DEPARTMENT OF BOTANY

VISION

- Teaching of basic plant science for innovative research, conservation, importance of plants and protect environment for sustainable development

MISSION

- Using all the possible educational, Social elements for creation of awareness in students about the identity and conservation of plants from western ghat.
- To cultivate environment awareness by attracting and supporting the outstanding students, teaching and non – teaching staff by using strength of systematic, ecology and evolution.

GOAL

- To develop the department as leading department in stream of teaching, innovation and research in plant sciences.

About the Department

In the view lively rural surrounding and rich floral biodiversity i.e. one of the biodiversity hotspot, there has been a candied demand for opening Botany department in Anandibai Raorane arts, Commerce and Science College, Vaibhavwadi. The department was established in 2011. It offers up to date programs of F.Y., S.Y. and T.Y. B.Sc. Botany and skill based short term certificate course which emphasis on emerging areas of modern Botany including various advance course like Plant Physiology, Plant Biotechnology, Genetics, Applied Botany (Tissue culture technique, Greenhouse technology, Industrial botany etc.) and Fundamental Botany (Taxonomy, Anatomy, Physiology of plants). Department has always placed emphasis on teaching and co-curricular activities.

The Department of Botany is known for its academic excellence, high caliber faculty, and greatly enriching co-curricular activities. Faculty members have been involved in many research activities and have their credits in various research projects. The Department regularly organizes field trips, study tours, Workshop and botanical excursions that help in bringing about holistic development of students. The Department has also produced many University rank holders. Many alumni of this department are pursuing their careers in higher education from institutions of prestigious repute in India. Projection facilities are also available in laboratories and classrooms to facilitate student learning with visual representation of concepts discussed in class. Apart from these state-of-the-art methods involved in teaching, the Department also maintained collection of museum and herbarium specimens. These collections facilitate in practical learning of the subject and in forming a connection with the specimens of nature they study. The department always tries to improve holistic growth of candidates.

Academic calendar 2019 – 20

Sr. No.	Name of the activity	Date
1	Departmental meeting and Admission of F.Y./S.Y./T.Y.B.Sc. Botany	07th June 2019
2	Celebration of "Vansaptah" by tree plantation.	1st July to 7th July 2019
3	One day workshop on Bamboo cultivation, management and its marketing.	10th August 2019
4	One day short study excursion tour to Kudal and Vengurla (S.Y.B.Sc. and T.Y.B.Sc.).	21st August 2019
5	One day short study excursion tour to Amboli.(F.Y.B.Sc.)	11th September 2019
6	Field based two days training on Taxonomical identification of the plants.	16th and 17th September 2019
7	Term end departmental meeting	October 2019
8	Second term departmental meeting	
9	Two days long study excursion tour	28,29 January 2020
10	Fruit carving and flower decoration exhibition.	First week of February 2019

Journey of Department

Year	Name of the course started/Introduced
2012	Department of Botany established and started F.Y.B.Sc.
2013	Started S.Y.B.Sc. Botany
2014	Started principal plan T.Y.B.Sc. Botany
2014	Introduced Horticulture and Gardening as applied component subject for T.Y.B.Sc.
2017	Introduced certificate course in Plant Propagation and Nursery Management
2018	Introduced certificate course in Organic Farming and Grafting Techniques

List of the Teaching Faculty

Sr.No.	Name of the Faculty	Qualification	Designation	Experience	
1	Mr. Ramesh Prakash Kashetti	M.Sc.,NET,GATE	Head and Assistant Professor	05	Biodata
2	Dr. Vijay Ashruba Paithane	M.Sc., B.Ed., Ph.D.	Assistant Professor	03	Biodata
3	Mr. Sachin Bhikaji Patil	M.Sc., NET, SET, GATE	Assistant Professor	03	Biodata

List of the NonTeaching Faculty

Sr.No.	Name of the Faculty	Qualification	Designation	Experience
1	Mr. Mukund Govind Raorane	B. Com.	Lab Assistant	05
2	Mr. Umesh Shahaji Raorane	B. Com.	Lab Attendant	05

T. Y. B. Sc Toppers

Sr. No.	Name of the student	Academic year	Percentage
1	Miss. Archana Pradip Khanolkar	2014-15	76.75%
2	Miss. Ashwini Dilip Sawant	2015-16	72.00%
3	Miss. Mayuri Mahendra Rajeshirke	2016-17	85.25%
4	Miss. Shravani Pradeep Khandare	2017-18	75.50%
5	Miss. Kajal Sharad Narkar	2018-19	78.25%

Skeleton of syllabus

Semester	Module	Course
I	Optional –I	Plant Diversity I
	Optional -II	Form and Function I
II	Optional –I	Plant Diversity I
	Optional -II	Form and Function I
III	Optional –I	Plant Diversity II
	Optional -II	Form and Function II
	Optional -III	Current Trends in Plant Science I
IV	Optional –I	Plant Diversity II
	Optional -II	Form and Function II
	Optional -III	Current Trends in Plant Science I
V	I	Plant Diversity III
	II	Plant Diversity IV
	III	Form and Function III
	IV	Current Trends in Plant Science II
	Applied Component I	Horticulture and Gardening I
VI	I	Plant Diversity III
	II	Plant Diversity IV
	III	Form and Function III
	IV	Current Trends in Plant Science II
	Applied Component I	Horticulture and Gardening I

- **Total number of books in Departmental library** **130**
- **Number of reference books in central library** **30**
- **Total Number of e-books** **65**

Programme outcomes:

PO – 1	Those students who are enrolled for Botany course they are able to understand the plant diversity and essential role of plants in maintaining ecosystems.
PO **– 2**	In practical's students will learn actual by hand dissection of plant parts and that resolve plant identity with its diversity. It's also analyzing bioprospecting of the plant.
PO **- 3**	Students will understand the specific impact of plant diversity on ecosystems they also analyze and learn uses of technological tools for flourish their basic context of the subject knowledge.
PO **– 4**	Knowledge gained from the subject will definitely useful for improvement of overall health, society, legal and environmental issues and learner will aware about biodiversity conservation and need of sustainable development

Programme specific outcomes:

PSO **- 1**	**Students perceive the basic environmental concepts, Plant identification and classification, Cell and molecular biology, Basic genetic concepts and ecological principles.**
PSO **- 2**	Learner should understand economic and medicinal plants in agriculture and medicines for their valuable uses.
PSO **- 3**	Resolve the important relationship between plants and microorganisms and give idea about its need in plant association.
PSO **- 4**	Clarify the diversity of angiospermic plants and phanerogames.
PSO **- 5**	Understand the fossil types and gymnospermic plants with its economic importance.

PSO - 6	Students will understand and get knowledge, information about plant diseases and chemical properties and evolution relation in between taxonomic groups.
PSO - 7	This syllabus is pre requisite for any life science subject because it gives basic knowledge of laboratory techniques like microscopy, separation techniques that will helps to understand different tools and techniques used in basic research for life sciences.
PSO - 8	The students are learn and understand the different techniques in plant tissue culture, and breeding procedure that makes learner very skillful with the help of this students also learn the interesting processes of molecular biology which will referred as Central dogma of life.

Course outcome of B.Sc. Botany-

CO'S	COURSE NAME	COURSE CODE	OUTCOMES
CO-1	Plant Diversity I	USBO101	On completion of the course, students are able to understand classification and diversity among the lower cryptogames
CO-2	Form and function I	USBO102	Student will learn nature and functions of cell and cell organelle, ecological aspects and understand the basic genetic principles
CO-3	Plant Diversity I	USBO201	Students are able to understand interesting world and morphological variations with its identification of Gymnosperms and Angiosperms.
CO-4	Form and function I	USBO202	Students get basic knowledge of plant anatomy, photosynthetic processes, and students learn concepts primary and

			secondary metabolites with its uses in living body.
CO-5	Plant Diversity II	USBO301	Resolve the concepts of identification and classification of Fungi, Algae, Bryophytes and Angiosperms.
CO-6	Form and function II	USBO302	Students know basics of laboratory techniques like microscopy and separation techniques. Cell biology gives deep knowledge of cell division, growth and development.
CO-7	Current trends in plant sciences I	USBO303	Forestry and economic botany give idea about the bioprospecting of plants in life and students enhance their knowledge in pharmacognosy and basic processes of molecular biology.
CO-8	Plant Diversity II	USBO401	Learners get deep knowledge about fungi, plant diseases with host, Pteridophytes and gymnosperms.
CO-9	Form and function II	USBO402	Students are able to learn about Anatomy, physiological processes of plants and understand ecological and environmental aspects.
CO-10	Current trends in plant sciences I	USBO403	Students will understand botanical garden and its types, Design, basic requirements and principles of plant tissue culture with respect to its applications, emerging rDNA technological tools, with use of Biostatistics.
CO-11	Plant diversity III	USBO501	To know the concept, principle and importance of sterilization, learn to develop pure culture of bacteria and fungi,

			plant-pathogen interaction. Study morphological variations in algae.
CO-12	Plant diversity IV	USBO502	This paper gives brief ideas about fossil plant and their relationship with living plants, pollen study of flowering plants.
CO-13	Form and function III	USBO503	From this students will be definitely understand the basic and fundamental processes of molecular biology and transport mechanism in plants.
CO-14	Current trends in plant sciences II	USBO504	On completion of this course students are able to understand the medicinal botany and know about medicinal plants used by tribal people. Pharmacognosy and medicinal botany provide valuable knowledge of monograph of drugs with reference to their biological source.
CO-15	Horticulture and gardening I	USACHO501	It promotes the profession of horticulture and enhance professionalism of those who are interested working in horticulture industry and garden practices.
CO-16	Plant diversity III	USBO601	The syllabi of this paper increases depth of knowledge about characters, morphology, classification life cycles, economical and economical importance Bryophytes, Pteridophytes and Gymnosperms.
CO-17	Plant diversity IV	USBO602	It enhance very deep observation about important angiospermic families with respect to their classification, ecological anatomy and embryology. This course also covers very important aspects of

			biostatistics which will much needed for further research
CO-18	Form and function III	USBO603	The units of this paper covers very important basic physiological functional process of plants like nitrogen metabolism with introduction of Biomolecules and also focuses on very important genetic concepts and genetic disorders.
CO-19	Current trends in plant sciences II	USBO604	Students learn the emerging tools and techniques in steams of plant sciences as in the biotechnology lesion. And gain the knowledge about economic botany and phytogeographical regions.
CO-20	Horticulture and gardening II	USACHO502	On the completion of this course learner understand the principles of gardening, floriculture and post harvest production of fruits, study of aromatic and medicinal plants gives their importance of utilization in day today life.

Collaboration under MoU

We have collaboration with two institutes. These collaboration programs benefit our students who may not have otherwise had the opportunity to experience of experts from other fields in the botany subject.

Sr. No.	Name of the institute	Date of collaboration (since)	Type of collaboration
1.	Abasaheb Marathe Arts and new commerce, science college, Rajapur	01st July 2015	Faculty exchange
2.	Amdar Shashikant Shinde Mahavidhyalaya , Medha	17 June 2017	Faculty exchange
3.	M. H. Shinde Mahavidhyalaya, Tisangi	January 2020	Faculty exchange

Laboratory Faculty

Projects Undertaken

Sr. No.	Name of Faculty	Research Projects	Funding agency	Fund Amount	Duration	Status
1	Mr. R. P. Kashetti	In-situ conservation of some Rare, endemic, Endandered and Critically endangered species of Sindhudurg district.	University of Mumbai	30,000/- (Minor)	1 year	Completed
2	Dr. V. A. Paithane	"Taxonomic Studies of *Fimbristylis* Vhal. Cyperaceae) from Sindhudurg District."	University of Mumbai	30,000/- (Minor)	1 year	Completed
3	Mr. S. B. Patil	Ecology of seed and seedling growth for the conservation of vulnerable and near threatened highly prized timber yielding plant of *Dlbergia latifolia* Roxb. and *Pterocapous marsupium* Roxb.	University of Mumbai	30,000/- (Minor)	1 year	Completed

Departmental Activity

Year	Name of the activity
2014 – 15	REPORTS
2015 - 16	REPORTS
2016 - 17	REPORTS
2017 – 18	REPORTS
2018 – 19	REPORTS

Honors and members

1. Member of Board of Studies (BoS) in B**o**tany at Yashvantrao Chavan Institute of Science, Satara since 2017 -18.
2. Life member of Indian Association for the Angiosperm Taxonomy.
3. Life member of Marathwada Botanical Society, Aurangabad
4. Annual member of *Bioinfolet,* National journal of Life Science, ISSN 0973-1431,Editor- Dr. A.M.Mungikar, Ex. Prof. Dept .of, Botany, DR. Babasaheb Ambedkar Marathwada University, Aurangabad,(M.S.) India
5. Selected as an Expert in Angiosperms identification group (Outside BSI) by ENVIS Centre on Floral Diversity Hosted Botanical Survey of India, Kolkata, West Bengal Sponsored by Ministry of Environment, Forests & Climate Change, Govt of India.
6. Selected as an Expert in Angiosperms identification group (Outside BSI) by National Biodiversity Authority, Chennai, by Ministry of Environment, Forests & Climate Change, Govt of India.
7. Selected as an Major contributors and Expert for identification of Tiliaceae (Malvaceae) by efloraofindia e-group.
8. Selected as Co-ordinator in Identification Malvaceae in 11 July to 24 July 2015, by eflora of india e-group.

Student's achievement

1. Mr. Vinayak Vijay Haldive F.Y.B.Sc. student was selected for University level poster presentation in Avishkar Research Competition organized by dept. of student welfare university of Mumbai at S.H. Kelkar college, Devgad on Nov. 2016.
2. Mr. Vinayak Vijay Haldive TYBSC. Student was selected for University level poster presentation in Avishkar Research Competition organized by dept. of student welfare university of Mumbai at ARACS college, Vaibhavwadi on Jan 2019.

Unique Activity

1) Department students Shravani Khandare and Geetanjali Palkar was actively participated and presented one research project in district level Avishkar research competition organized by Dept. of student welfare University of Mumbai and S.H. kelkar college Devgad on Nov. 2015
2) Department students Mr.Vinayak Vijay Haldive and Anuprita Thamankar were actively participated and presented one research project in district level Avishkar research competition organized by Dept. of student welfare University of Mumbai and S.H. kelkar college Devgad on Nov, 2016.

Guest Lectures

Guest lecturers of following eminent personalities were organized by department-

1. Dr. M.K.Janarthanam-Head of Botany department, University of Goa.
2. Dr. Arun Chandore (Taxonomist)- Assistant Professor, Rajapur college.
3. Dr. Uday Pawar (Ecologist)-Assistant Professor, Medha College.
4. Dr. Shakil shaikh (Ecologist)- Assistant Professor, Rajapur college.
5. Dr. Nagesh Daptardar – Sindhudurg District Forest ward officer.
6. Mr. U.L.Sonawadekar- Forest Range officer**.**

Research Publication

- Vijay A. Paithane and Anil S. Bhuktar, "Revision of Family *Tiliaceae* of Jalgoan District, Maharashtra", Bioinfolet 9 (1): 7-12, 2012, Aurangabad (M.S.) India.
- Vijay A. Paithane and Anil S. Bhuktar, "*Corchorus utricifolius* Wight &Arn. *(Tiliaceae):* Report on Extended Distribution in Flora of Gujarat State", Bioinfolet 9(2):150, 2012, Aurangabad (M.S.) India.
- Vijay A. Paithane[1], S.B. Sonje[2], & A.S. Bhuktar[3], "*Crotalaria clarkei* Gamble (Fabaceae), a new record for the state of Maharashtra", ZOO'S PRINT, Vol.XXVII, NO.:1, 26-17 January 2012.
- Vijay A. Paithane and Anil S. Bhuktar, "*Premna mollissima* Roth. New Records to Flora of Maharashtra" Indian Forester 139 (12), 1154-1155, 2013.Dehradun, Jharkhand.
- Vijay A. Paithane and Anil S. Bhuktar,"Some New Records for Mrudhmalai Hills of Coimbatoure, Tamilnadu India", ZOO's PRINT, Volume XXVII, Number 9, September 2012 pp.24-26.

- Kare, M. A., Mule D.A. ,Vijay A. Paithane, Anil S. Bhuktar 'Addition of Some Non-indigenous elements to the Flora of Marathwada Regions, (M.S.) India. International Multidisciplinary Research Journal 2(12):09-11, 2012.
- Kare, M. A., Mule D. A., Vijay A. Paithane, Anil S. Bhuktar "*Costus pictus* D. Don.ex.Lindl. New Records to Flora of Maharashtra" International Multidisciplinary Research Journal 2(12):09-11, 2012.
- Vijay A. Paithane, Santosh S. Kamble, Anil S. Bhuktar and A. S. Dhabe " Two New Records For Flora of Kerala State, India". Bioinfolet 10 (1B): 303-304, 2013, Aurangabad (M.S.) India.
- Paithane V. A., Sonje S. B. and Bhuktar A. S. (2013*) Crotalaria orixensis var.naikii* (Fabaceae): A new Variety from Deccan region of India. BIOINFOLET-A Quarterly Journal of Life Sciences 10 (4A) pp.1091-1093.
- Paithane V. A., Sonje S.B. and Bhuktar A.S.(2013) Identity of *Abutilon bidentatum var. major* (Blatt. & Halb.) Bhandari and One new report to Flora of Mharashtra, India. BIOINFOLET-A Quarterly Journal of Life Sciences 10(4A): 1118-1120.
- S. B. Sonje, V.A. Paithane, A.S Jadhao, AS Bhuktar "Some new additions to flora of Marathwada" BIOINFOLET-A Quarterly Journal of Life Sciences 11 (2c), 701-703.
- Anand Jadhao, Vijay A. Paithane and A. S. Bhuktar "A Ginger Lily Hedychium Flavescens Carey ex Roscoe (Zingiberaceae): New Records For Flora Of Maharashtra, India Journal of Global Biosciences, Vol. 3(5), 2014 pp. 792-794.

- Vijay A.Paithane & A .S. Bhuktar "Note on the status and synonyme of Bothriochloa persuta (Poaceae) from India" Journal of Global Bioscience 4(1): 1216-1220.
- Patil R. P., Paithane V. A., Rajput, R. D. Amit Theng And U. D. Ausarkar (2014) Exacum Sessile L. Of Tribe Exaceae (Gentianaceae) A New Report For Flora Of Maharashtra State, India Volume- 1 (4); 29-30.
- Vijay A.Paithane*,Ramweshwar S. Neel, Anand S. JAdhao and A. S. Bhuktar 2016 Further Additions To Flora Of Marathwada Region, Maharashtra 6: 106-109.ISSN 2320-3145, print issn -2319-5789.
- Bhosale S. S., V. A. Paithane, B. M. Rathor1, A. S. Dhabe and A. S. Bhuktar 2017
- Some newly introduced flowering Taxa in the Marathwada region of maharashtra State, India Bioscience Discovery, 8(2): 265-269, April – 2017
- Vijay A. Paithane, Sangita Dey, A. S.Jadhao, Bhuktar A. S. R.P. Patil 2017 Extended Distribution Of Tripogon Filiformis Nees Ex Steud. (Poaceae) To Central India. International Journal of Plant, Animal and Environmental Sciences Volume-7, Issue-3 July-Sept-2017
- "A new species of *Eriocaulon* (Eriocaulaceae) from lateritic plateaus of Sindhudurg, Maharashtra, Paithane V. A. , Bhuktar A. S. , Kashetti R.P and **Patil S. B**. India in International journal of advanced research.ISSN: 2320-5407.,Oct. 2017.858 -862.
- Paithane V. A1, Bhuktar A. S.2, Kashetti R. P and Patil S. B3 A New Species Of Eriocaulon (Eriocaulaceae) From Lateritic Plateaus of Sindhudurd, Maharashtra, India. Int. J. Adv. Res. 5(10), 1937-1940

- Rajput R. D., Paithane V. A., Taware A. S. and Patil R. P*.A Comparative Study on the Proximate and Mineral Composition of Non-leguminous fodder crops Bioscience Discovery, 8(4): 891-890, October – 2017.
- A "Phytochemicalconstitute and antioxidant potential of *Lantana Camera*" in S**. B. Patil** and S. K. Mengane. Aarhat Multidisciplinary International educational Research Journal (AMIERJ) ISSN 2278 – 48818, Feb 2018. 264 -268.
- A "Studies on the genus *Ophioglossum*L . from Devchand College, Arjunagar, Kolhapur." A. P. Patil, S. S. Amate, P. D. Shirgave and **S. B. Patil**. Review of Research. ISSN: 2240 : 894X. December 2018. 1 – 4.

Photo Gallery

2014 - 15

2015 -16

2016 – 17


M.P.S'S
ANANDIBAI RAORANE ARTS,COM,AND SCI COLLEGE
DEPT. OF BOTANY
Exhibition of Medicinal plant of Vaibhavwadi
WELCOME

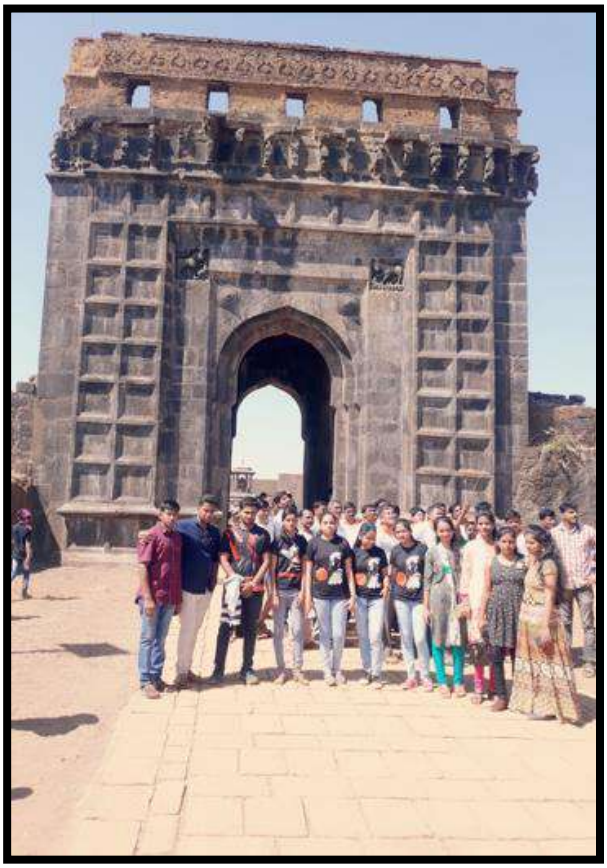

Department of Botany
Subject : Biodiversity of India (Western ghats)

2017 – 18

2018 – 19


शिक्षकेत्तर कर्मचारी सोसायटी व वनस्पतीशास्त्र विभाग
आनंदीबाई रावराणे कला, वाणिज्य व विज्ञान महाविद्यालय, वैभववाडी
यांच्या संयुक्त विद्यमाने आयोजित
कलम बांधणी प्रशिक्षण
शनिवार दि. ०४ ऑगस्ट २०१८ रोजी स. १०.०० वा.
स्थळ - आनंदीबाई रावराणे कला, वाणिज्य व विज्ञान महाविद्यालय, वैभववाडी
नोंदणी शुल्क - रू. ३००/-
कृपया दिनांक ३० जुलै २०१८ पर्यंत नोंदणी करावी.
-संपर्क-


वृक्ष लागवड अभियान - २०१८




Inflorescence (Racemose)