**Program specific Outcome PSO**

**B.Sc. Environmental Science**

 Students of B.Sc. Environmental Science after completing the course would be having insight about the connection and implications of seemingly disconnected phenomena, enlightening to the consequence of our action such as effect of technology on the destruction of the natural resources and the ecosystem and what we can do to reverse some of these destructive forces and heal the environmental saving ourselves in the process. Students will be able to understand the basics of the subject with following specific points -

* Concept of environment and biosphere
* Basic idea of environmental microbiology
* Various types of environmental pollution
* Concept of environmental management
* Concept of biostatistics and ecology
* Basic idea about environmental resource

**B.Sc. I Year : Paper-I : Env. Science**

**Course outcome Co-Environmental Concept**

Co 1 Students will be able to have a clear idea and concept of environment.

Co 2 Students will understand the basics of atmosphere and its properties.

Co 3 Students will understand the basics of hydrosphere and its properties.

Co 4 Students will get an idea about the lithosphere, fertility and soil erosion.

Co 5 Students will have information about environmental degradation.

Co 6 Students will have an idea about green house effect population explosion and its consequences.

**B.Sc. I Year : Paper-II : Env. Science**

**CO-Environmental Microbiology**

Co 1 Students will understand the microbial concepts, elementary knowledge about viruses.

Co 2 Students will be able to know about bacteria and their economic importance.

Co 3 Students will get an idea about cyanobacteria and fungi.

Co 4 Student will be able to know about human diseases, about AIDS, cholera etc.

Co 5 Students will understand the basics of various plant diseases.

Co 6 Students will know about microbial associations.

**B.Sc. III Semester : Env. Science**

**CO-Environmental Pollution**

Co 1 Students will be able to know detailed concepts of Air Pollution.

Co 2 Students will get the various concept related to water pollution.

Co 3 Students will have the idea about control measures of water pollution including treatment plants.

Co 4 Students will get the idea about the solid wastes and its management.

Co 5 Students will get the details about the noise-pollution and environmental legislations.

**B.Sc. IV Semester : Env. Science**

**CO-Plant life, Physiology & Environmental Management**

Co 1 Students will be able to get details about vascular and non vascular plants.

Co 2 Students will understand the ethnobotany and water absorption procedures in plants.

Co 3 Students will get detailed description about photosynthesis & respiration.

Co 4 Student will have basic concept and approaches about environment education and environment education.

Co 5 Student will get the idea about International Organization and their functions about Environmental Management.

**B.Sc. V Semester : Env. Science**

**CO-Ecology & Biostatistics**

Co 1 Students will get details about types of Ecosystem and Biogeochemical cycles.

Co 2 Students will get an idea about limiting factors as light, wind, topography and biotic factors etc.

Co 3 Students will be able to understand about weathering of rocks and soil profile.

Co 4 Students will understand the details about hydrophytes, xerophytes and epiphytes.

Co 5 Students will be able to understand basics of biostatistics and its procedures.

**B.Sc. VI Semester : Env. Science**

**CO-Environmental Resources & Biochemistry**

Co 1 Students will understand the concept of resource and consequences of over exploitation.

Co 2 Students will be able to know about forest resources and improvement in the quality of plants.

Co 3 Students will understand and have details about biodiversity and wild life conservation measures.

Co 4 Students will get basic idea about biochemistry and functional groups.

Co 5 Students understand the biological significance of molecules like carbohydrates, proteins and lipids.

**PSO : M.Sc. Environmental Science**

 Environmental Science referred to as an inter disciplinary field because it incorporates information and idea from multiple disciplines within the natural sciences such fields as Biology, Chemistry and Geology are included in Environmental Science, it also include fields from Social Science and humanities. The student will be able to understand the environment and the sciences applied to it, find solution to different environmental issues, so that children of tomorrow will still enjoy the healthy and productive environment we still have now. Students completing the post graduation in Environmental Science would be having a better idea regarding the various environmental problems, possible impact and solution.

 The basic aim of the course is to prepare professional environmentalists to safeguard the environment for the coming generation. The students will be able to develop an understanding about various environmental concepts, environmental problem their impacts and will also develop the insight to overcome these environmental problems.

 The students will be able to understand –

* Environmental concept including community and ecosystem.
* Detailed knowledge about environmental pollution and their control methodologies.
* Detailed understanding about environmental microbiology, Habitat ecology and Population ecology. They will also have the idea about environmental biotechnology.
* The students will be able to analyze the environmental datas with the help of various biostatistical techniques.
* Students will be having clear understanding about environmental resource, environmental impact assessment and community health.
* Students will have the knowledge of environmental audit and environmental management.
* With this course, students will be transformed into a professional environmental scientist for the welfare of mankind.

**M.Sc. I Semester : Paper-I**

**CO – Community and Ecosystem Concept**

Co 1 Students will be able to know the basic concept of ecology, ecosystem and community.

Co 2 Students will get the details about Niche concept and Species diversity.

Co 3 Students will understand the concept of evolution of ecosystem.

Co 4 Students will be able to understand the concept of succession.

Co 5 Students will have a detailed idea about energy flow and productivity in any ecosystem.

**M.Sc. I Semester : Paper-II**

**CO – Ecological factors & Biome**

Co 1 Students will understand the concept of limiting factors in detail.

Co 2 Students will be able to know about various ecological factors.

Co 3 Students will know about Pedogenesis.

Co 4 Students will get the details about soil types and their conservation.

Co 5 Students will have an idea about biomes of the world.

**M.Sc. I Semester : Paper-III**

**CO – Environmental Pollution-I**

Co 1 Students will get detailed idea about air pollution and its control measures.

Co 2 Students will understand the air quality monitoring and Global pollution problems.

Co 3 Students will have an insight about water pollution and its treatment.

Co 4 Students will get detailed information about water quality standards and indexes.

Co 5 Students understand the process of solid waste management.

**M.Sc. I Semester : Paper-IV**

**CO – Environmental Microbiology**

Co 1 Students will have insight about the microbial classification.

Co 2 Students will get an idea about air microbiology.

Co 3 Students will have understanding about soil microorganisms.

Co 4 Students will develop an understanding about interaction and biological nitrogen fixation.

Co 5 Students will get knowledge about water purification and water borne diseases.

**M.Sc. II Semester : Paper-I**

**CO – Habitat Ecology**

Co 1 Students will get detailed account on biogeochemical cycles.

Co 2 Students will have an idea about fresh water environment and aquatic adaptations.

Co 3 Students will get an insight about marine environment.

Co 4 Students will be able to know about terrestrial ecosystem.

Co 5 Students will develop an understanding about Xerophytic adaptations.

**M.Sc. II Semester : Paper-II**

**CO – Population Ecology**

Co 1 Students will have an idea about population characteristics.

Co 2 Students will be able to know about positive and negative interactions.

Co 3 Student will develop understanding about population genetics.

Co 4 Student will have insight about co evolution.

Co 5 Systems ecology will help in analyzing various system.

**M.Sc. II Semester : Paper-III**

**CO – Environmental Pollution-II**

Co 1 Students will be able to know about noise pollution, thermal and Marine pollution.

Co 2 Students will develop an insight about biomedical waste and pesticides.

Co 3 Students will have insight about Toxicology and carcinogenesis.

Co 4 Students will have an idea about plastic, polymer and removal of pollutants from waste water.

Co 5 Students will be able to understand the instrumental methods of analysis.

**M.Sc. II Semester : Paper-IV**

**CO – Environmental Microbiology Part II & Biotechnology**

Co 1 Students will get an idea about food microbiology.

Co 2 Students will have an insight about protein synthesis.

Co 3 Students will get detailed information about biotechnological techniques.

Co 4 Students will get basic idea about plant and animal cell culture.

Co 5 Students will be above to apply biotechnology in Pollution Control.

**M.Sc. III Semester : Paper-I**

**CO – Biostatistics–I**

Co 1 Students will get an idea about various sampling procedure.

Co 2 Students will be able to understand about the survey procedures and collection of data.

Co 3 Students will know about the classification and tabulation of data and presentation of data.

Co 4 Students will be able to know about various measures of central tendency.

Co 5 Students will have insight about various measures of dispersion.

**M.Sc. III Semester : Paper-II**

**CO – Environment Resources and Agriculture Development**

Co 1 Students will have an idea of various types of resource and their classification.

Co 2 Students will be able to know about various type of conventional and non conventional energy resources.

Co 3 Students will get detailed knowledge about mineral resources.

Co 4 Students will have knowledge about forest resources.

Co 5 Students will develop insight about climate change and agriculture.

**M.Sc. III Semester : Paper-III**

**CO – Environmental Impact Assessment & Community Health**

Co 1 Students will have an idea about EIA.

Co 2 Students will be able to know how to write EIA.

Co 3 Student will understand how to predict impact of developmental activities with the help of case studies.

Co 4 Students will have an idea about the concept of health and disease.

Co 5 Students will get the understanding about occupational health hazard and their prevention.

**M.Sc. III Semester : Paper-IV**

**CO – Environmental Management**

Co 1 Students will get general idea about remote sensing and its techniques.

Co 2 Students will be able to learn the application of remote sensing in Environmental Management.

Co 3 Students will have an idea about biodiversity.

Co 4 Students will learn various measures of conservation of biodiversity.

Co 5 Students will have the detailed knowledge about environmental education program in India.

**M.Sc. IV Semester : Paper-I**

**CO – Biostatistics-II**

Co 1 Students will have an idea about probability distribution and various theorems.

Co 2 Students will learn about hypothesis testing.

Co 3 Students will be able to know about correlation and regression analysis.

Co 4 Students will understand the technique chi square and ANOVA.

Co 5 Students will have clear vision about Vital statistics .

**M.Sc. IV Semester : Paper-II**

**CO – Environmental Resources & Human Population**

Co 1 Students will be able to learn about population as resource.

Co 2 Students will have an idea about wildlife and their conservation.

Co 3 Student will learn about various conservation techniques.

Co 4 Students will develop an insight about urbanization and its impact.

Co 5 Students will understand about Natural environmental hazards.

**M.Sc. IV Semester : Paper-III**

**CO – Environmental Management**

Co 1 Students will be able to learn about various legislation- Air & Water Act.

Co 2 Students will learn about different Environmental Protection Act.

Co 3 Students will develop an insight about Conservation and Management of Ecological resources.

Co 4 Students will understand the concept of sustainable development and environmental priorities in India.

Co 5 Students will learn about the utilization of waste, especially agriculture waste and fly ash.

**M.Sc. IV Semester : Paper-IV**

**CO –Plants in Human Welfare, Ecotourism & Environmental audit**

Co 1 Students will learn about plants in Mythology.

Co 2 Students will have an idea about afforestation & Social forestry.

Co 3 Students will be able to know about the plant used in various systems of medicine.

Co 4 Students will be able to know the concept of environmental audit & its methodology.

Co 5 Students will learn about tourism along with positive and negative impact of tourism.