



Shri Sharda Bhavan Education Society's  
**YESHWANT MAHAVIDYALAYA, NANDED**

VIP Road, Nanded - 431 602 (M.S.) India  
(Affiliated to Swami Ramanand Teerth Marathwada University, Nanded)  
(Re-accredited by NAAC, as Grade 'A' College and a CPE status by UGC)



**DEPARTMENT OF BOTANY & HORTICULTURE**  
(Under Graduate, Post Graduate and Research Centre)

Ref. No.: BOT/2022-2023/

Dr. SHRIRANG SATWAJI BODKE  
Professor & Head

**B.Sc. Botany Programme Objectives (POS):**

**INTRODUCTION:**

The SRTMUN is gearing up for several initiatives towards academic excellence, quality improvement and administrative reforms. In view of this priority and in keeping with Vision and Mission, process was already initiated towards introduction of semester system, grading system and credit system. In the recent past, University had already implemented Credit based grading system to campus schools and Choice Based Credit System (CBCS) pattern for PG in all the affiliated colleges from the academic year 2014- 2015. These regulations shall be called as Choice Based Course Credit System & Grading, 2014. In short it will be referred as SRTMUN CBCS REGULATION. Similarly university had implemented Choice Based Credit System (CBCS) pattern at UG level from the academic year 2016-2017 progressively (for B.Sc. first year from 2016-2017, for B.Sc. second year form 2017-2018 and for B.Sc. third year from 2018-2019 respectively).

Revision and updating of the curriculum is the continuous process to provide an updated education to the students at large. In view of this priority and in keeping with vision and mission, process of revision and updating the curriculum is initiated and implemented at UG level from the academic year 2019-2020 progressively (for B.Sc. first year from 2019- 2020, for B.Sc. second year form 2020-2021 and for B.Sc. third year from 2021-2022 respectively). Presently there is wide diversity in the curriculum of different Indian Universities which inhibited mobility of students in other universities or states. To ensure and have uniform curriculum at UG and PG levels as per the SRTMUN CBCS REGULATION, curriculum of different Indian Universities, syllabus of NET, SET, MPSC, UPSC, Forest Services and the UGC model curriculum are referred to serve as a base in updating the same.

The B.Sc. Botany (General) semester pattern course is running in different affiliated colleges of the SRTMUN. The course content has been designed under CBCS pattern. The course content of each theory paper is divided into units by giving appropriate titles and subtitles. For each unit, total number of periods required is mentioned. A list of practical exercises and skills for laboratory work to be completed in the academic year is also given. A common skeleton question paper for all the courses is also provided at the end of the syllabus.



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**PROGRAMME OBJECTIVES (POS):**

**B.Sc. First Year:**

1. 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.
2. 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, equipments and laboratory use along with collection and interpretation of plant materials and data.
8. 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.

**B.Sc. Second Year:**

PEO1: 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.

PEO2: To update curriculum by introducing recent advances in the subject and enable the students to face NET, SET, UPSC and other competitive examinations successfully.

PEO3: To impart knowledge of plant science as the basic objective of Education.

PEO4: To develop a scientific attitude to make students open minded, critical and curious. PEO5: To develop an ability to work on their own and to make them fit for the society.

PEO6: To expose themselves to the diversity amongst life forms.

PEO7: To develop skill in practical work, experiments, equipments and laboratory use along with collection and interpretation of plant materials and data.

PEO8: To make aware of natural resources and environment and the importance of conserving the same.



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PEO9: 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.

PEO10: To appreciate and apply ethical principles to plant science research and studies.

**B.Sc. Third Year:**

PEO1: To impart the knowledge to the students in the field of Cell Biology, Molecular Biology, Plant Breeding, Plant Pathology, Systematic Botany, Herbal Technology and Other fields of Botany.

PEO2: To update curriculum by introducing recent advances in the subject and enable the students to face NET, SET, UPSC and other competitive examinations successfully.

PEO3: To develop laboratory skills in the students that will be helpful for identification of species, diseases and their management.

PEO4: To train and orient the students so as to develop human resource for the educational institutes, industries and other organizations.

PEO5: To develop specific skills amongst students for self-employability through the development of their own enterprises.

PEO6: 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.



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**B.Sc. Botany Course Objectives (COS):**

Sr. No	Class & Sem	Course Name	Course Title	Course Objectives (COS)
1.	B.Sc.I Sem-I	CCB-IA	Theory Paper-I: Viruses, Bacteria Algae , Fungi , Lichens and Mycorrhiza	1. To study and impart knowledge about the occurrence, distribution, structure and life history of lower plants such as algae, fungi, lichens 2. To instill in students an appreciation for the diversity of plant forms and structural organization that exists within plant bodies that allow plants to develop and live as integrated organisms in diverse environments
2.	B.Sc.I Sem-I	CCB-IB	Theory Paper-II: Plant Ecology , Phytogeography and Environmental Biology	1. Acquainted with basic concepts of Ecology , Ecosystem Ecological factors, community ecology and phytogeography 2. To provide students with skills necessary for Ecological studies
3.	B.Sc.I Sem-II	CCB-IIA	Theory Paper-III: Bryophytes, Pteridophytes Gymnosperms and paleobotany	1. To study the occurrence, distribution, structure and life history of bryophytes, pteridophytes and gymnosperms 2. To provide students with skills in paleobotany studies
4.	B.Sc.I Sem-II	CCB-IIB	Theory Paper-IV: Taxonomy of Angiosperms	1. To study the types of classifications-artificial, Natural and phylogenetic 2. To study the principles and rules of ICN and taxonomical terminology 3. To study the various plant families and their economic importance
5.	B.Sc.II Sem-III	CCB-IIIA	Theory Paper-VI: Plant Anatomy	1. To know about the internal structure of the most evolved group of plants, the Angiosperm. 2. To study cells, tissues, meristem, epidermal and vascular tissue system in plants. 3. To acquire knowledge of tissue systems, histology and growth pattern in plants.
6.	B.Sc.II Sem-III	CCB-IIIB	Theory Paper-VII: Plant Physiology	1. To make students realize how plants function, namely the importance of water, minerals, hormones, and light in plant growth and development; understand transport mechanisms and translocation in the phloem, applications of plant physiology. 2. To acquaint the students with the types and their functions of different biomolecules and secondary



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Sr. No	Class & Sem	Course Name	Course Title	Course Objectives (COS)
				metabolites 3. To know the role of different plant growth regulators in plant physiology
7.	B.Sc.II Sem-IV	CCB-IVA	Theory Paper-VIII: Plant Embryology	1.To study the flowering and fruiting, reproduction process, role of pollinators, ovule fertilization, Endosperm and seed development in angiosperms.
8.	B.Sc.II Sem-IV	CCB-IVB	Theory Paper-IX: Plant Metabolism and Biochemistry	1. To study of different pathways in Photosynthesis , respiration , nitrogen metabolism 2. To gain the knowledge of basic aspects and applications of plant tissue culture 3. To study the different aspects of genetic engineering and bioinformatics
9.	B.Sc.III Sem-V	DSCB-I	DSCB-I: Cell and Molecular biology (Theory Paper-XII)	1. To know about the ultra structure of a cell, cell wall, cell membrane, cell organelles and chromosomes, cell cycle and cell division. 2. To study in detail the structure of DNA and RNA, protein synthesis, gene structure, gene mutation and related diseases. 3. To acquire knowledge of cell and molecular biology
10.	B.Sc.III Sem-V	DECB-I	DECB-I: Systematic Botany-I (Theory Paper-XIII)	1. To know about the fundamentals of plant classification. 2. To study in detail the principles of plant taxonomy. 3. To acquire knowledge of different families of polypetalae, gamopetalae and apetalae.
11.	B.Sc.III Sem-VI	DSCB-II	DSCB-II: Genetics and Plant Breeding (Theory Paper-XIV)	1. To study Mendelian genetics, gene interaction. 2. To study sex determination, linkage, sex linked inheritance and genetic variations. 3. To study various crop improvement methods in plant breeding.
12.	B.Sc.III Sem-VI	DECB-II	DECB-II: Systematic Botany-II (Theory Paper-XV)	1. To acquire knowledge of different families of monocotyledons 2. To know about the principles of taxonomy 3. To study in detail the origin of angiosperms