

Late Chindhuji Laxmanrao Purke Shikshan Prasarak Mandal's



INDIRA GANDHI KALA MAHAVIDYALAYA

Ralegaon, Dist- Yavatmal, Maharashtra

Affiliated to

Sant Gadge Baba Amravati University, Amravati



2nd Cycle

Assessment & Accreditation by NAAC

Criterion-II
Teaching- Learning and Evaluation

QnM 2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website



Late Chindhuji Laxmanrao Purke Shikshan Prasarak Mandal's Yavatmal

INDIRA GANDHI KALA MAHAVIDYALAYA, RALEGAON
DIST. -YAVATMAL (445402)

(Affiliated to Sant Gadge Baba Amravati University College Code-490)
(DDO Code - 06610100121)

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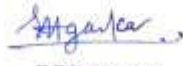
Date :-15/07/2024

Declaration

The information, reports, true copies of the supporting documents, numerical data, etc. related to the NAAC process furnished in this file is verified by IQAC and found correct. Hence this certificate.


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Ralegaon




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Ralegaon Dist. Yavatmal

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2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes

Department of Botany

POs, PSOs, COs

Programme Outcomes:

The students graduating with the degree B.Sc. with Botany will be able to PO1. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO2. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

PO3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

PO4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

Programme Specific Outcomes

Upon completion of the programme successfully, students would be able to

1. Identify major groups of plants and compare the characteristics of lower (microbes, algae, fungi, bryophytes and pteridophytes) and higher (Gymnosperms and angiosperms).
2. use evidence based comparative botany approach to explain the evolution of organism and understand the genetic diversity.
3. explain various plant processes and functions, metabolism, concepts of gene, genome and how organism's

function is influenced at the cell, tissue and organ level.

4. understand adaptation, development and behavior of different forms of life.

5. demonstrate the experimental techniques and methods of their area of specialization in Botany.

Course Outcomes

Course : Semester I: Diversity Of Microbes,Phycology,Mycology And Phytopathology

After completion of this course successfully, the students would be able to

1. **understand** microbial diversity, reproduction and economic importance.
2. **differentiate** the microbes, algae and fungi on the basis of morphology, cellular organization, nutrition and metabolic activities.
3. **classify** and **identify** the various algal genera.
4. **classify** and **identify** the various fungal genera.
5. **Systematize** the plant diseases and their pathogens
6. **Apply** understanding of microbial diversity, phycology and mycology for teaching primary to high school students

Course: Semester II :Bryophytes, Pteridophytes, Gymnosperms and Morphology of Angiosperms

After completion of this course successfully, the students would be able to-

1. Demonstrate an **understanding** of Archegoniate, Bryophytes, Pteridophytes and Gymnosperms, morphology of angiosperm and medicinal plants
2. **Identify** and **classify** plants from Bryophytes, Pteridophytes and Gymnosperms
3. Develop **critical thinking** on morphology, anatomy and reproduction of Bryophytes, Pteridophytes and Gymnosperms and on morphology of angiosperm.
4. Acquire **skill** of collection and preservation of Bryophytes, Pteridophytes and Gymnosperms.

Course : Semester III: Angiosperm Systematics, Anatomy, Embryology

After completion of this course successfully, the students would be able to

1. **Understand** the basic principles involved in identification, naming and classification of flowering plants.
2. **Know** the systematic study and economic importance of plants belonging to the various families.
3. **Differentiate** various tissue systems.
4. **Understand** the normal and anomalous secondary growth in plants and their causes.
5. **Understand** developmental stages in plant embryo and seed formation.
6. **Apply** understanding this knowledge to explain the taxonomic diversity of plants and Imply the embryological and anatomical knowledge to differentiate the plant taxa

Course : Semester IV: Cell Biology, Genetics and Plant Breeding

After completion of this course successfully, the students would be able to

1. **Understand** the structure and purpose of basic components of prokaryotic and eukaryotic cells.
2. **Identify** the concept that explains chemical composition and structure of cell wall and membrane
3. **Differentiate** cell organelles on the basis of structure and function.
4. **Comprehend** the effect of chromosomal abnormalities in numerical as well as structural changes.
5. Have **conceptual understanding** of laws of inheritance, genetic basis of loci, alleles, their linkage and crossing over.
6. **Understand** the basic concepts of plant breeding.

7. **Analyse** the different selection and breeding methods applied in crop improvement

Course : Semester V:Plant Physiology and Ecology.

COs:

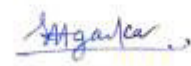
1. Students will be able to understand various aspects of plant physiology like plant water relation, photosynthesis, respiration, and metabolism
2. Students will understand the aspects of plant ecology like various factors and ecosystem composition and function.
3. Students will be able to design various experiments/ models on plant physiology and plant ecology.
4. Students will be able to understand various aspects of plant physiology like plant water relation, photosynthesis, respiration, and metabolism
5. Students will understand the aspects of plant ecology like various factors and ecosystem composition and function.
6. Students will be able to design various experiments/ models on plant physiology and plant ecology..

Course: Semester VI: Molecular biology and Biotechnology

- CO-1: Students will know .why DNA is the genetic material
- CO-2: Students will understand the Gene Structure and Expression
- CO-3: Students will know how Gene Expression is regulated
- CO-4: Students will learn techniques in Genetic Engineering
- CO-5: Students will learn Applications of plant biotechnology and Plant tissue culture


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Department of Physics

POs, PSOs, COs

Programme Outcome of Batchelor of Science (B.Sc.)

Programme: B.Sc. (Physics)

Programme Outcome:

At the time of graduation, Students would be able to

PO1.Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO2.Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

PO3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

PO4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Programme Specific Outcomes:

Upon completion of the programme successfully, the learners would be able to

PSO1. Acquire a comprehensive knowledge and sound understanding of fundamentals of Physics

PSO2. Develop laboratory skills, enabling them to take measurement in a physic laboratory and analyse the

measurements to draw valid conclusions.

PSO3. Be prepared to acquire a range of general skills, to solve problems, to evaluate information, to use

Computers productively, to communicate with society effectively and learn independently.

PSO4. Develop good oral and written scientific communication skill.

Course Outcomes (COs)

PHYSICS: B.Sc. I SEM-I

By the end of this course, the students would be able to:

CO 1. Discuss the basic concepts of rotational dynamics.

CO 2. Examine the phenomenon of simple harmonic motion and distinction between undamped, damped and force oscillations and the concept of resonance.

CO 3. Explain the superposition of simple harmonic motion and acquire the knowledge of Ultrasonic waves, their production, detection and applications in different field.

CO 4. Determine the constants of elasticity and relate it with appropriate things

CO 5. Interpret the postulates of special theory of relativity.

CO 6. Know the concept of Global positioning system (GPS)

.PHYSICS: B.Sc. I SEM-II

By the end of this course, the students would be able to:

CO 1. Discuss the concept of scalars & vectors and their properties.

CO 2. Develop an understanding of Gauss law and its applications to obtain electric field in different cases.

CO 3. Formulate the relationship between electric displacement vector, electric polarization and dielectric constant.

CO 4. Distinguish between the magnetic effect of electric current, electromagnetic induction and the related laws in appropriate circumstances.

CO 5. Simplify electrical circuits by applying various network theorems.

PHYSICS: B.Sc. II SEM-III

By the end of this course, the students will be able to:

CO 1. Gain knowledge of the fundamental laws of thermodynamics, concept of enthalpy, develop critical understanding of concept of thermodynamic potentials and formulation of Maxwell's thermodynamic relations with its applications.

CO 2. Understand the basic aspects of kinetic theory of gases, Maxwell's distribution law of velocities, Mean free path of molecular collisions and transport phenomena in ideal gases.

CO 3. Examine the nature of black body radiations and understand Stefan-Boltzmann's Law, Rayleigh-Jeans Law and Wien's displacement Law with their significance.

CO 4. Understand the properties of macroscopic systems using the knowledge of individual particles by different theories and comparison of Maxwell's-Boltzmann, Fermi-Dirac and Bose-Einstein statistics.

CO 5. Explain the fundamental understanding of static and dynamic behaviour of P-N junction diode, Zener diode, light emitting diode and Transistor.

CO 6. Understand concept of rectification, Ripple Factor and Filter Circuits and gain a knowledge of construction of Regulated Power supply.

CO 7. Explain the structure and the operations of transistor and recognize the different types of transistor and their applications.

PHYSICS: B.Sc. II SEM-IV

By the end of this course, the students will be able to:

CO 1. Understand the phenomenon of Interference of light and its formation in thin films, Newton's rings and Michelson interferometer (division of amplitude.)

CO 2. Distinguish between Fresnel and Fraunhofer diffraction and observe the diffraction patterns in case of double slit and diffraction grating.

CO 3. Describe the construction and working of zone plate and compare the zone plate with convex lens.

CO 4. Explain various methods of production of plane, circularly and elliptically polarized light and their detection.

CO 5. Comprehend the basic principle of LASER, the working of He-Ne laser and Ruby laser and their applications in various fields.

CO 6. Understand the parameters of fiber-optics and explore their applications.

CO 7. Understand the kinematics of moving fluid by different theorems and Laws.

CO 8. Gain Knowledge about different applications of transistor by operational amplifier and oscillator circuits.

PHYSICS: B.Sc. III SEM-V

By the completion of this course the student will be able to

CO1: Understand origin of quantum mechanics. Describe concept of wave packet, Davisson Germer experiment, Heisenberg's Uncertainty principle, Thought experiment and Gamma ray microscope.

CO2: Know the Schrodinger equation and its applications, Schrodinger time dependent and time independent equations, Eigen functions and Eigen values and qualitative analysis of zero point energy.

CO3: Understand vector atom model, Stern-Gerlach experiment and different types of coupling. Know the properties and types of X-ray, experimental arrangement for Raman Effect.

CO4: Know about detection of charge particles by using G. M. counter, concept of nuclear physics like, Alpha decay, Beta decay, Concept of nuclear fission and fusion and construction of nuclear reactor.

CO5: Understand hybrid parameter, CE amplifier, Bias stability, Thermal runaway, Noise and distortion in amplifier.

CO6: Know properties, advantage and applications of negative feedback. Describe the construction and working of various types of oscillators and multivibrators.

PHYSICS: B.Sc. III SEM-VI

By the completion of this course the student will be able to

CO1: Understand basic concept of statistical mechanics, principle of equal priori probabilities and Boltzman entropy relation, Maxwell-Boltzman statistics, Bose-Einstein statistics, Fermi-Dirac statistics and their applications.

CO2: Understood amorphous and crystalline solids, Diffraction of X-rays by crystals, Bragg's law, experimental determination of lattice parameters of NaCl crystal, Defects in solids.

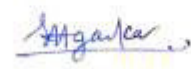
CO3: Explain free electron theory, density of states, concept of Fermi energy and Band structure.

CO4: Explain diamagnetic, Paramagnetic, ferromagnetic materials; Classical Langevin's theory of dia and paramagnetic domains, Curie's law, Weiss's law and hysteresis.

CO5: Understand superconductors and its type, Meissner effect, Applications of superconductors, Nanomaterials, effect of reduction of dimensions on physical properties, applications of nanomaterials in different fields.


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DEPARTMENT OF MATHEMATICS

Faculty: Science and Technology

Programme: B.Sc. (Mathematics)

Program Outcomes, Program Specific Outcomes and Course Outcomes

POs:

At the end of the programme, graduates would be able to

1. Enhance the knowledge of student in all basic sciences.
2. Identify, formulate and develop solutions to computational challenges.
3. Develop scientific temper and think in a critical manner.
4. Build up progressive and successful career in academics, industry and society.
5. Develop students' abilities and aptitudes to apply the mathematical ideas.

PSOs:

Upon completion of the programme successfully, students would be able to

1. Understand major concepts in all disciplines of Mathematics
2. Formulate and develop Mathematical arguments in a logical manner
3. Gain good knowledge and understanding in advanced Mathematics
4. Create an awareness of the impact of Mathematics on the environment, society and development outside the scientific community.
5. Create sensitivity towards environmental concerns and contribute in the development of nation.

Course Outcomes

B.Sc. I Semester –I

DSC-I / Mathematics

Algebra and Trigonometry

Cos: After completing this course, students would be able to

1. Find inverse and normal form of matrices.
2. Evaluate the characteristic equation, eigen value and corresponding eigen vector of a given matrix
3. Evaluate relation between the roots and coefficients of equations.
4. To study application of De Moivre's theorem.
5. Compute summation of trigonometric series.

SEM

COs: 1.To enhance interest among the students about course.

2. To develop the learning and writing skills.

3. To create mental ability.

B.Sc. I Semester –I

DSC-II / Mathematics

Differential and Integral Calculus

Cos: After completing this course, students would be able to

1. Define limit and study the basic properties.
2. Classify continuity and discontinuity of the functions.
3. Solve the differentiability and L'Hospital rule with their applications.

4. Describe the geometrical applications of mean value theorems.
5. Evaluate the reduction formulae for integration.

SEM

- COs: 1.To enhance interest among the students about course.
2. To develop the learning and writing skills.
 3. To create mental ability.

B.Sc. I Semester –II

DSC-III / Mathematics

Ordinary Differential Equations

COs: After completing this course, students would be able to

1. Solve first order differential equations using different techniques..
2. Solve higher order differential equations and orthogonal trajectories.
3. calculate complementary function and particular integral of the second order differential Equation.
4. Describe the different methods to solve second order differential equations.
5. Illustrate applications of differential equations.

SEM

- COs: 1.To enhance interest among the students about course.
2. To develop the learning and writing skills.
 3. To create mental ability.

B.Sc. I Semester –II

DSC –IV/ Mathematics

Vector Analysis and Geometry

COs: After completing this course, students would be able to

1. Interpret the vectors, their products, differentiation and integration.
2. Determine curvature and torsion.
3. Apply the concepts of divergence, curls which are useful in physics.
4. Describe the different forms of sphere and properties.
5. Discuss the equations of cone and cylinder.

SEM

- COs: 1.to enhance interest among the students about course.
2. To develop the learning and writing skills.
 3. To create mental ability.

GIC/ Mathematics

Numerical Ability-I

COs: After completing this course, students would be able to

1. Restate the ideas and concept of HCF & LCM of number and also find square root & cube roots.
2. Illustrate the problem on numbers, ages, percentage, and profit and loss.
3. Analyse ratio and proportion, time, work and distance.
4. Outline the problems on train, simple interest, compound interest, area measurement.
5. Create the Bar graphs, Pie charts and Line graphs.

B.Sc. II Semester –III

DSC-V / Mathematics

Advanced Calculus

Cos: After completing this course, students would be able to

1. Get knowledge of basic principles of limit and continuity, Taylor's theorem.
2. Understand Lagrange's multipliers method and Jacobian.
3. Understand the concept of improper integral and Beta-Gamma function.
4. Learn the definition of sequence and series and Sandwich theorem.
5. Learn various tests for convergence and divergence of series.

SEM

COs: 1.to enhance interest among the students about course.

2. To develop the learning and writing skills.
3. To create mental ability.

B.Sc. II Semester –III

DSC-VI / Mathematics

Partial Differential Equations

Cos: After completing this course, students would be able to

1. Study partial derivatives, differential equation, real valued functions of two variables and solve the system of homogeneous functions.
2. Learn to evaluate partial differential equations, solution of some special type of equations
3. Learn to solve methods of partial differential equation of second and higher order.
4. Students will be familiar with techniques of Calculus of variations.
5. Recognize various methods of separation of variables.

SEM

COs: 1.to enhance interest among the students about course.

2. To develop the learning and writing skills.
3. To create mental ability.

B.Sc. II Semester –IV

DSC-VII / Mathematics

Elements of Algebra

COs: After completing this course, students would be able to

1. Learn the concept of Group, Subgroup and Cosets.
2. Explain the significance of the notations of Cosets, Normal subgroups and Quotient group.
3. Learn the concept of Homomorphism & Isomorphism and its Theorem.
4. Study the properties of Ring and Ideals and Integral domain.
5. Familiar with Fundamental concepts of Number theory.

SEM

COs: 1.to enhance interest among the students about course.

2. To develop the learning and writing skills.
3. To create mental ability.

B.Sc. II Semester –IV

DSC –VIII / Mathematics Classical Mechanics

COs:

After completing this course, students would be able to

1. learn radial and transverse component of velocities and acceleration.
2. learn to explain Degree of freedom, Generalized co-ordinates and constraints.
3. learn to expressing the central force motion and areal velocity.
4. explain the significance of coplanar forces, triangle law of forces, parallel forces and equilibrium forces.
5. learn to find work and energy, virtual work and uniform catenary.

SEM

COs: 1.to enhance interest among the students about course.

2. To develop the learning and writing skills.

3. To create mental ability.


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Department of Chemistry

POs, PSOs, COs

Programme Outcomes

Programme outcomes (POs)

At the time of graduation, Students would be able to

PO 1. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO 2. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

PO 3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings

PO 4. Effective Citizenship: Demonstrate empathetic social concern and equity-centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO 5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO 6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

PO 7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

Course Outcomes

Course : Semester I:

By the end of this course, the students would be able to:

CO 1. Solve the conceptual questions using the knowledge gained by studying periodicity in atomic radii, ionic radii, ionization energy and electron affinity of elements.

CO 2. Apply concepts of acids and bases as well as non-aqueous solvents and their industrial usage.

CO 3. Compare different reaction intermediates, functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanism.

CO 4. Choose correct synthetic approach to prepare derivatives of industrially important molecules

CO 5. Solve different numerical problem of varying difficulty associated with gaseous and liquid state.

CO 6. Apply the concepts from advanced mathematics to solve the derivation of different chemical formulae.

Course: Semester II :

By the end of this course, the students would be able to:

CO 1. Apply the knowledge gained by studying types of bonding, solvation, hybridization and molecular geometries.

CO 2. Draw the correct molecular structures, bond order and bond length.

CO 3. Synthesize commercially important compounds of varying carbon backbone

CO 4. Choose correct synthetic approach to prepare derivatives of industrially important molecules.

CO 5. Solve numerical problems related to crystalline state. 6. Acquire skills to use chemical kinetics to develop mechanism of chemical reactions.

Course : Semester III:

By the end of this course, the students would be able to:

CO 1. Apply concepts of volumetric and gravimetric analysis

CO 2. Use commercial method for extraction of elements and acquaintance of transition series elements

CO 3. Compare functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanisms

CO 4. Select correct synthetic approach to prepare derivatives of industrially important molecules

CO 5. solve different numerical problems of varying difficulty associated with thermodynamics, phase equilibrium and colligative properties.

CO 6. Apply the concepts from advanced mathematics to solve the derivation of different chemical formulae.

Course : Semester IV:

By the end of this course, the students would be able to:

CO 1. Application of methods of synthesis of soaps and detergents

CO 2. Commercial method for extraction of elements and acquaintance of transition series elements

CO 3. Compare functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanism.

CO 4. Choose correct synthetic approach to prepare derivatives of industrially important molecules

CO 5. Solve different numerical problem of varying difficulty associated with electrochemistry and photochemistry.

CO 6. Apply the concepts of UV and IR spectroscopy for structure elucidation.

Course : Semester V:

By the end of this course, the students would be able to:

CO 1. Application of methods of synthesis of soaps and detergents

CO 2. Commercial method for extraction of elements and acquaintance of transition series elements

CO 3. Compare functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanism.

CO 4. Choose correct synthetic approach to prepare derivatives of industrially important molecules

CO 5. Solve different numerical problem of varying difficulty associated with electrochemistry and photochemistry.

CO 6. Apply the concepts of UV and IR spectroscopy for structure elucidation.

Course: Semester VI:

By the end of this course, the students would be able to

CO 1. Understand thermodynamic and kinetic stability of complexes and geometry of complexes. Know about spectrophotometric technique for determination of concentration of metal ion. Define and classify chromatographic techniques.

CO 2. Know basics of organometallic chemistry, inorganic polymers and bio-inorganic chemistry.

CO 3. Identify structure of compound by use of electronic spectroscopy and infrared spectroscopy and know how to interpret spectra.

CO 4. Understand the phenomena of Nuclear Magnetic Resonance spectroscopy and mass spectrometry.

CO 5. Understand limitation of classical mechanics at molecular length scales and difference between classical and quantum mechanics.

CO 6. Identify inter conversions of chemical energy and electrical energy by knowing electrochemistry and application of radio isotopes in industry, agriculture, medicine & biosciences


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Department of Zoology

POs, PSOs, COs

Programme Outcomes (POs) :Bachelor of Science

- 1: To introduce the student with basic fundamentals in science and technology.
- 2: To enrich student's knowledge in all basic science.
- 3: To develop interdisciplinary approach among students.
- 4: To inculcate sense of science of scientific responsibilities and social and environmental awareness.
- 5: To help students to build up a progressive and successful career in academics.
- 6: To motivate the students to contribute in the development of nation.

Programme Specific Outcomes (PSOs)

By the end of the programme, Students would be able to

1. Develop a deeper sense with respect to phylum Protozoa to Echinodermata relation to taxonomy, classification, body organization and general characteristics this strengthens students' capability in basic zoology.
2. grasp various the Systematic positions from Protozoa to Echinodermata their pathogenicity and its epidemiology.
3. describe unique characters and recognize life functions of Protozoa, Porifera, Coelenterate, Helminthes, Arthropoda, Annelida, Mollusca and Echinodermata. Improve ability and apply Knowledge of Nonchordates for its execution in Agriculture especially with the phylum Arthropoda.
4. Implement an extensive idea about economic and ecological significance of various non-chordates phylum's in human life

COURSE :SEMESTER I

By the end of this course, the students would be able to:

1. Develop a deeper sense with respect to phylum Protozoa to Echinodermata relation to taxonomy, classification, body organization and general characteristics this strengthens students' capability in basic zoology.
2. grasp various the Systematic positions from Protozoa to Echinodermata their pathogenicity and its epidemiology.
3. describe unique characters and recognize life functions of Protozoa, Porifera, Coelenterate, Helminthes, Arthropoda, Annelida, Mollusca and Echinodermata.
4. Improve ability and apply Knowledge of Non-chordates for its execution in Agriculture especially with the phylum Arthropoda.
5. Implement an extensive idea about economic and ecological significance of various non-chordates phylum's in human life.

COURSE :SEMESTER II

Upon completion of this course successfully, students would be able to

1. Know what the chordates are.
2. Learn about the different phylum of chordates.
3. Confidently explain the general characters and classification of Protochordates upto class Mammalia.
4. Understand the level of organization in chordate.
5. Explain the origin and evolutionary relationship in different subphylums of chordates.
6. Describe specific features of Protochordates upto class Mammalia.
7. Recognize and differentiate life functions of Protochordates upto class Mammalia.
8. Understand Migration in fishes and birds, parental care in Amphibians and Poisonous and non-poisonous snakes.
9. Explain the adaptations in Birds and Mammals

COURSE :SEMESTER III

Upon completion of this course successfully, students would be able to

1. Describe the structure and function of cellular organelles.
2. Describe various mode of cellular transport.
3. Compare active transport with passive transport.
4. Describe structure of chromosomes.
5. Differentiate between various types of chromosomes.
6. Define the basic concept of developmental biology, cell division, embryogenesis and emergence of adult organisms.

Describe zygote formation and different stages of embryonic development in frog and chick

COURSE : SEMSTER IV

Upon completion of this course successfully, students would be able to

1. Describe Mendel's Laws of Inheritance.
2. Differentiate between a monohybrid and a dihybrid cross.
3. Deduce the type of gene interaction from ratio of offspring.
4. Describe linkage and crossing over.
5. Describe various modes of sex determination.
6. Identify the type of syndrome from karyotype.
7. Describe various prenatal diagnostic techniques.
8. Describe effects of water, temperature and light as ecological factors.
9. Identify the type of biotic interaction from given example.
10. Describe components of ecosystem and structure of terrestrial and marine ecosystem.

COURSE : SEMESTER V- ANIMAL PHYSIOLOGY

1. Students will Understand the Animal Physiology.

2. Students will understand the interrelation of systems with their environment.
3. Students will Understand the applications of biological science in Apiculture, Aquaculture, Agriculture fishery, poultry, mixed pisciculture and Medicine
4. Students will understand the role of beneficial and harmful insects.
- 5.They can also take up subject like rearing different animals that are inter-dependent on each other for food “Integrated Animal Farming”.

COURSE: SEMESTER VI-MOLECULAR BIOLOGY AND BIOTECHNOLOGY

1. Students will Understand the DNA as genetic Material.
- 2: Their syllabus also equips them in the fields of Molecular Biology and Biotechnology.
- 3.They will understand Genetic engineering techniques.
- 4: The student can join NGO that works for public health awareness, regarding awareness of disease spread by virus, bacteria etc.
- 5: They can appear examination like IFS (Indian Forest Service) or any equivalent exam where bachelor's degree B.Sc. or B.Sc. Honor's is the qualification required


Co-ordinator
Internal Quality Assurance Cell
Indira Gandhi Kala Mahavidyalaya
Ralegaon




PRINCIPAL
Indira Gandhi Kala Mahavidyalaya
Ralegaon Dist. Yavatmal



Late Chindhuji Laxmanrao Purke Shikshan Prasarak Mandal's Yavatmal

Indira Gandhi Kala Mahavidyalaya, Ralegaon

Affiliated To Sant Gadge Baba Amravati University, Amravati

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Quote

» उठा, जागे व्हा, आणि ध्येय साध्य
होईपर्यंत थांबू नका.

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