Email: lbdgcollege@rediffmail.com Website:www.lbdgcollege.com



College Code: 170

Office Phone /Fax: 02467-24437

Pin-431807 haharashtra

NutanVidyalayaSeVannavi Education Society, Umri

LATE BABASAHEB DESHMUKH GORTHEKAR MAHAVIDYALAYA, UMRI

Dist. Nanded, (Maharashtra)-431807

(Arts, Commerce & Science)

(Affiliated to Swami RamanandTeerthMarathwada University, Nanded)

(A UGC 2(F) & 12(B) Recognized)

:: President ::

:: Principal

Shri, Govindrao N. Mukkawar (Shirurkar)

Ex. M.L.A. Shri. Shrinivasrao Deshmukh (Gorthekar)

Dr. Purushottam R. Gate (Mob. No. 09423740955)

Ref. No. LBDGMU/2019-20/

Date:

B. Sc. First Year Botany

Semester - I CCB-I (A)

Theory Paper -I Viruses, Bacteria, Algae, Fungi, Lichens and Mycorrhiza

Learning outcomes:

- 1. Understand the morphology, structure and importance of the various organisms
- 2. Differentiate between various groups of Algae, Fungi, Bacteria, Viruses, and Lichens &
- 3. Learn the life cycles of individuals belonging to Algae, Fungi, Bacteria, Viruses, Lichens & Mycorrhiza

Semester - I CCB-I (B)

Theory Paper -II Plant Ecology, Phytogeography and Environmental Biology

Learning outcomes:

- 1. Able to understand the ecological principles, interactions taking place in the Ecosystems and the flow of energy
- 2. Learn about the concept of phytogeography and its relations with other disciplines

Semester - II CCB-II (A)

Theory Paper -III Bryophytes, Pteridophytes, Gymnosperms & Paleobotany

Learning outcomes:

1. Learn the life cycles of individuals belonging to Bryophytes. Pteridophytes and

Gymnosperms

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2. Learn about process of fossil formation and fossils plants

Semester - II CCB-II (B)

Theory Paper -IV Taxonomy of Angiosperms

Learning Outcomes:

- 1. Proficiency with the basic terminology of plant morphology
- 2. Able to identify the major families of plants and their economic importance
- 3. Understand the methods of collecting and preserving plants

B. Sc. Second Year Botany

Semester III CCB-III (A)

Theory Paper- VI Plant Anatomy

Learning Outcomes:

- 1. The students will be able to understand the meristem (RAM & SAM) different simple and complex tissues and secondary growth in root and stem.
- 2. Students will acquire knowledge of anatomy of root, stem and leaf in dicot and monocot plants.

Semester III CCB-III (B)

Theory Paper- VII Plant Physiology and Biochemistry

Learning Outcomes:

- 1. Students will gain the knowledge of water and nutrient uptake, movement in plants, role of mineral elements, translocation of sugars, Role of various plant growth regulators, phytochrome in plants.
- 2. Students shall learn different types of biomolecules and secondary metabolites
- 3. Students will learn the flowering physiology, vernalization and seed dormancy in plants.

Semester IV CCB-IV (A)

Theory Paper- VIII Plant Embryology

Learning Outcomes:

- 1. This course will be able to demonstrate foundational knowledge in embryology of plants.
- Students will be able to understand the development of pollen, Ovule, and fertilization and palynological information.

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Semester IV CCB-IV (B)

Theory Paper- IX Plant Metabolism and Biotechnology

Learning Outcomes:

- 1. Students will be able to understand the various metabolic processes such as photosynthesis, respiration, Nitrogen metabolism etc. which are important for life.
- 2. Students shall be become familiar with the gene cloning and its transfer in plants
- 3. Students shall learn different databases and their applications.

B.Sc. Third Year Botany

This program will train and orient the students in the field of Genetics and Molecular Biology, Plant Breeding, Diversity of Plants, Anatomy and Embryology of Angiosperms, Environmental Biology, Plant Physiology, Biochemistry and Biotechnology, Plant Pathology, Systematic Botany and Herbal Technology in relation to Environment and Agriculture as well as Biotechnological, Pharmaceutical and Herbal Industries. This will help the students for their career development. Skill Enhancement Courses offered during this program will provide additional specific skills to the students for self-employability through the development of their own enterprises.

Learning Objectives:

The Objective of this program are:

- To provide an updated education to the students at large in order to know the importance and scope of the discipline and to provide mobility to students from one university or state to other.
- To update curriculum by introducing recent advances in the subject and enable the students to face NET, SET, UPSC and other competitive examinations successfully.
- 3. To impart knowledge of plant science as the basic objective of Education.
- 4. To develop a scientific attitude to make students open minded, critical and curious.
- 5. To develop an ability to work on their own and to make them fit for the society.
- 6. To expose themselves to the diversity amongst life forms.
- 7. To develop skill in practical work, experiments, equipment and laboratory use along with collection and interpretation of plant materials and data.

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- To make aware of natural resources and environment and the importance of conserving the same.
- 9. To develop ability for the application of the acquired knowledge in the fields of life so as to make our country self-reliant and self-sufficient.
- 10. To appreciate and apply ethical principles to plant science research and studies.

SEMESTER-V

DSCB-I: CELL AND MOLECULAR BIOLOGY (Theory Paper-XII)

Learning Outcomes:

- 1. The students will be able to understand ultra structure of a cell, cell wall, cell membrane, cell organelles and chromosomes, cell cycle and cell division.
- 2. The students will be able to understand in detail the structure of DNA and RNA, protein synthesis, gene structure, gene mutation and related diseases.
- 3. Students will acquire knowledge of cell and molecular biology

SEMESTER-V

DECB-I: PLANT PATHOLOGY-I (Theory Paper-XIII)

Learning Outcomes:

- 1. The students will be able to understand fundamentals of plant pathology.
- 2. The students will be able to understand in detail the process of plant disease development.
- 3. Students will acquire knowledge of different plant diseases in different plants.

SEMESTER-VI

DSCB-I: GENETICS AND PLANT BREEDING (Theory Paper-XIV)

Learning Outcomes:

Students shall 1. Understand Mendelian genetics, gene interaction.

- 2. Learn the sex determination, linkage, sex linked inheritance and genetic variations.
- 3. Understand various crop improvement methods in plant breeding.

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SEMESTER-VI

DECB-I: PLANT PATHOLOGY-II (Theory Paper-XV)

Learning Outcomes:

- 1. The students will be able to understand fundamentals of aerobiology and seed pathology.
- 2. The students will be able to understand in detail the process of plant Defense mechanism and management.
- 3. Students will acquire knowledge of different plant diseases in different plants.

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