena. To learn ionic equilibria and electrical properties of ions in solution. To learn the concepts of acids and bases, pH and buffer solutions.

### **Practicals**

Students attains skill in doing experiments in kinetics, Potentiometry and phase rule.

## **Subject: Environmental Science**

### **Program Specific Outcomes**

- 1) Awareness among students about total environmental, problems associated with it and solutions through sustainable development concept
- 2) Thinking ethically about environmental and considering its every component important whether it is biotic and abiotic (think globally and at locally)

### **Name of Course: B.Sc (Environmental Science)**

#### **Semester I**

##### **Fundamentals of Environmental Science**

1. Classification of clouds on the basis of their appearance.
2. Formation and structure of the earth with the help of composition of crust, mantle and core.
3. Differentiation of lotic and lentic ecosystem.
4. Examples of igneous, sedimentary and metamorphic rocks with their characteristics feature.

##### **Ecology**

1. Student will understand about fundamentals of ecology.
2. Various environmental factors and how they are affecting living organism.
3. Interaction among organism. Beneficial and harmful.
4. Meaning of population and characteristics of population.
5. Meaning of community and characteristics of community.
6. Community dynamics/ecological succession in an area.
7. Ecosystem its structure and function.
8. Types of ecosystem.
9. Bio-geochemical cycles, its types and examples.
10. Adaptation and its types. Adaptation In plants and animals.
11. Colour production process. Biological significance of colouration
12. Meaning of mimicry. Causes and evolution of mimicry.

#### **Semester II**

##### **Elements of Environmental Science**

1. Characteristics features of ocean water environment.
2. Significance of ozone layer
3. Reasons for global climate change and its effect on environment.
4. Need for formal and non formal environmental education in India.

5. Priorities in India in today's context.
6. Sustainable development and its today's importance

### **Applied Ecology**

1. Natural services provided by environment with special emphasis on food and atmospheric services.
2. Contribution of ecological engineering in wastewater treatment and solid waste management.
3. Ecological applications in environmental management.
4. Forest and wildlife management by using principles of applied ecology.

### **Semester III**

#### **Pollution Science**

1. Air pollutants, air pollution and various sources of air pollution.
2. Different problems due to air pollution such as acid rain, photochemical smog.
3. Various types of air pollutants emitted by industries viz. thermal power plant, coal mining and cement industry.
4. Water pollution, sources and effects of water pollution.
5. Process of thermal pollution, effects of thermal pollution on environment. Coal ash as a problem.
6. Physical pollution. Noise pollution-its sources and effects on human being.
7. Measurement of noise at various locations.
8. Types of radiation. Sources of radiation.
9. Radiation emitted by Cell phone and mobile towers.
10. Hazards in various industries. Problems associated with these hazards.
11. Soil pollution-its causes and sources.
12. Pesticide pollution. Bioaccumulation and biomagnifications.
13. Acidification and salination of soil.

#### **Natural Resources and GIS**

1. Renewable and non renewable energy resources with examples and need of their conservation
2. Concept of rain water harvesting and water management
3. Natural catastrophes and their effects with mega disasters of India.
4. Concept of remote sensing and its role in environmental management.

### **Semester IV**

#### **Forest and Wildlife**

1. Role of forest and reasons for forest destruction.
2. Forest protection and conservation by implementing regulatory measures
3. Concept of wildlife and current status of wildlife in India.

4. Wildlife conservation by ex-situ and in-situ measures.
5. Role of international, national and grassroots level in environmental protection and conservation.

### **Pollution Control Technologies**

1. Industrial and zoning criteria as a method for air pollution control.
2. Control devices for Particulates viz. ESP, Bag house filter etc.
3. Control devices for gaseous viz. adsorption, absorption, condensation and combustion.
4. Flue gas desulfurization and NO<sub>x</sub> removal.
5. Impurities in water contributing to its pollution and their removal.
6. Thermal pollution control technologies viz. Cleaner technologies, cooling tower, cooling ponds.
7. Oil pollution control by nutrient enrichment and genetically engineered microorganisms.
8. Advanced methods for water pollution remedial technologies.
9. Noise pollution control at source, along the sound both and at receiver end.
10. Methods to control radioactive waste.
11. Minimization of X-ray hazard.
12. Occupational health plant. Its objectives and first aid.
13. Personal safety in an industry.
14. In-situ methods for soil pollution control.
15. Chemical and biological methods for pesticide pollution control.
16. Phyto remediation and bio-remediation along with conventional methods for pesticides pollution control.

### **Semester V**

#### **Environmental Engineering**

1. Object of air, water, noise, soil, and solid waste sampling
2. Methods of soil and solid waste sampling
3. Principles of analytical methods in environmental analysis
4. Principles, components and applications of U.V. Visible spectrophotometer, AAS and GC.
5. Concept of corporate social responsibility.

#### **Environment and Innovation**

1. Innovations in environment waves of innovation.
2. Barriers and drivers of eco-innovation.
3. Types and level of eco-innovation.
4. Innovation system and its aspects.
5. Sustainable innovations with emphasis on physical, chemical and biological.
6. Environmental innovation w.r.t. agriculture and food, forestry, biodiversity, water and energy.
7. Contribution of education in innovation.

## **Semester VI**

### **Environmental Management**

1. Contribution of cleaner technologies, environmental economics and environmental management system in environmental management.
2. Role of EIA in environmental management.
3. Solid and Hazardous waste management.
4. Methods for industrial wastewater treatment with emphasis on primary, secondary and advanced methods.

### **Environmental Restoration**

1. Concept and necessity of eco-restoration
2. Role of government agencies and NGOs in conservation and restoration
3. Importance of indigenous Knowledge of restoration.
4. Eco- restoration by plants that is phyto remediation.

## **Programme Specific Outcome of B.Sc., Mathematics**

- I. Think in a logical and critical manner.
- II. Know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.
- III. Formulate and develop real life Mathematical problems in a logical manner.
- IV. Acquire good knowledge and understanding in advanced areas of Mathematics, chosen by the student from the given courses.
- V. To understand, formulate and use quantitative models arising in social science, Engineering, Transportation, Artificial Intelligence, Queuing Models, Relativity theory, Assignment Problems, Inventory Management System and other contexts.
- VI. Apply their broad knowledge of science across a range of fields, with in-depth knowledge in at least one area of study, while demonstrating an understanding of the local and global contexts in which science is practiced.

### **Course Outcome of B. Sc. Mathematics**

#### **(1) Course Outcome of Differential Calculus and Integral Calculus :-**

Students will able to

- I. Solve Limits and Continuity by using  $\epsilon$  and  $\delta$  Definition.
- II. To understand types of discontinuities.
- III. Apply Theorems on limit and Continuity.
- IV. Solve problems on differentiability.
- V. Understand Successive differentiation and solve problems by using Leibniz theorem.
- VI. Apply Mean Value theorem(MVT), Rolle's Theorem and Cauchy's Mean Value theorem(CMVT).
- VII. Solve Problems on Taylors Series and Maclaurin's Series of  $\sin x$ ,  $\cos x$ ,  $e^x$ ,  $\log(1+x)$ ,  $(1+x)^m$ .
- VIII. Illustrate Improper integral, Gamma function and its properties.
- IX. Beta function and its properties of Beta functions.
- X. Derive relation between Beta and Gamma functions.
- XI. Evaluate integrals by using Beta and Gamma functions.
- XII. Understand Indeterminate forms .
- XIII. Apply L'Hospital rule to solve the problems of indeterminate forms.
- XIV. Evaluate double integrals.
- XV. Apply change variable method to find the value of double integral.

#### **(2) Course Outcome of Differential Calculus and Trigonometry:-**

Students will able to

- I. Understand the Limit and Continuity for function of two variables.
- II. Understand Maxima and Minima of function of two variables.
- III. Lagrange's Multiplier method .
- IV. Explain subtangent and subnormal.
- V. Find angle of intersition of two curves.
- VI. Find circle, radius and centre of curvature.

- VII. De Moivre's theorem and its applications.
- VIII. Expand  $\cos^n\theta$ ,  $\sin^n\theta$  and  $\tan^n\theta$  in terms of  $\theta$ .
- IX. Define hyperbolic functions and inverse hyperbolic functions.

**(3) Course Outcome of Differential Equations and Difference Equations:-**

Students will able to

- I. Understand First order Exact Differential Equation.
- II. Illustrate order and degree of Differential Equations.
- III. Extract the solution of differential equations of the first order and of the first degree by variables separable, Homogeneous and Non-Homogeneous methods.
- IV. Understand Linear differential equations and solve problems on Bernoulli's equations.
- V. Find a solution of differential equations of the first order and of a degree higher than the first by using methods of solvable for  $p$ ,  $x$  and  $y$ .
- VI. Compute complementary function and particular integral of differential equations..
- VII. Compute all the solutions of second and higher order linear differential equations with constant coefficients, linear equations with variable coefficients.
- VIII. Solve simultaneous linear equations with constant coefficients and total differential equations.
- IX. Formulate Difference equation and solve problems.

**(4) Course Outcome of Partial Differential Equations:-**

Students will able to

- I. Formation of partial differential equations.
- II. Solve linear partial differential equation of first order.
- III. Illustrate Lagrange's linear differential equations.
- IV. Find the solution of First order partial differential equations for some standard types.
- V. Homogeneous partial differential equations and its applications.
- VI. Solve problems by using Jacobbi's method.
- VII. Non-Homogeneous differential equations.

**(5) Course Outcome of Real Analysis:-**

Students will able to

- I. Define different types of real sequence, bounded sequence, Cauchy Sequence.
- II. Discuss the behavior of the geometric sequence.
- III. Verify the given sequence in convergent and divergent by using behavior of Monotonic sequence.
- IV. Prove Cauchy's theorems on limits.
- V. Give examples for convergence, divergence and oscillating series.
- VI. Discuss the behavior of the geometric series.

- VII. Verify the given series is convergent or divergent by using different test.
- VIII. Define and recognize the concept of metric spaces, open sets, closed sets,
- IX. limit points, interior point.
- X. Define and Illustrate the concept Riemann Integrals.
- XI. Determine fundamental theorem on calculus and MVT of integral Calculus.

**(6)Course Outcome of Set Theory and Laplace Transform:-**

Students will able to

- a. Understand set theory.
- b. Determine Countable and uncountable sets
- c. Define fuzzy sets,  $\alpha$ -cuts, fuzzy complements.
- d. Discuss types of operations on fuzzy sets, t-norms, fuzzy arithmetic.
- e. Explain extension principle of fuzzy sets, fuzzy numbers.
- f. Illustrate fuzzy relations, binary fuzzy relations, fuzzy equivalence relations.
- g. State some applications of fuzzy sets.
- h. Understand Laplace transform and Inverse Laplace transform.
- i. Apply Laplace transform to solve differential equations
- j. Use inverse Laplace transform to return familiar functions
- k. Apply Laplace transform to solve ODE and PDE.

**(7)Course Outcome of Algebra:-**

Students will able to

- a. Define Group ,subgroup, center, Normalizer of a subgroup.
- b. Find cycles and transpositions of a given permutations.
- c. Prove Lagrange's theorem .
- d. Define cyclic groups .
- e. Define normal subgroups , quotient groups and index of a subgroup.
- f. Define homomorphism ,kernel of a homomorphism, isomorphism.
- g. Prove Cayley's theorem , the fundamental theorem of homomorphism for groups.
- h. Define rings , zero divisors of a ring , integral domain , field and prove theorem.

**(8)Course Outcome of Elementary Number Theory:-**

Students will able to

- I. Illustrate Divisibility, Division and Euclidean Algorithm.
- II. Solve the problems of GCD and LCM.
- III. Describe the properties of prime numbers.
- IV. Define congruence's and describe the properties of congruence's.
- V. Solve the system of linear congruence's.
- VI. Solve Diophantine equations.
- VII. State Chinese Remainder Theorem, Fermat's and Wilson's theorem and Goldbach Conjecture.
- VIII. Describe Arithmetic function, Euler's theorem, Mobius  $\mu$  function,  $\tau$  and  $\sigma$  function.
- IX. Illustrate Pythagorean triplets.

### **(9)Course Outcome of Linear Algebra :-**

Students will able to

- I. Define Vector Space, Quotient space Direct sum, linear span and linear independence, basis and inner product.
- II. Discuss the linear transformations, rank, nullity.
- III. Illustrate Dual Space, Bi dual space and natural Isomorphism.
- IV. Find the characteristic equation, eigen values and eigen vectors of a matrix.
- V. Prove Schwartz inequality, Gram-Schmidt orthogonalisation process.

### **(10)Course Outcome of Mechnics :-**

Students will able to

- I. Define Kinematics in two dimensions.
- II. Define Simple Harmonic Motion and find its Geometrical representation.
- III. Illustrate coordinate systems, radial and transverse velocity and acceleration.
- IV. Find the Composition of SHM and the differential equation of a central orbit.
- V. Find the law of force if the orbit is given and vice versa.

### **(11)Course Outcome of Matrices and Theory of Equations :-**

Students will able to

- I. Illustrate Symmetric and Skew symmetric, Hermition and Skew Hermition Matrices.
- II. Understand elementary operations on matrices.
- III. Learn Linear equations and various methods to solve linear equations.
- IV. Define characteristic equation of matrices and illustrate.
- V. State Cayley Hamilton Theorem and its applications.
- VI. Compute inverse of a matrix using Cayley – Hamilton Theorem.
- VII. Find Eigen values and Eigen vectors of a given matrix.
- VIII. Describe the relation between roots and coefficients
- IX. Find the sum of the power of the roots of an equation using Newton's Method.
- X. Transform the equation through roots multiplied by a given number, increase the roots, decrease the roots, removal of terms.
- XI. Solve the reciprocal equations.
- XII. Analyse the location and describe the nature of the roots of an equation.

### **(12)Course Outcome of Numerical Methods:-**

Students will able to

- I. Define Basic concepts of operators  $\Delta, E, \nabla$
- II. Find the difference of polynomial
- III. Solve problems using Newton forward formula and Newton backward formula.
- IV. Derive Gauss's formula and Stirling formula using Newton forward formula and Newton backward formula.
- V. Find maxima and minima for differential difference equation
- VI. Derive Simpson's  $1/3, 3/8$  rules using trapezoidal rule
- VII. Find the solution of the first order and second order equation with constant coefficient
- VIII. Find the summation of series finite difference techniques
- IX. Find the solution of ordinary differential equation of first by Euler, Taylor and Runge-Kutta methods.

**(13) Course Outcome of Complex Analysis and Vector Calculus :-**

Students will able to

- a. Compute sums, products, quotients, conjugate, modulus, and argument of complex numbers.
- b. Calculate exponentials and integral powers of complex numbers.
- c. Understand the significance of differentiability for complex functions and be familiar with the Cauchy-Riemann equations.
- d. Determine whether a given function is analytic.
- e. Define Bilinear transformation, cross ratio, fixed point.
- f. Write the bilinear transformation which maps real line to real line, unit circle to unit circle, real line to unit circle.
- g. Use Cauchy's integral theorem and formula to compute line integrals.
- h. Represent functions as Taylor, power and Laurent series.
- i. Classify singularities and poles.
- j. Find residues and evaluate complex integrals, real integrals using the residue theorem.
- k. Understand Vector Differentiation .
  - l. Find and interpret the gradient curl, divergence for a function at a given point.
  - m. Interpret line, surface and volume integrals
  - n. Evaluate integrals by using Green's Theorem, Stokes theorem, Gauss's Theorem

**(14) Course Outcome of Linear Programmig and Transportation Problem :-**

Students will able to

- a. Define nature and feature of Operations Research.
- b. Formulate LPP by graphical method and its applications.
- c. Define basic feasible solutions, Slack and Surplus variable.

- d. Explain simplex method.
- e. Demonstrate Big-M method
- f. Illustrate two phase method
- g. Prove dual of the dual is primal.
- h. Interpret dual simplex method.
- i. Define transportation problem.
- j. Find a basic feasible solution to the transportation problem by using North west corner rule, Vogel's approximation method.
- k. Apply NWCR, LCM and Vogel's method to solve transportation problem.
- l. Illustrate Assignment problem, Travelling salesman problem and applications.

**Department of Physics**  
**Sardar Patel College, Chandrapur**

**Programme Outcome, Programme Specific Outcome and Course Outcome**

**Physics Programme outcome:-**

PO1: Students get knowledge on universe from smallest to largest scale: it is about unraveling it's complexities to discover the way it is and how it works.

PO2: Students get skill on instrumentations which are used in medical imaging, nanotechnology and quantum computing.

PO3: Gaining the knowledge of basic laws in physics i.e. newton's laws, conservation laws, thermodynamics laws and its application.

PO4: Students understand the value of mathematics on fundamental concepts such as statistical physics, relativity.

PO5: Understanding of wave behavior and acoustic.

PO6: Gaining the knowledge of applied physics such as laser, thermal physics, nuclear physics, solid state physics which will be useful for formation of industries and energy productions.

PO7: Understanding the contribution of physics to solving global problem such as energy production, environmental protection, global warming and public health.

PO8: It develops interest in construction of acoustic of hall, circuits, instruments and research activities.

**Programme Specific Outcomes**

PSO1: Understand the nature and basic laws of physics mechanics, thermodynamics, relativity, optics, statistical physics, nuclear physics and applied physics.

PSO2: Understand the application of energy production, instrumentation and medical application.

PSO3: Perform laboratory work according to curriculum designed and develop skill in practicals and handling of instruments.

PSO4: Application of knowledge in various fields particularly for solving global problem, energy production and environmental production.

PSO5: Obtaining the knowledge about electrical and electronics skill which used in daily life.

## **COURSE OUTCOME**

### **MECHANICS AND GRAVITATION**

CO1: Study basic laws of mechanics, newton's laws and conservation laws.

CO2: Understanding the relation in to frame of reference in relativity.

CO3: Imparting the knowledge of gravitation, oscillation and properties of matter

### **VECTOR ANALYSIS, ELECTROSTATICS AND MAGNETOSTATICS**

CO1: Imparting the knowledge of vector calculus and its application.

CO2: Understanding the Maxwell's equations and electromagnetic wave.

### **THERMAL AND STATISTICAL PHYSICS**

CO1: Understanding the basic laws of thermodynamics and Carnot's cycle.

CO2: Study the Maxwell's equation of thermodynamics and its application.

CO3: Imparting the knowledge about Maxwell Boltzmann statistics, Boltzmann statistic and Fermi Dirac statistic.

CO4: Study the black body radiation spectrum.

### **WAVE ACOUSTIC AND OPTICAL PHYSICS**

CO1: Understanding the nature of wave and acoustic of Hall.

CO2: Study the basic concepts of optical physics.

### **MODERN PHYSICS AND SOLID STATE PHYSICS**

CO1: Understanding the dual nature of light and application of Schrodinger wave equation.

CO2: Study the nature of nuclear reaction, nuclear reactor and nuclear detectors.

CO3: Imparting the knowledge of crystal structure and properties of matter.

### **NUCLEAR AND PARTICLE PHYSICS AND DIGITAL AND ANALOG CIRCUITS**

CO1: Study the elementary particles, Quark structure and Leptons.

CO2: Imparting the knowledge about digital and analog circuits, adder, subtractor, multivibrators, power supply and operational amplifiers.

## **Department of Zoology**

### **Sardar Patel College, Chandrapur**

#### **Programme Outcome , Programme Specific Outcomes and Course Outcomes**

##### **Zoology Programme Outcome:-**

PO1: Students get knowledge and skill on the fundamentals of Animal sciences.

PO2: Understand and analyse complex interactions among various living organisms.

PO3: Gaining the knowledge of basic unit of life i.e. cell, its internal structure ,it's functions and its role in managing various metabolic function of organisms

PO4: Understanding of Animal behavior and evolutionary process, adaptive radiations in animals.

PO5: Understanding various concepts of genetics and its role in human health.

PO6: Gaining knowledge of applied Zoology such as Apiculture, Sericulture fish farming which. will be useful for formation of small scale industries or self employment in future.

PO7: Understanding of environmental conservation processes, Pollution causes, Biodiversity.

PO8: Application of knowledge of Zoology to one's own life.

PO9: Develops empathy and love towards nature and animals.

##### **Programme Specific Outcomes**

PSO1: Understand the nature and basic concepts of cell biology, genetics, taxonomy, ecology Applied Zoology etc.

PSO2: Understand the applications of biological sciences in Medicine ,Entomology, Fishery Science, Biodiversity Conservation.

PSO3: Perform Laboratory work according to curriculum designed and develop skill in practicals, development of skill of team work.

PSO4: Obtaining the knowledge about research methodologies.

PSO5: Application of knowledge in various branches of Zoology particularly for Biodiversity and its conservation.

### **Course Outcome**

#### **Animal Diversity (Invertebrate & Vertebrate)**

CO 1: Understanding general taxonomic rules for classification of Animals.

CO 2: Imparting knowledge of all animal phyla, their systems, adaptations and their association with environments.

CO 3: Stating the importance of each animal in ecosystem and food chain.

#### **Cell Biology, Genetics and Evolution**

CO 1: Structural and functional aspects of basic unit of life.

CO2: Imparting knowledge of evolution process.

#### **Physiology and Biochemistry**

CO1: Imparting the knowledge about the physiological and biochemical processes in Animal body giving emphasis on human physiology

CO2:: Interaction and interdependence of physiological processes.

#### **Developmental Biology**

CO1: Understanding the process of reproduction, fertilization and development of embryo upto adult.

CO2: Basic concepts of developmental biology.

#### **Applied Zoology**

CO1: Imparting the theoretical knowledge of Sericulture, Apiculture, fish farming as well as practically, from the professional point of view.

CO2: Understanding the basic concepts of life cycle of beneficial animals their products, Management and their pathology.

## **Environmental Biology**

CO1: Imparting knowledge regarding the environment and its conservation.

CO2: Study of types of ecosystem.

CO3: Study of various types of pollutions and controlling measures.

## **Faculty of Commerce**

### **PSOs of COMMERCE**

1. Students has know the modern trends in Marketing and has got basic knowledge in Marketing
2. Students has got the basic Concept and Principles of Marketing-
3. Students has aware about recent trends in Marketing and their Application
4. Students has got the basic micro economics concepts and Application.
5. Applying economic analysis in the formulation of business policies.
6. Using economic reasoning problems of Business.
7. Students has getting the emerging issues in business, trade and commerce regarding recording, maintaining and presenting the accounting and financial facts.
8. Understanding of the concepts of Human Resource Development gain and insight of the factors which go into the making of an efficient HRD Manager
9. Providing and getting depth knowledge on various aspect of Banking system and Insurance.
10. Awareness among the Students about the careers in the field of Banking and Insurance.
11. Adopted the basic knowledge and understanding of important Statistical tools and Statistics and Mathematics elementary application to Business.
12. Getting basic Accounting knowledge as applicable to Business.
13. Getting awareness about the basics of Business Communication.
14. Skills about drafting notices, resolutions, minutes, reports, etc
15. Developing conceptual understanding of the fundamentals of Secretarial Practice and procedure requirements.

## PSOs of Economics

- ❖ Understand the maximum Satisfaction in minimum Income through Law of Equi- Marginal Utility Analysis
- ❖ Statistical analysis of any event
- ❖ Understand the Market Structure
- ❖ Understand the Index number
- ❖ Understand the Economical planning of individual, Family, State and National Level
- ❖ Understand the Agricultural Planning
- ❖ Understand the Indian Economy
- ❖ Understand the Inflation, Deflation and their Economic effects
- ❖ Development of Vision of any Event

## **PROGRAMME OUTCOMES OF ENGLISH**

### **Students will be able to**

- enhance the listening and communicative abilities.
- develop the writing skills.
- broaden the knowledge of English language.
- become self- expressive
- use proper English language and appropriate expressions.
- understand the importance and utility of English language.
- prepare themselves to deal with soft skills.
- get familiarized with various pieces of prose and poetry in English.
- understand cultural experiences and situations and develop human values and social awareness.
- perceive the literary merit, beauty and creative use of language.

**Sardar Patel Mahavidhyalaya, Chandrapur**  
**Department of History**  
**History Outcomes**

- 1) इतिहास लेखनशास्त्राची माहिती प्राप्त होते.
- 2) इतिहासातील कालक्रमबद्धता व नियतकालाची माहिती मिळते.
- 3) भूतकाल व वर्तमान काळाची सांगड घालता येते.
- 4) जागतिक इतिहासाशी भारताच्या इतिहासाची तुलना करता येते.
- 5) इतिहासाचे टिकात्मक अध्ययन करता येते.
- 6) भारतीय संस्कृतीतील विविध धर्माची माहिती मिळते.
- 7) राष्ट्रीय एकात्मता वाढते.
- 8) भारताच्या गौरवशाली इतिहासाची माहिती मिळाल्यामुळे राष्ट्रप्रेमाची भावना निर्माण होते.
- 9) भारतात विविधता का निर्माण झाली याची माहिती मिळते.
- 10) विविध स्पर्धा परीक्षांची तयारी होते.

## Programme outcome of Marathi

१. विद्यार्थ्यांमध्ये नैतिक मूल्यांची वाढ होईल.
२. विद्यार्थी लोकांमध्ये वागताना त्यांचे वर्तन विवेकाचे असेल.
३. विद्यार्थ्यांमध्ये कलामूल्यांचे भान निर्माण होईल.
४. विद्यार्थ्यांमध्ये अस्मितेची जाणीव निर्माण होईल.
५. विद्यार्थ्यांमध्ये वैज्ञानिक दृष्टीकोण निर्माण होऊन त्यांच्या वर्तनात तसा बदल जाणवेल.
६. विद्यार्थ्यांमध्ये सामाजिक आस्था निर्माण होऊन सामाजिक सहभाग वाढेल.
७. विद्यार्थ्यांमध्ये सांस्कृतिक नेतृत्व येईल.
८. विद्यार्थ्यांमध्ये वैचारिक प्रगल्भता येईल.
९. काव्य, नाट्य, लोककला, लोकरंगभूमी यांविषयी आस्था वाढेल.
१०. विविध कलाक्षेत्रातील सहभाग वाढेल.
११. लेखनकौशल्य वाढून पत्रलेखन, साहित्य लेखन विकसित होईल.
१२. विद्यार्थी भाषांतर विद्या मिळवतील.
१३. वाचन कौशल्य वाढून पत्रकारिता, आकाशवाणी, दूरदर्शन या क्षेत्रात जातील.
१४. विद्यार्थ्यांमध्ये संशोधकवृत्ती वाढेल.
१५. विद्यार्थ्यांना व्यावहारिक ज्ञान येईल.
१६. समाजप्रेम आणि देशप्रेम वाढेल.
१७. शिक्षणाचं महत्त्व समजून शिक्षणविषयक जनजागृती करतील.
१८. लोकशाही विषयक जनजागृती करतील.
१९. भाषेचा योग्य वापर व्यवसायाच्या क्षेत्रात करतील.
२०. मराठी भाषाविषयक आस्था लोकांमध्ये वाढवतील. मराठी भाषा जिवंत ठेवण्यासाठी प्रयत्न करतील.

## Department of Sociology

### Sociology Outcomes

1. समाजातील सामाजिक समस्येच्या निर्मूलनात मदत
2. वाईट प्रथा-परंपरा विषयी जाणीव जागृती
3. जात , धर्म, लिंग ,वंश या विषयीचा पूर्वग्रहदूषित दृष्टिकोन कमी करण्यासाठी.
4. सामाजिक परिवर्तनाची दिशा ठरविण्यासाठी
5. पर्यावरणीय प्रदूषणाविषयी जनजागृती
6. सामाजिक जाणिवांचा विकास
7. संशोधन वृत्तीची निर्मिती
8. वैज्ञानिक दृष्टिकोनाचा विकास
9. राष्ट्रीय एकात्मता निर्माण करण्यास मदत
10. व्यक्तिमत्व विकासासाठी चालना
11. दुर्बल घटकाच्या कल्याणा विषयीच्या दृष्टीकोनाचा विकास
12. चिरंतन विकासाचा दृष्टीकोण