

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA**

**Program Specific outcome (PSO) [Faculty of Science and Home Science]**

| <b>Level/ Program</b> | <b>Subject/ Department</b> | <b>Specific outcome (Students will be able to.....)</b>  |
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| <b>UG</b>             | <b>Botany</b>              | PSO1: Get knowledge about the lower plant groups, their diversity & Utility  |
|                       |                            | PSO2: Get experience to identify the higher plants, their modification and utility.  |
|                       |                            | PSO3: Learn about the basic cell biology, biochemistry and genetics.   |
|                       |                            | PSO4: Have insight on fundamental physiological and ecological processes   |
|                       |                            | PSO5: Get information about the basic molecular and biotechnological aspects.  |
|                       |                            | PSO6: Get acquainted with some basic techniques of classical botany, physiology, ecology and biotechnology.  |
| <b>PG</b>             | <b>Botany</b>              | PSO1: Get complete insight about the lower plants, their diversity, ecological importance and economic utility   |
|                       |                            | PSO2: Learn fundamental and applied concept of cytology, genetics and molecular biology along with practical demonstrations.   |
|                       |                            | PSO3: Get knowledge about the higher plants, their taxonomic identification, plant identification in natural habitats and their evolution.   |
|                       |                            | PSO4: Learn fundamental physiological and metabolic processes and their implications.  |
|                       |                            | PSO5: Learn the role of genetics and plant breeding in agriculture.  |
|                       |                            | PSO6: Get insight on role of microbe in agriculture & industry, plant diseases and disease control.  |
|                       |                            | PSO7: Also get acquainted with some techniques like- <ul style="list-style-type: none"> <li>- Taxonomic identification of plant</li> <li>- Mushroom cultivation and Vermicomposting</li> <li>- TLC, HPTLC, HPLC</li> </ul> |

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|           |                      | - Spectrophotometry, electrophoresis, PCR.  |
| <b>UG</b> | <b>Biotechnology</b> | PSO1: Understand the fundamentals of microbial world and their applications.  |
|           |                      | PSO2: Get knowledge about various biophysical and biochemical methods.  |
|           |                      | PSO3: Acquire knowledge about basics of molecular biology and biochemistry  |
|           |                      | PSO4: Get theoretical knowledge and practical demonstration of fundamental animal and plant tissue culture.   |
| <b>UG</b> | <b>Biochemistry</b>  | PSO1: Students will get complete insight of the subject.  |
|           |                      | PSO2: Students will be well verse with the handling of different lab instruments and technics, like centrifuge machine, spectrophotometer, electrophoresis, paper chromatography, ELIZA, PCR etc. |
|           |                      | PSO3: The students will also acquire some transferable skills like, analysis, presentation, interpretation, time management and problem solving.  |
| <b>PG</b> | <b>Biochemistry</b>  | PSO1:After completion of Masters degree in biochemistry, students will have complete insight of the subject.  |
|           |                      | PSO2: Students will learn different biochemical methods with hands on lab training.   |
|           |                      | PSO3: Students will learn different transferable skills.  |
|           |                      | PSO4: Students will have knowledge about the fundamental and advanced biochemical aspects of plant and animal biochemistry.   |
|           |                      | PSO5: On the basis of the knowledge, skills and techniques, student can opt the job as biochemists in various firms.  |
| <b>UG</b> | <b>Chemistry</b>     | PSO1: The students will have fundamental and in depth knowledge about the Chemistry.  |
|           |                      | PSO2: With this the students can opt the job in chemical and pharmaceutical industry.   |
|           |                      | PSO3: The students can also work as lab technician with precise handling and processing of chemicals.   |

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|           |                         | PSO4: The students can also explore their knowledge by opting higher education in the subject to make even more promising career.  |
| <b>PG</b> | <b>Chemistry</b>        | PSO1: The students have in depth insight of the subject with different specializations.  |
|           |                         | PSO2: After completion of Masters in Chemistry, student may join to chemical industries dealing with Agrochemicals, Metallurgical, Petrochemicals, Pharmaceuticals, Plastics and polymers, Toiletries, Food and Drink, Health and Medical etc. Also organic chemistry students may have chance to join oil and gas industries. |
|           |                         | PSO3: With masters in chemistry, students may go in research and development sector.   |
|           |                         | PSO4: After completion of M. Sc. in chemistry, students may go to higher study like Ph. D. or may appear to NET/ SET/ GATE and join as Assistant Professor or researcher in various R & D institutions.  |
| <b>UG</b> | <b>Computer Science</b> | PSO1: Students understand the fundamentals of computers, basic algorithms, processing and programming.   |
|           |                         | PSO2: Learn how the hardware components work in coordination.  |
|           |                         | PSO3: Understand the basics of Information technology  |
|           |                         | PSO4: Learn about internet, web page, data processing and cloud computing.   |
|           |                         | PSO5: The students become able to work independent as hardware repair.   |
| <b>PG</b> | <b>Computer Science</b> | PSO1: The student have complete insight of computer science and Information technology including fundamentals of CS and IT, algorithms, processing and programming.  |
|           |                         | PSO2: Have knowledge about hardware coordination and software applications   |
|           |                         | PSO3: Develop skills require to academics and professional CS and IT sector  |
|           |                         | PSO4: With the knowledge, the student could gain the jobs in IT industry as software or hardware engineer, software designer etc.  |
| <b>UG</b> | <b>Electronics</b>      | PSO1: The students get complete insight of electronics as subject.   |
|           |                         | PSO2: Students learn different types of electrical circuit designs, processing and operation.  |
|           |                         | PSO3: Understand the modeling of different circuits as per requirement.  |

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|           |                         | PSO4: Could find the position as free lancer or employee in electronic kit production or design industries.                                 |
| <b>UG</b> | <b>Forensic Science</b> | PSO1: Students gain fundamental knowledge of forensic science as a subject  |
|           |                         | PSO2: Students learn different types of evidences and their examinations.   |
|           |                         | PSO3: Students also develop different types of laboratory skills to examine different types of evidences found in crime scene.              |
|           |                         | PSO4: Could find position as technical expert or technician in forensic laboratories.   |
| <b>UG</b> | <b>Geology</b>          | PSO1: The students have overview regarding the earth science and problem solving ability related to geology.                                |
|           |                         | PSO2: Students able to identify different types of rocks, minerals and basics of petrology.   |
|           |                         | PSO3: Students may develop expertise in identification of potential ground water zones.   |
|           |                         | PSO4: The student could apply the knowledge of subject in soil and water management.  |
| <b>PG</b> | <b>Geoinformatics</b>   | PSO1: Understanding the space and time concept in regards to earth and environment  |
|           |                         | PSO2: Understanding the basics of computer and Geoinformatics   |
|           |                         | PSO3: Learning cartography techniques and map projection system   |
|           |                         | PSO4: Learn Global Navigation Satellite System  |
|           |                         | PSO5: Learn digital image processing and Modelling the solution according to real world problems  |
| <b>UG</b> | <b>Microbiology</b>     | PSO1: Perform the basic techniques related to screening, isolation and cultivation of microorganisms from various sources                   |
|           |                         | PSO2: Follow the aseptic techniques and conduct the process of sterilization as well as perform the techniques to control the microorganism |
|           |                         | PSO3: Understand microorganisms and their relationship with the environment,  |
|           |                         | PSO4: Produce and analyze the microbial products at laboratory level  |
|           |                         | PSO5: Can opt the job as lab technician.  |

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| <b>PG</b> | <b>Microbiology</b> | PSO1: Students develop intellectual skills to analyze the molecules using advance biophysical techniques such as HPLC, GC, AAS, PCR etc. □ □ □ □ □       |
|           |                     | PSO2: Perform the quantitative/ qualitative analysis of Biomolecules and understand various biochemical pathways   |
|           |                     | PSO3: Acquire knowledge and understanding the concepts of Microbial genetics, Molecular biology, Immunology, Enzymology.                                 |
|           |                     | PSO4: Explore the scientific literature effectively and use computational tools such as biostatistical and bioinformatics                                |
|           |                     | PSO5: Implement the knowledge in industry with regard to scale up, production, scale down and quality control of the various microbial products.         |
|           |                     | PSO6: Students could join as technician, as researcher, production or quality control in various related industrial sectors.                             |
| <b>UG</b> | <b>Mathematics</b>  | PSO1: Students develop ability to calculate and reason to design complex and critical financial models for Bank and Insurance Companies.                 |
|           |                     | PSO2: Students understand both concrete and abstract problems.   |
|           |                     | PSO3: Have ability to make critical observations.  |
|           |                     | PSO4: Become able to accurately organize, analyze and interpret data.  |
|           |                     | PSO5: Develop the mathematical logic which is very useful for solving mathematical reasoning problems. Could find jobs in related firms as data analyst. |
| <b>PG</b> | <b>Mathematics</b>  | PSO1: After completion of masters in Maths, students have complete insight of the subject  |
|           |                     | PSO2: Students develop habit of problem solving  |
|           |                     | PSO3: Students learn the methods of real analysis  |
|           |                     | PSO4: Could make a career as academician, researcher or free lancer in R & D or academics.   |
| <b>UG</b> | <b>Physics</b>      | PSO1: The students had complete understanding of physics as subject and its applications.  |

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|           |                   | PSO2: The knowledge of the subject with other combinational subject has option to go for higher studies in the subject. |
|           |                   | PSO3: The student can apply to various related sectors as lab technician or technical experts.                          |
| <b>PG</b> | <b>Physics</b>    | PSO1: Students able to identify and describe the physical system as per their subject knowledge                         |
|           |                   | PSO2: Students have complete insight on different fundamental and applied aspects of Physics.                           |
|           |                   | PSO3: Students develop scientific temper, ability and skills to tackle the problems of theoretic or practical nature.   |
|           |                   | PSO4: Become able to face the examination related to physical sciences, nuclear sciences etc.                           |
|           |                   | PSO5: Find jobs in various industries as technical experts of different instruments.                                    |
| <b>UG</b> | <b>Statistics</b> | PSO1: Students have basic and applied knowledge of statistics with applicability.                                       |
|           |                   | PSO2: Understand role of statistics in science, society and national development.                                       |
|           |                   | PSO3: Could serve as data analyst in various Social/ scientific institutions.   |
|           |                   | PSO4: Could serve as research assistant with theoretical, practical and computational skills.                           |
| <b>UG</b> | <b>Zoology</b>    | PSO1: . Students gain knowledge about criteria for animal classification.   |
|           |                   | PSO2: Study of salient features of chordates and non-chordates.   |
|           |                   | PSO3: Improving the knowledge of animals about their special adaptations and evolutionary relationship.                 |
|           |                   | PSO4: Scientific study of their nature of habitant with environment.  |
|           |                   | PSO5: Could find job as technician or Assistant in ZSI and allied firms.  |
| <b>PG</b> | <b>Zoology</b>    | PSO1: Students had complete insight of the subject as one component of life science.                                    |
|           |                   | PSO2: Acquire different laboratory techniques and transferable skills during the masters in the subject.                |
|           |                   | PSO3: Gain insight about the role of different organisms in balancing the environment.                                  |

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|  |  | PSO4: Learn the different advance aspects related to r-DNA technology, Animal biotechnology and their scientific applications.   |
|  |  | PSO5: Become eligible to face different competitive exams in life sciences like NET/ SET /GATE and could work as researcher of professional in related national firms. |