



ST. XAVIER'S COLLEGE – MUMBAI
(Est. 1869)

(An autonomous college affiliated to The University of Mumbai)

Syllabus for the B.Sc and M.Sc
Subject: Botany

(Credit Based Semester and Grading System with
effect from the academic year 2020–2021)

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8th Revision - March 2019

This 8th revision of the syllabus for Botany incorporating modifications in FY, SY, TY, M.Sc I & II course contents was proposed by the Board of Studies in Botany at its meeting held on 15th March 2020, for approval by the Academic Board of the College.

Composition of the Board of Studies in Botany 2020 – 2021

Chairman: Dr. Rajendra Shinde, Professor and Head of the Department of Botany St. Xavier's College, Mumbai

External Members:

Academic members-

Dr. P. G. Borkar, Department of Plant Pathology, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri.

Dr. Harinder Singh, Department of Biological Sciences, Sunandan Divatia School of Science, SVKM's NMIMS, Mumbai.

Ar. Professor Urmila Rajadhyaksha, Head, M Arch Landscape, L. S. Raheja School of Architecture, Mumbai

Industry representatives-

Dr. G. T. Paratkar, Director, R & D, Neutrahelix Biotech, Pvt. Ltd.

University representative

Professor Dr. Sunita Shailajan, Former Head, Department of Botany, R. Ruia College, Mumbai.

Internal members (Members of the Botany Department Teaching Faculty)

Mr. Kevin D'cruz, Associate Professor.

Mr. Alok Gude, Assistant Professor.

Dr. Vijaya Lobo, Assistant Professor.

Dr. Rajdeo Singh, Assistant Professor.

Revision History:

1st Revision: August 2010 (FY BSc only)

2nd Revision: January 2011 (SY, TY BSc only)

3rd Revision: April 2013 (MSc I)

4th Revision: April 2014 (MSc II)

5th Revision: April 2015 (MSc I & II)

6th Revision: April 2016 (FY, SY, TY, MSc I & II)

7th Revision: April 2018 (TY, MSc I & II)

8th Revision: March 2019 (FY, SY, TY, MSc I & II)

The Rational:

Why study Botany?

Our planet Earth nurtured life with the gift of green miracles, we call plants. From the oxygen we breathe to the spice we taste in our food, from the energy it provides to the wellbeing, from the vanilla essence in our ice-creams to the cocoa in the chocolates we love, these green miracles have been a source of life. It takes an adventurer spirit to experience the majesty and mystery of this gift.

Ancient texts spanning thousands of years, across the cultures, in every corner of the earth, espouse the values and draw inspiration from the world of plants. Besides, food, shelter, clothing, cosmetic applications and herbal medicine, we continue to push the frontiers of science to harness technology advances such as Golden rice, BT Cotton.

Botany is a branch of this fascinating biological science that focuses on the study of plants and how they survive and interact with other living and nonliving things in the environment. At the graduate levels, the curriculum for a botany degree typically consists of hands-on and hands-off experience in the form of lecture-based courses, labs and field research, and projects aimed at providing exposure to Industry demands and new areas of research

What will I study?

A three-year bachelor's degree program in botany provides the foundation for prospective botanists to pursue a graduate level education or find an entry-level career. This course is relevant to ALL students. Introduction to Biodiversity ranging from Fungi and to various plant groups (Algae and Archegoniates- Bryophytes, Pteridophytes and Gymnosperms) and information on the Ecological and Economic Importance of Microbes, Fungi and various plant groups to enable students understand and appreciate relevance of Microbes and Plants to environment and human well-being. Insight into the Plant Evolution on Earth and the consequent Biodiversity is instrumental in creating Awareness on the threats to biodiversity and sensitize young minds towards the Biodiversity Conservation for sustainable development.

Scope of Biodiversity includes Medicinal field, Industry, Agriculture, Research and Study, Job Opportunities and Environmental Conservation.

Why should I choose Botany at St. Xavier's College, Mumbai?

Xavier's has the prestigious plant library 'The Blatter herbarium', the only one in Mumbai. Our three year (six semester) Botany degree course covers all major aspects of this discipline; it is ideal if you want to keep your options open or are presently uncertain about your future career

plans. All our undergraduate (BSc) degrees provide apt opportunities for postgraduate studies and also general graduate employment.

You can also extend your studies with our two-year M.Sc, which allows you to focus on a dissertation (research project) and take a number of specialist postgraduate botany courses. There are ample opportunities for part time internships and field work.

Combination of Theoretical and Practical components will provide comprehensive information and insight into the fascinating world of Plants. Scope of Biodiversity includes Medicinal field, Industry, Agriculture, Research and Study, Job Opportunities and Environmental Conservation

The Botany course is affiliated to, and recognized by the University of Mumbai. .

Interdisciplinary approach in Botany:

In the present context, Botany as a subject is offered as a Major subject with a combination with subjects like Zoology, Chemistry and Life Sciences through all the semesters.

Through the first and second semester the learner would study the journey of plants from water to land and working plant physiology systems in coordination of the ecology.

The learner could then move through the third and fourth semester to unveil the mystery and secrets of medicinal plants and significance of plants in daily livelihood.

Keeping the spirit and need of an Interdisciplinary BSc in mind, the unique system of double major is final year i.e. Botany - Zoology or Botany - Biochemistry equips the learner to give a better perspective about the living kingdom i.e. interaction of the flora and fauna.

The syllabus in botany makes the learner competent in the various aspects of plant life like Plant systematics, physiology, anatomy, medicinal botany.

It will also lay stress on identification of the most commonly herbs and trees. The practical and the mandatory fieldwork will supplement the theoretical concepts.

June, 2020.