

Bharat Singh Rawat Rajkiya Mahavidyalaya, Rikhnikhhal (Pauri Garhwal)

B.Sc Botany

Programme Specific Outcome

PSO 1:- Understand the basic structure and reproduction of microorganism i.e. bacteria, virus and Mycoplasma. Lichen life cycle, physiology and economic importance.

PSO 2:- Understand the basic concept of fungi, their classification, life cycle, pathology and comparative study of some genera and economic importance.

PSO 3:- Understand the basic concept of Algae, their classification, thallus organization, types of life cycle, ecology and economic importance.

PSO 4:- Understand the basic concept of Bryophytes, their classification, comparative study of some genera, alternation of generation and economic importance.

PSO 5:- Understand the life cycle of pteridophytes, their classification and comparative study of some genera.

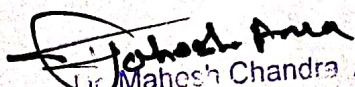
PSO 6:- Understand the life cycle of gymnosperm, their classification, their distribution in India and economic importance. Understand the general concept of fossil and fossilization and geological era.


PSO 7:- Understand the general account of angiosperms like origin and nomenclature. Knowledge of taxonomy of angiospermic families and their system of classification. Basic concept of Herbarium and Museum, Botanical gardens and Herbaria, Botanical Survey of India (BSI). General account of economically important angiospermic plants, their origin and uses.

PSO 8:- Understand the basic concept of plant anatomy and basic structure of xylem, phloem and secretory tissues.

PSO 9:- Understand the basic embryology of plants i.e. microsporogenesis, megasporogenesis, male and female gametophyte development, endosperm and embryo development. Basic understanding of physiology of flowering and plant hormone.

PSO 10:- Understand the basic concept of ecology i.e. ecosystem, population ecology and community ecology. Basic knowledge about the biodiversity, their losses and conservation. Understand the general account of remote sensing and its role in ecology.


Dr. Mahesh Chandra Arya
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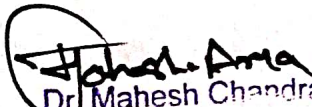
PSO 11:- Understand the basic concept of cell, cell organelles, cell division and chromosome. Study about basic idea about Mendel's law and their application.


PSO 12:- Understand the basic molecular structure of cell like DNA, RNA and Protein. Study about basic knowledge of biotechnology and their tools and techniques. Learn basic concept of tissue culture.

PSO 13:- Understand the basic concept of plant physiology like diffusion, permeability, plasmolysis, imbibition, water potential and osmotic potential. Learn basic knowledge of translocation of solutes, structure and function of stomata. Understand the basics of mineral nutrients and their function and deficiency.

PSO 14:- Understand the basics of photosynthesis and respiration. Understand the chemistry of biomolecules i.e. and action of enzymes.

PSO 15:- Understand the basic concept of crop improvement like plant breeding, mutational breeding, hybridization and about different agencies of seed testing and seed certification like NSC. Understand the basic concept and application of biostatistics in plant science and use of some biostatistical test like chi square test etc.


Dr. Mahesh Chandra Arya
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B.Sc I Year Botany

Paper I:- Fungi, Elementary Microbiology and Plant Pathology

After the completion of this paper the students will be able to understand about:

CO 1. Introduction, salient features and history of fungi: This topic will help the student to improve the knowledge of fungal classification and history. Students would also be able to gain the knowledge of some important genus of fungi and their economic importance.

CO 2. Lerner will be able to understand the basic knowledge of lichen life cycle, physiology and economic importance.

CO3. The students would be able to understand the basic structural, isolation and economic importance of some microorganism like bacteria, virus and mycoplasma.

CO4. The students will understand the pathology of some important diseases and different control measures.

PAPER II : ALGAE AND BRYOPHYTES

After the completion of this paper :

CO 1. The students will be able to gain the knowledge of classification of algae and bryophytes.

CO 2. The learner would be able to understand about the life cycle of some important genera of algae and bryophytes and comparative study of important algal and bryophytes genera.

CO 3. Students gain knowledge about economic importance of algae and Bryophytes.

PAPER III: PTERIDOPHYTES, GYMNOSPERMS AND ELEMENTARY PALAEOBOTANY

After the completion of this paper the students will be able to understand about:


CO 1. General characters and classification of the Pteridophytes and Gymnosperm.

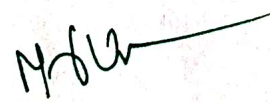
CO 2. Comparative study of some important genera of Pteridophytes and Gymnosperm

CO 3. Morphology and anatomy of Pteridophytes and Gymnosperm

CO 4. Distribution and economic importance of gymnosperm

CO 5. Types of fossils and process of fossilization. General idea about Geological era


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B.Sc II Year Botany

PAPER I: TAXONOMY OF ANGIOSPERMS AND ECONOMIC BOTANY

After the completion of this paper the students will be able to understand about:

CO 1. Angiosperms origin and evolution. Comparison and evolution of the system of classification of angiosperm. Nomenclature and Collection and preservation techniques of specimens

CO 2. Taxonomy, important distinguishing characters, classification and economics importance of Dicot and Monocot families of angiosperm

CO 3. Origin, history, economic importance, botanical features and cultivation of some important cereal, fruit, fibers and medicinal crops

PAPER II: ANATOMY, EMBRYOLOGY AND ELEMENTARY MORPHOGENESIS

After the completion of this paper the students will be able to understand about:

CO 1. Techniques for the study of plant anatomy, meristems and various types of tissues

CO 2. Structure of dicot and monocot root, stem and leaf

CO 3. Origin structure and function of vascular cambium and structure of xylem and phloem

CO 4. Structure and development of male and female gametophyte in angiosperms

CO 5. Pollination, fertilization and life history of a typical angiosperm

CO 6. Endosperm, embryo development, seed germination and dormancy, elementary plant movements

CO 7. Plant growth regulators and Physiology of flowering

PAPER III: ECOLOGY AND REMOTE SENSING

After the completion of this paper the students will be able to understand about:

CO 1. Scope of ecology and concept of ecosystem and productivity

CO 2. Concept of population and community ecology and basics of biogeochemical cycle

CO 3. Concept and types of pollution and their control. Global warming and ozone depletion


CO 4. Biogeographical regions of India, Biodiversity, its losses and conservation

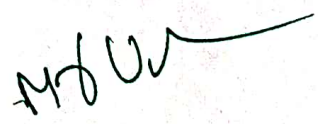
CO 5. Fundamentals of remote sensing and its role of remote sensing in ecology

B.Sc III Year Botany

Paper I: CYTOGENETICS, MOLECULAR BIOLOGY AND BIOTECHNOLOGY

After the completion of this paper the students will be able to understand about:


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- CO 1. Structure and functions of Cell and its organelles. Basic concept of cell division, chromosome organization and extra nuclear genome
- CO 2. Fundamentals of genetic inheritance, interaction of genes and genetic variations
- CO 3. Structure and function of biomolecules like DNA, RNA, Protein
- CO 4. Gene concept and its regulation and control
- CO 5. Basics of biotechnology and genetic engineering and its tools and techniques
- CO 6. Basic concept of tissue culture and cryopreservation
- CO 7. A brief account of Industrial biotechnology, Agricultural biotechnology and Nutritional biotechnology

PAPER II: PLANT PHYSIOLOGY AND ELEMENTARY BIOCHEMISTRY

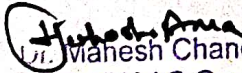
After the completion of this paper the students will be able to understand about:


- CO 1. Basics of cell physiology Soil water and active and passive absorption of water
- CO 2. Structure and function of stomata, transpiration and mechanism of minerals and solute translocation
- CO 3. Elementary knowledge of macro and micro nutrients and its deficiency symptoms and nitrogen cycle
- CO 4. Fundamentals and mechanism of photosynthesis and respiration
- CO 5. Basic structure and function of enzymes, proteins, carbohydrates and lipids

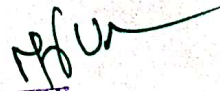
PAPER III: PLANT BREEDING AND BIostatISTICS

After the completion of this paper the students will be able to understand about:

- CO 1. Plant breeding: Aims and objectives, basic techniques and methods
- CO 2. Crop improvement methods and mutational breeding
- CO 3. Seed production, multiplication, distribution and maintenance
- CO 4. National Seed Corporation (NSC), seed testing laboratories, International and National Centre for plant breeding.
- CO 5. Basic concept of Bio-statistics, its methods and its applications in plant science


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 Dr. Vipin Panwar
 Asst. Prof. (Botany)


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