



DEPARTMENT OF BOTANY

- Name of the Department : Department of Botany,
S.S.M.M. Arts, Science and Commerce
College, Pachora.
- Date of establishment : June 1971(General)
June 2006(Special)
- Staff - Teaching : 1.Prof. Dr. Mulchand M. Rathod
(Retired on -31/05/2018)
: 2. Prof. S. R. Thakare
: 3.Prof. Miss Jagruti Y. Morankar
(Up to 31/03 2018)
: 4. Prof. Miss Shital Rajendra Patil
From- 01/07/2018
: 5. Prof. Miss Madhuri D. Wani
From-01/07/2018
- Non Teaching : 1. Mr. B. G. Pawar
: 2. Mr. Surendra V. Tambe
- Built up area of the Department : 105.10 Sq. Mt.

Botany Laboratory (1) : 9.00 x 7.50 Sq. Mt.
Botany Laboratory (2) : 3.04 x 5.48 Sq. Mt.
Staff Room : 3.00 x 6.00 Sq. Mt.
- Programmes : 1. F. Y. B.Sc.
: 2. S. Y. B.Sc.
: 3. T. Y. B.Sc.(Special)
- Timing of the Department : 7.30 a.m. to 5.30 p.m.

MILESTONES

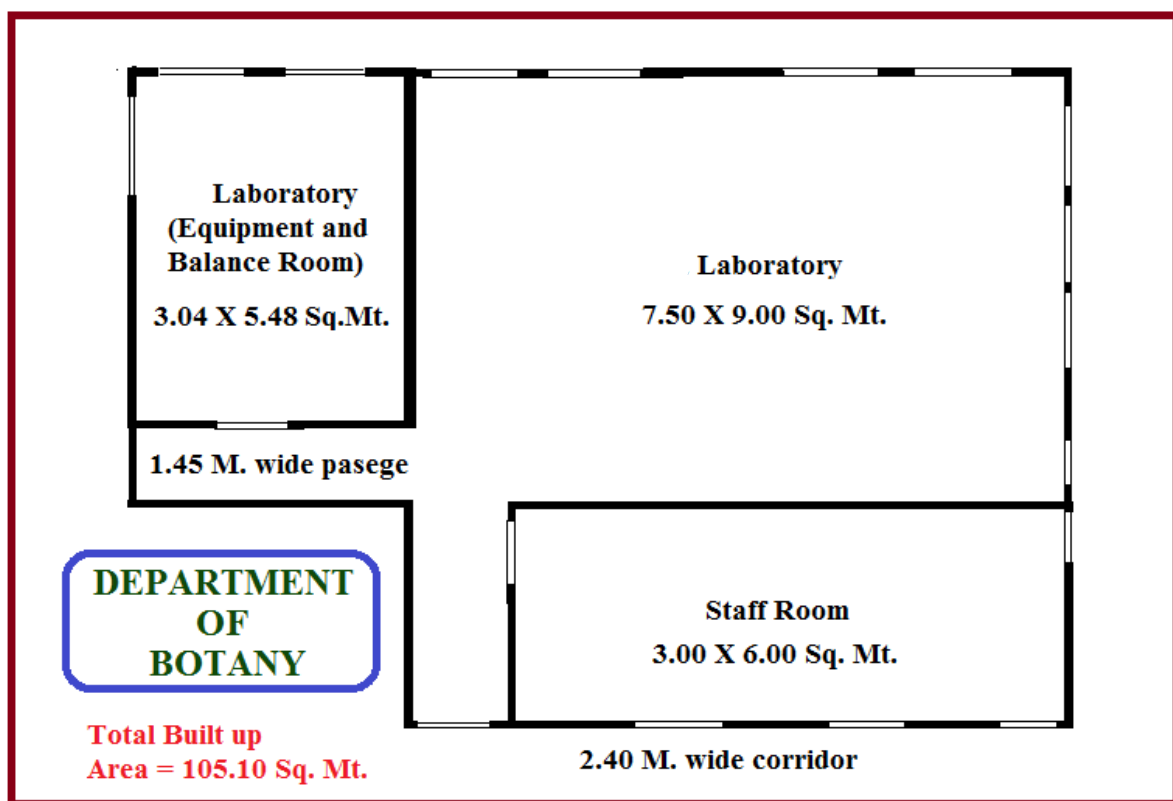
- 1971 : Was established for intermediate science.
- 1978 : Graduation in Botany was introduced at general level .
- 2003 : Shifted in well equipped, Spacious Laboratory.
- 2006 : Graduation in Botany was introduced at Special level.
- 2009 : One minor research project completed .
- 2014 : Dr. M.M. Rathod was honoured professorship.



OUR DEPARTMENT

- Built up area of the Department : 105.10 Sq. Mt.
- Map of the Department :
- Botany Laboratory : 9.00 x 7.50 Sq. Mt.
- Botany Laboratory : 3.04 x 5.48 Sq. Mt.
- Staff Room : 3.00 x 6.00 Sq. Mt.

Layout of the Department



Faculties in the Department-

- 1) Prof.Dr. M.M. Rathod (Ex. Head and Professor) (Retired on -31/05/2018)
- 2) Prof.S. R. Thakare (Head and Associate Professor)
- 3) Prof. Miss. Jagruti Morankar (On C. H. B. Basis) (From-01-07-2017)
- 4) Prof. Miss Shital Rajendra Patil (On C. H. B. Basis) (From-01-07-2018)
- 5) Prof. Miss Madhuri D. Wani (On C. H. B. Basis) (From-01-07-2018)



Curriculum in the First Year B. Sc. Course

Paper	Semester	Title
Paper – I	First	Bacteria, Viruses and Algae
	Second	Fungi, Lichens and Plant Pathology
Paper – II	First	Plants for Human Welfare
	Second	Industrial Botany
Paper - III	Semesterwise	Practical's based on theory paper first and second

Paper –I : Aims and Objectives

First Semester- Bacteria, Viruses and Algae

- 1) To study the diversity among Bacteria, viruses and Algae.
- 2) To study systematic, morphology and structure, of Bacteria, Viruses and Algae.
- 3) To study the life cycle pattern of Bacteria, Viruses And Algae.
- 4) To study the useful and harmful activities of Bacteria, Viruses and Algae.

Second Semester- Fungi, Lichen And Plant Pathology.

- 1) To study the Biodiversity of Fungi.
- 2) To know the Economic Importance of Fungi.
- 3) To study the features of Lichens.
- 4) To know the terminologies in plant pathology.
- 5) To study the scope and importance of plant pathology.
- 6) To study the control measures of plant diseases.

Paper –II : Aims and Objectives

First Semester- Plants For Human Welfare

- 1) To know the role of plants in human welfare.
- 2) To acquaint student with various plants of economic use.
- 3) To know importance of plants & plant products.
- 4) To study chemical contents of the plant products.
- 5) To know about utility of plant resources.



Second Semester- Industrial Botany

- 1) To provide thorough knowledge about various plant groups from primitive to highly evolved plants.
- 2) To make the students aware of applications of different plants in various industries.
- 3) To highlight the potential of these studies to become an entrepreneur.
- 4) To equip the students with skills related to laboratory as well as industries based studies.
- 5) To make the students aware about conservation and sustainable use of plants.
- 6) To create foundation for further studies in Botany.
- 7) To address the socio-economical challenges related to plant sciences.
- 8) To facilitate students of taking up and shaping a successful career in Botany.

Curriculum in the Second Year B. Sc. Course

Paper	Semester	Title
Paper – I	First	Bryophytes and Pteridophytes
	Second	Plant physiology
Paper – II	First	Morphology of Angiosperms
	Second	Taxonomy of Angiosperms
Paper - III	Semesterwise	Practical's based on theory paper first and second

Paper –I : Aims and Objectives

First Semester- Bryophytes And Pteridophytes

- 1) To study the morphological diversity of Bryophytes and pteridophyte.
- 2) To study economic importance of the Bryophytes and Pteridophytes.
- 3) To study the evolution of Bryophytes and Pteridophytes.

Second Semester- Plant Physiology

- 1) To know importance and scope of plant physiology.
- 2) To study plants and plant cells in relation to water.
- 3) To study the process of photosynthesis in higher plants with particular emphasis on light and dark reaction , C3 and C4 pathways.
- 4) To study respiration in higher plant with particular emphasis on aerobic and anaerobic respiration.
- 5) To study movement of sap and absorption of water in plant body.
- 6) To study the plant movements.



Paper –II : Aims and Objectives

First Semester- Morphology Of Angiosperms

- 1) To study the habit of the angiosperm plant body.
- 2) To study the vegetative characteristics of the plant.
- 3) To study the reproductive characteristics of the plant.
- 4) To study the plant morphology.

Second Semester- Taxonomy Of Angiosperms

- 1) To study the diversity of angiosperms.
- 2) To study the comparative account among the families of angiosperms.
- 3) To study the economic importance of the angiosperm plant.
- 4) To study the distinguishing features of angiosperm families.



Curriculum in the Third Year B. Sc. Special Course

Paper	Semester	Title
Paper – I	First	Cryptogams
	Second	Gymnosperms and Paleobotany
Paper – II	First	Angiosperm Taxonomy
	Second	Anatomy and Embryology
Paper – III	First	Cell and Molecular Biology
	Second	Genetics, Plant Breeding and Evolution
Paper – IV	First	Advance Plant physiology
	Second	Plant Biochemistry
Paper – V	First	Plant Ecology and Phytogeography
	Second	Applied Botany
Paper – VI	First	Gardening
	Second	Horticulture
Practical Paper - I	Semesterwise	Practical's based on theory paper I st and III rd
Practical Paper - II	Semesterwise	Practical's based on theory paper II nd and VI th
Practical Paper - III	Semesterwise	Practical's based on theory paper IV th and V th

Paper – I Aims and Objectives of the course:

First Semester-Cryptogams -

- 1) To study salient features of cryptogamic plants.
- 2) To make students aware of the status of cryptogams as a group in plant kingdom.
- 3) To study the life cycles of selected genera.
- 4) To study economic importance of cryptogamic plants.

Second Semester- GYMNOSPERMS & PALEOBOTANY

1. To study Gymnosperms with respect to distinguishing characters, comparison with Angiosperms, economic importance and classification.
2. To study the life cycles of *Pinus* and *Gnetum*.
3. To study the scope of paleobotany, types of fossils and geological time scale.
4. To study the various fossil genera representing different fossil groups.

Paper – II Aims and Objectives of the course:

First Semester-Angiosperm Taxonomy



1. To study status of angiosperms in plant kingdom.
2. To study origin of Angiosperms with respect to Age & Probable ancestors.
3. To study Pre-Darwinian and Post- Darwinian systems of Classification.
4. To study various Angiospermic Families emphasizing their Morphology, Biology, Phylogeny and interrelationship.
5. To study functions and Botanical features of Botanical gardens.
6. To know the role of cytology and Phytochemistry in Taxonomy.

Second Semester- ANATOMY & EMBRYOLOGY

1. To know scope & importance of Anatomy, Embryology.
2. To study various tissue systems.
3. To study normal and anomalous secondary growth in plants and their causes.
4. To give exposure to techniques in anatomy.
5. To study structure and development in microsporangium and megasporangium.
6. To study microsporogenesis and megasporogenesis.
7. To study male and female gametophytes
8. To study fertilization, endosperm and embryogeny.

Paper – III Aims and Objectives of the course:

First Semester-CELL AND MOLECULAR BIOLOGY

1. To introduce the students with “Cell Science”.
2. To study cell wall plasma membrane, Cell organelles and cell division.
3. To study the scope and importance of molecular biology.
4. To study the biochemical nature of nucleic acids, their role in living systems, experimental evidences to prove DNA as a genetic material.
5. To understand the process of synthesis of proteins, how genetic code plays role in polypeptide formation
4. To trace the historical path of concept of gene; its classical nature; compared with modern approach; cistrons and exons.
5. To understand how nucleic acids organized in prokaryotes and eukaryotes; study of nucleosome as a unit of chromosome organisation.
6. To expose the students to modern techniques in molecular biology



Second Semester- Genetics , plant breeding and Evolution

1. To introduce the students with “science of heredity”.
2. To study the role of genes in evolution of species.
3. To study how genes are linked, segregates and mutates during evolution.
4. To introduce student with science of plant breeding.
5. To introduce students with branch of genetics & plant breeding, this survived human population from starvation.
6. To study the techniques of production of new superior crop varieties.
7. To study the evolution of living organisms.

Paper – IV Aims and Objectives of the course:

First Semester-. ADVANCE PLANT PHYSIOLOGY

- 1) To learn & understand about mineral nutrition in plants.
- 2) To study the growth & developmental processes in plants.
- 3) To learn about movement in plants.
- 4) To study the process of translocation of solutes in plants.
- 5) To study the nitrogen metabolism and its importance.

Second Semester- PLANT BIOCHEMISTRY

- 1) To introduce the students with current status of biochemistry.
- 2) To recognise the impact of biochemists on socioeconomic aspects of life .
- 3) To develop the knowledge of industrial application of biochemistry.
- 4) To enunciate the students with the importance of biomolecules.

Paper – V Aims and Objectives of the course:

First Semester-PLANT ECOLOGY & PHYTOGEOGRAPHY

1. To know scope and importance of the discipline.
2. To study plant communities and ecological adaptations in plants.
3. To know about the conservation of biodiversity, Non-conventional Energy and Pollution.
4. To study botanical regions of India and vegetational types of Maharashtra.
5. To study Bioremediation, Global warming and Climate change



Second Semester- Applied Botany

1. To know the importance and scope of botanical science in the industries.
2. To study the role of microbial plants in fermentation process.
3. To study the process of cultivation of cash crops.
4. To study some plants which are used as herbal cosmetics.
5. To study techniques of plant tissue culture and its application.
6. To study the role of plants in forensic science.

7. Paper –VI Aims and Objectives of the course:

First Semester-Gardening

1. To know the concept of garden.
2. To study the special types of garden.
3. To study the different features of garden.
4. To study the different ornamental plants.
5. To study about the techniques of pot –culture, Bonsai, Topiary, Lawn.

Second Semester- HORTICULTURE

1. To know horticulture, its scope, disciplines and importance.
2. To know horticulture zones of Maharashtra and India.
3. To understand different horticultural practices and their methods.
4. To study importance, principles and types of weather treatment.
5. To study the role played by green polyhouses in horticulture.
6. To study production technology, harvesting techniques and marketing of crops grown especially in Khandesh region of Maharashtra.
7. To understand methods of preservation and preparation of preserved products prevailing especially in this part of the state.



STRENGTH OF THE STUDENTS

Class	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
F.Y.B.Sc	80	135	78	92	103	105	101
S.Y.B.Sc	36	50	94	38	45	63	54
T.Y.B.Sc Special	04	06	08	14	19	17	14
Total	120	191	180	144	167	185	169

Work Load:

Year	Class	No. of student.	No. of paper prescribed by the university		No. of period for each theory paper	No. of period for each practical batch	Total work load for theory A	Total work load for practical B	Grand Total of work load (Theory +Practical)	Total workload of the Department
			Theory	Practical.						
2012-13	F.Y.B.Sc.	80	2	1	3	4	6	20	26	82
	S.Y.B.Sc.	36	2	1	4	4	8	12	20	
	T.Y.B.Sc	04	6	3	4	4	24	12	36	
2013-14	F.Y.B.Sc.	135	2	1	3	4	6	36	42	102
	S.Y.B.Sc.	50	2	1	4	4	8	16	24	
	T.Y.B.Sc	06	6	3	4	4	24	12	36	
2014-15	F.Y.B.Sc.	78	2	1	3	4	6	20	26	102
	S.Y.B.Sc.	94	2	1	4	4	8	32	40	
	T.Y.B.Sc	08	6	3	4	4	24	12	36	
2015-16	F.Y.B.Sc.	92	2	1	3	4	6	24	30	86
	S.Y.B.Sc.	38	2	1	4	4	8	12	20	
	T.Y.B.Sc	14	6	3	4	4	24	12	36	
2016-17	F.Y.B.Sc.	103	2	1	3	4	6	28	34	94
	S.Y.B.Sc.	45	2	1	4	4	8	16	24	
	T.Y.B.Sc	19	6	3	4	4	24	12	36	
2017-18	F.Y.B.Sc.	105	2	1	3	4	6	28	34	98
	S.Y.B.Sc.	63	2	1	4	4	8	20	28	
	T.Y.B.Sc	17	6	3	4	4	24	12	36	
2018-19	F.Y.B.Sc	101	2	1	3	4	6	28	34	94
	S.Y.B.Sc.	54	2	1	4	4	8	16	24	
	T.Y.B.Sc	14	6	3	4	4	24	12	36	



Student- Teacher ratio

Academic Year	No. of students	Student – Teacher Ratio
2012-13	120	60:1
2013-14	191	95:1
2014-15	180	90:1
2015-16	144	72:1
2016-17	167	83:1
2017-18	185	92:1
2018-19	169	85:1

Result Analysis

Academic year	Class	No. of Students Appeared	No. of Students Passed	No. of Students Failed	Pass %
2012-13	F.Y.B.Sc.	73	61	12	83
	S.Y.B.Sc.	50	47	03	94
	T.Y.B.Sc.	04	02	02	50
2013-14	F.Y.B.Sc.	135	132	03	98
	S.Y.B.Sc.	50	45	05	90
	T.Y.B.Sc.	06	04	02	70
2014-15	F.Y.B.Sc.	102	91	11	89
	S.Y.B.Sc.	100	75	25	75
	T.Y.B.Sc.	08	06	02	75
2015-16	F.Y.B.Sc.	73	70	03	96
	S.Y.B.Sc.	54	52	02	87
	T.Y.B.Sc.	14	08	06	57
2016-17	F.Y.B.Sc.	96	91	05	94
	S.Y.B.Sc.	40	34	06	85
	T.Y.B.Sc.	17	04	13	31
2017-18	F.Y.B.Sc.	90	80	10	89
	S.Y.B.Sc.	62	56	06	90
	T.Y.B.Sc.	15	08	07	53
2018-19	F.Y.B.Sc.				
	S.Y.B.Sc.				
	T.Y.B.Sc.				



UNIVERSITY DISTINCTION / RANK HOLDERS :

Third Year B.Sc. Botany

Sr. No.	Year	Name	Distinction/ Rank
1.	2012-13	Amrutakar Ankita Subhash	First Class
2.		Patil Vrushali Sunil	First Class
3.	2013-14	Chaudhari Dipika Samadhan	First Class
4.		Dhamale Jayshri Bapurav	First Class
5.		Sharma Priya Brijesh	First Class
6.		Varlani Pooja Dilip	First Class
7.	2014-15	Shirsath Monali Ravindra	First Class with distinction
8.		Morankar Jagruti Yashwant	First Class with distinction
9.		Marathe Priyanka Dilip	First Class
10.		Patil Priyanka Ramesh	First Class
11.		Patil Pallavi Balu	First Class
12.		Koli Suvarna Somnath	First Class
13.	2015-16	Sonar Sneha Arun	First Class with distinction
14.		Patil Shital Rajendra	First Class with distinction
15.		Pardeshi Punam Subhash	First Class
16.		Wagh Sharddha Sunil	First Class
17.		Rajput Sanjivani Indalsing	First Class
18.		Patil Ramanlal Hiralal	First Class
19.		Kale Vaishnavi Rajendra	First Class
20.	2016-17	Rathod Dipali Devchand	First Class with distinction
21.		Patil Manish Sudhakar	First Class
22.		Patil kajal Sanjay	First Class
23.		Patil Rajshri Balu	First Class
24.	2017-18	Patil Prachi Sanjay	First Class with distinction
25.		Patil Bharati Vasant	First Class with distinction
26.		Deo Sweta Dattatray	First Class with distinction
27.		Morankar Priyanka Vinayak	First Class with distinction
28.		Gaud Nikita Ghansham	First Class with distinction
29.		Sonawane Archana Anil	First Class
30.		Patil Mohini Bapu	First Class
31.		Parihar Savita Ravindra	First Class



20) Activities of the faculty in the Department are as follows:



Dr. M. M. Rathod

Head and Professor of the Department

M.Phil. (1990)

Title-Taxonomical Studies on Dadaloid and Hexagonoid Polypores.

Ph.D. (2005)

Title-Studies on the Floristic Ecology and Phytogeography of Patanadevi Forest Maharashtra.

Dr. M. M. Rathod (Retired On 31/05/2018)

2012-13

- **Two research papers were Published in national and international research journals**
 1. SOME IMPORTANT FEATURES OF THE PATNADEVI FOREST (MAHARASHTRA):
AT A GLANCE. **Academic Research** April-May, 2012, 6(2): 143-150.
 2. Vegetation analysis at different elevation ranges of Patnadevi forest, Maharashtra India, Bionano frontier, 2012, Vil. 5 (2-II): 92-95.
- **Awarded with First Prize in International Conference on Environmental research at Malaysia University Terangganu, Malaysia.**
- **Organizing Convenor** of University level one day workshop on S.Y. B.Sc. Botany syllabus restructuring on 1st Jan. 2013, at S.S.M.M. Arts, Science and Commerce College, Pachora.
- Worked as
 1. Chairman, College development and UGC grants committee.
 2. Coordinator, IQAC
- **Resource Person for NSS camp** of S.S.M.M. Arts, Science and Commerce College, Pachora.
at Bambrud lecture on "conservation of Water" on 28/12/2012



- Attended one state level seminar, two National level and Three international level Conferences
 1. National Conference on Recent Trends in Biosciences on 27-28th July 2012 at G.S. Science, Arts & commerce college, Khamgaon.
 2. State level Seminar on Role of IQAC in higher education institutes in Rural area on 24th – 25th Aug.12 at Sardar Patel Mahavidyalaya, Chandrapure.
 3. National Conference on Innovative Research Trends in Biological Sciences on 8th – 9th Sept, 12 at Shri Shivaji College of Arts, Commerce and Science, Akola.
 4. International Conference on Innovative prospects in Angiosperm Taxonomy on 28th – 30th Oct.12 at Sant Gadgebaba Amravati University Amravati
 5. International Conference on Global change: impact on Biodiversity, Culture and Technology on 3rd - 5th Nov. 12 at Sevadal Mahila Mahavidyalaya Nagpure..
 6. International Conference on International Conference on Environmental research on 22nd -24th Nov.12 at University Malaysia, Terangganu, Malaysia.
- Convener, S.Y.B.Sc Botany syllabus framing One day workshop on 11th Jan.2013.
- Convener, IQAC committee, S.S.M.M. College, Pachora.
- Coordinator, UGC Programs and Schemes.

2013-14

Paper presentation and publications:

- **Two research papers were Published in national and international research journals**
 1. PRODUCTIVITY AND NUTRIENT COMPOSITION OF FOURE POPULAR VARIETIES OF FODDER JOWAR International Journal of life Science, 2013, Vol.1 (2):115-118.
 2. PREPARAION OF HAY WITH GREEN FOLIAGE OF SORGHUM AND LUCERNE. International Journal of life Science, 2013, Special Issue, A1:176-177.
- Academic honour:
 - **Chaired the session of Multidisciplinary International conference on Emerging Era of Education on 14th July 2013, at SSPM'S college of Education, Tehu, Parola.**



- **Chaired the session of national conference on “Concepts and New Trends in Aerobiology and Allergy”** on 29th and 30th November, 2013.at Bhartiya Vidya Bhavans Hazarimal Somani college of Arts and science and Jayramdas Patel College of commerce and management studies, Mumbai.
- **Chaired the session of** International Conference on Environmental research at Dr. Rafiq Zakavria Campus, Maulana Azad College of Arts, Science and Commerce, Aurangabad, Maharashtra, India during 19th - 21st December 2013.
- Working as 1. Chairman, College development and UGC grants committee.
2. Coordinator, IQAC
- **Invited as a resource person for** NSS camp of S.S.M.M. Arts, Science and Commerce College, Pachora, at Bambrud.

- **Participation**
 1. Multidisciplinary International conference on Emerging Era of Education at SSPM’S college of Education, Tehu, Parolla, on 14th July 2013.
 2. National Conference on Recent Emerging Trend in plant Science at Poojya Sane Guruji Vidya Prasarak Mandal’s S.I. Patil Arts, G.B.Patel Science and S.T.S.K.V.S. Commerce College Shahada, on 6th -7th September 2013.
 3. National Conference on Concepts and New Trends in Aerobiology and Allergy on 29th -30th November, 2013.at Bhartiya Vidya Bhavans Hazarimal Somani college of Arts and science and Jayramdas patel College of commerce and management studies, Mumbai.
 4. International Conference on Environmental research at Dr. Rafiq Zakavria Campus, Maulana Azad College of Arts, Science and Commerce, Aurangabad,Maharashtra, India During 19th -21st December 2013.
 5. T.Y.B.Sc. Syllabus framing Workshop at Jijamata College, Nandurbar on 22nd Jan. 2014.



2014-15

1

. Academic Program Attended:

1. Short Term Course on “teaching learning and evaluation” from 08/12/2014 to 13/12/2014. at Academic Staff College, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
2. “Executive Development Programme” from 12/01/2015 to 16/01/2015 at Vaikunth Meheta National Institute of Co-operative Manegment, Pune.

2. Research Publications:

- VEGETATIVE SPECIES COMMUNITY, RICHNESS AND DIVERSITY IN PATNADEVI FOREST, MAHARASHTRA, INDIA. **Journal of Environmental Research and Development** Vol. 8 No. 3A, January-March 2014: 805-810.

3. Academic honour:

1. Delivered an invited talk on “Horizons of Botany” at Department of Botany, Nanasaheb Y. N. Chavan Arts, Science and Commerce College, Chalisgaon on 4th Feb. 2015.
2. Worked as subject expert for restructuring of syllabus for diploma in horticulture technology at Department of Botany, NanaSaheb Y. N. Chavan Arts, Science and Commerce College, Chalisgaon on 4th Feb. 2015.

Chaired the session of F. Y. B. Sc. Botany Syllabus framing Workshp for the paper Ist Virus, Bacteria and Algae held at S.S. V.P. S.L.K.Dr. Ghogare Science College, Dhule. On 7th February, 2015.

4. Participation

1. All India Botanical Conference of Indian Botanical Society and National Symposium on “Biodiversity and climate change” held at KET’s V. G. Vaze College , Mulund (East) Mumbai on 7th to 9th November, 2014.
2.M.Sc. Part II Botany Syllabus framing Workshop at M. J. College, Jalgaon on 21st Jan. 2015.
3. F.Y.B.Sc. Botany Syllabus Framing Workshop at S.S. V. P. S. L. K. Dr. Ghogare Science College, Dhule. On 7th February, 2015.



2015-16

1. Publication of Books:

Two reference Books Published:

1. Floristic Ecology and Phytochemistry
2. Deadaloid and Hexagonoid Polypores

Four text books of F.Y. B. Sc Botany are published

1. Bacteria, Viruses and Algae
2. Plants for Human Welfare
3. Fungi, Lichen and Plant Pathology
4. Industrial Botany
5. **Research Publications:** three research papers are published
 1. STUDIES ON PRODUCTIVITY AND NUTRITIVITY OF SOME POPULAR FORAGES IN WINTER SEASON **International Journal of life Sciences**, September, 2015, Vol. 3(3): 255-259.
 2. STUDIES OF THE FUNGI *LENZITES ACUTA* BERK.FROM WESTERN MAHARASHTRA, INDIA. **International Journal of life Sciences**, Special issue A5, December, 2015: 36-41.
 3. The study of plant diversity of the Gautala wild life Sanctuary, Maharashtra, India, published in the Proceeding of international Conference on Recent Trends in Chemical and Environmental Sciences. ISBN: 978-81-930345-5-2, PP: 313-316, organized at S.N. Arts, D.J.M. Commerce and B.N.S. Science College, Sangamner.
6. **Academic Honour:**
 4. Worked as rapporteur in technical session of national conference on “Advances in Bioscience and Environmental science: Present and Future” held on 22nd and 23rd September,2015 at B.P. Arts, S.M.A. Science and K.K.C. Commerce college, Chalisgaon.
 5. Chaired the Technical session of national conference on “Fungal Diversity and Their Applications” held on 11th and 12th December, 2015. at Gurunanak college of Arts, Science and Commerce, G.T.B. Nagar, Mumbai400037.
7. **Participation**
 - 1.National conference on “Advances in Bioscience and Environmental science: Present and Future” held on 22nd and 23rd September,2015 at B.P. Arts, S.M.A. Science and K.K.C. Commerce college, Chalisgaon. And presented research paper Titled as STUDIES ON PRODUCTIVITY AND NUTRITIVITY OF SOME POPULAR FORAGES IN WINTER SEASON.
 2. National Conference on “Fungal Diversity and Their Applications” held on 11th and 12th December, 2015. at Gurunanak college of Arts, Science and



Department of Botany S.S.M.M.Arts. Science and Commerce College, Pachora

Commerce, G.T.B. Nagar, Mumbai and presented research paper titled as STUDIES OF THE FUNGI *LENZITESACUTABERK*.FROM WESTERN MAHARASHTRA, INDIA.

3. North Maharashtra University level S.Y. B.Sc. Botany Syllabus framing workshop held on 16th January, 2016, at arts, Science and Commerce College, Shindkheda.
4. International conference on "Recent Trends in Chemical and Environmental Sciences" held on 12th and 13th February, 2016. organized at S.N. Arts, D.J.M. Commerce and B.N.S. Science College, Sangamner.

2016-17

1. Attended all India conference of Indian Botanical Society and National symposium on "New Approaches and recent challenges in Botany on 21st to 23rd October, 2016 at University Department of Botany, Rachi University, Rachi. And presented a research paper.
 2. Attended a Indian Science congress at S.V. University, Tirupati, 3rd January to 7th January 2017.
 3. Attended T.Y.B.sc. Botany semester Vth Syllabus framing workshop on 3/3/2017 at B.P. Arts, S.M.A. Science & K.K.C commerce college, Chalisgaon
 4. Attended T.Y.Bsc. Botany semester VIth Syllabus framing workshop on 31/03/2017 at M.J.College, Jalgaon.

1. Attended all India conference of Indian Botanical Society and National symposium on "New Approaches and recent challenges in Botany on 21st to 23rd October, 2016 at University Department of Botany, Rachi University, Rachi. And presented a research paper.
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 4. Attended T.Y.Bsc. Botany semester VIth Syllabus framing workshop on 31/03/2017 at M.J.College, Jalgaon.

2017-18

Worked as chairman, Placement cell and organized a one day seminar on Job opportunities on 14/10/2017, Mr. Subodh Jadhav, Tata srive skil development center, Mumbai was the chief guest and speaker.



Name: Thakare Suryakant Ramrao

**Designation: Head and Associate
Professor**

Date of Appointments: 01-08-1990

Teaching Experience: 27 years

Date of Birth: 14-01-1963

Area of Specialization: Paleobotany

Academic Year 2012-13

1. Worked as Chairman of Earn and Learn scheme.
2. Worked as member of botanical garden committee.
3. Participated in national conference on Biodiversity at S.P.D.M. College Shirpur on 12th and 13th Octo.12
4. Participated in International conference on Innovative prospects in Angiosperm Taxonomy on 28th – 30th Oct.12 at Sant Gadgebaba Amravati University Amravati.
5. Participated in S.Y.B.Sc Syllabus framing Workshop on 11/1/2013.
6. Member , Advisory committee, N.S.S.

Academic Year 2013-14

1. Worked as Member of student welfare committee.
2. Worked as member of botanical garden committee.
3. Worked as team manager in Yuvak Mahotsav 2013-14 at J. T. Mahajan Engineering College Faizpure during 25 -28 Jan. 2014.
4. Worked as chairman, student council and annual social gathering.

Academic Year 2014-15

1. Attended 2nd Interdisciplinary international conference on "Role of Higher education in creation of Knowledge Society" on 20th and 21st February, 2015. At Jalgaon.



2. Worked as Member of student welfare committee.
3. Worked as member of botanical garden committee.

Academic Year 2015-16

1. North Maharashtra University level S.Y. B.Sc. Botany Syllabus framing workshop held on 16th January, 2016, at arts, Science and Commerce College, Shindkheda.
2. Worked as chairman, Botanical Garden.
3. Worked as adviser, N.S.S. Arts, Science and Commerce College, Pachora.

Academic Year 2016-17

1. Co-ordinator of Food processing workshop arranged on 10th and 11th Jan.2017
2. Worked as chairman, Botanical Garden.
3. Attended T.Y.Bsc. Botany Syllabus framing workshop on 3/3/2017 at B.p. Arts, S.M.A. Science and K.K.C commerce college, Chalisgaon
4. Attended T.Y.Bsc. Botany semester VIth Syllabus framing workshop on 31/03/2017 at M.J.College, Jalgaon.

Academic Year 2017-18

1. Co-ordinator of Food processing workshop arranged on 10th and 11th Jan.2017
2. Worked as chairman, Botanical Garden.
3. Attended T.Y.Bsc. Botany Syllabus framing workshop on 3/3/2017 at B.p. Arts, S.M.A. Science and K.K.C commerce college, Chalisgaon
1. **Attended international conference at faizpur on 21st and 22nd December 2017**

Academic Year 2018-19

1. Worked as Chairman, Botanical Garden.
2. Worked as Chairman, Science Association



Department of Botany S.S.M.M.Arts. Science and Commerce College, Pachora

3. Azolla fodder cultivation project prepared and the foggers are fitted inside Shednet .Wormicompost and vermiwash unit is working.
4. Attended T.Y.Bsc. Botany Syllabus framing workshop on 8/4/2019 at Sardar Vallabhbhai Patel Arts and Science College , Ainpur.
5. Worked as a Team Manager Aviskar 2018 at D. N. College ,Faizpur, On 27/01/2019 .

Assitant Prof. Miss. Jagruti Morankar



On C.H.B. Basis From- 01-07-2017

Up to 31/03/2018

Assitant Prof. Miss. Shital R. Patil



On C.H.B. Basis From- 01-07-2018



Assitant Prof. Miss. Madhuri D. Wani



On C.H.B. Basis From- 01-07-2018

DEPARTMENTAL ACTIVITIES:

Academic plan : Prepared at the beginning of academic year

Interdisciplinary activities: The North Maharashtra University has introduced a special paper of **General Knowledge** for Second Year and **Environmental Science** for First Year of Arts, Science and Commerce faculties, faculty of the department are involved in teaching some topics of these courses.

Departmental Activities

: 1) Distribution of workload (teaching and non-teaching)

2) Identification and labelling of the plants present in the college campus.

3) Botanical Corner (Herbarium Display, Botanical News, etc.)

4) Botanical Excursion Tours

5) Tree plantation and Campus Development

6) Collection of the medicinally important, Endimic and Endangered plants of the region



7) Botanical Garden and its maintenance

8) To conduct the seminar of students,

Test examinations, and oral tests

Extra-curricular activities

- : - Environmental Association
- Botanical Garden and its maintenance
- Shed net is prepared for cultivation.
- To organise excursion tour
- To Prepare Vermi compost for recycling of solid waste.

A] Books of Botany in Central library

Sr. No.	Academic Year	Text Books	Reference books	Total
1.	2012-13	(875+195)=1070	(483+46)=529	1599
2.	2013-14	(1070+200)=1270	(529+00)=529	1799
3.	2014-15	(1270+75)=1345	(529+03)=532	1877
4.	2015-16	(1345+110)=1455	(532+05)=537	1992
5.	2016-17	(1455+120)=1575	(537+19)=556	2131
6.	2017-18	(1575+15)=1590	(556+00)=556	2146
7.	2018-19	(1590+135)=1725	(556+18)=574	2299

B] Books of Botany in Departmental library

F.Y.B.Sc. Text Books : 130

S.Y.B.Sc. Text Books : 50

Reference Books : 59

Total Books : 239



C] Journals and Periodicals:

1. **Journal of Bioscience**
2. **Current science**
3. **Resonance**
4. **Bioinfolet**
5. **Every Man's Science**
6. **Down to Earth**

METHOD OF TEACHING AND ASSESMENT:

Lecture method along with the followings,

- Charts
- O.H.P.
- Slide Projector
- L.C.D. Projector
- Digital live imagine Photo Microscope
- Models
- Internet
- Use of Black board
- Field visits
- Practical and Demonstrations
- Class test: Term end test is conducted for each term
- Seminars
- Group Discussion



FINANCIAL RECORD

Annual Budget Allocation of the Department.

Year	From non Salary Grant		U.G.C	Total
	Regular(Consumable)	Equipment		
2012-13	420/-	50288/-	62775/-	113483/-
2013-14	7180/-	--	51958/-	59138/-
2014-15	--	3500/-	--	3500/-
2015-16	259/-	--	27281/-	27540/-
2016-17	495/-	--	--	495/-
2017-18	14581/-	--	--	14581/-
2018-19	19442/-	19500/-	--	38942/-



List of equipments in the department

Sr. No.	Name of the Apparatus	Quantity
1	Rotary Microtome	1
2	Dissecting Microscope	12
3	Compound Microscope	20
4	Stereoscopic binocular microscope	1
5	Centrifuge (Hand Machine)	1
6	Centrifuge(Electric Machine)	1
7	Single Pan balance	1
8	Chromatography Chamber	1
9	Camera Lucida	1
10	Arc indicate	1
11	Tilak Air Sampler	1
12	Autoclave	1
13	Inoculation Chamber	1
14	Plant Press (Wooden Make)	1
15	Camera (practical) with flash gun	1
16	Slide Projector	1
17	Herbarium Cabinet	1
18	Slide Cabinet	1
19	Magnetic Stirrer with hit plate	1
20	Craft's Vasculum	2
21	Collection trunk	1
22	Dryer	1
23	Camera Adapter	1
24	Charts	40+11
25	Electrophoresis Apparatus	1
26	Godrej Refrigerator	1
27	Field Collection belt	1
28	Mortar and pestle	6
29	Over Head Projector	1
30	Computer with printer	1
31	Laboratory hot plat	1
32	Digital liveimagin Photo Microscope	1
33	Laminar air flow	1
34	Incubator	1
35	pH Meter	1
36	High Volume Air Sampler	1
37	Digital Electronic Balance	1
38	Vertical mini gel Model of electrophoresis with Digital power supply and Micro-pipette set	1
39	Hot Air Oven	1
40	Water Bath	1



Notes: All the above equipments are verified in the Stock Register of the Department.

RECORD MAINTENANCE:

Bot. – 1: University Syllabus File

Bot. – 2: Time Table

Bot. – 3: Work load

Bot. – 4: Roll Call and Attendance Report

Bot. – 5: Teaching plan

Bot. – 6: Student progress Report – Annual Exam Result sheet

Bot. – 7: Extra Curricular and Extension Activities Record

Bot. – 8: Study Tour Report

Bot. – 9: Equipment purchase record – Quotation, Order, Bills and Stock register

Bot. –10: Miscellaneous

Excursion Tours

Sr. No.	Year	Date	Place
1.	2012-13	10-02-2013	Trambkeshwar And Bhramhagiri
2.	2013-14	25-01-2014	Nirmal Seeds Pachora
3.	2014-15	28-01-2015	Patnadevi
4.	2015-16	10-10-2015	Gautala And Patanadevi
5.	2016-17	07-10-2016	Manudevi
6.	2017-18	07-02-2018	Maheshmal and Pitalkhora
7.	2018-19	22-09-2018	Manudevi, Landorkhori Park
8.	2018-19	22-02-2019	Ajanta Caves



OUR PRIDES....

Sr.No	Name	Designation	Place of work
01	Gaykawad Ganesh Shiwaji	Sr. Chemist	Mahagenco, Nasik
02	Kshirsagar Rahul Motilal	Biology Teacher	Delhi Public School,Aurangabad
03	Gunawant B. Patil	Assitant Jr.Scientist	National Research Centre on Plant Biotech. Indian Agri. Research Institute, New Delhi.
04	Ku. Sonar Sneha Arun	Assitant Teacher	Jr. College,Nirmal International School, Pachora.
05	Ku. Patil Pallavi Balu	Assitant Teacher	Nirmal International School, Pachora.
06	Patil Hemantkumar Panditrao	Area Manager	Godrej Company Mumbai.
07	Ku. Patil Monali Ramdas	Teacher	New Jercy, U. S. A.
08	Ku. Morankar Jagruti Yashwant	C. H. B. Sr. College	S. S. M. M. College Pachora
09	Ku. Patil Shital Rajendra	C. H. B. Sr. College	S. S. M. M. College Pachora

ALUMNI ASSOCIATION

Sr. No.	Year	Name	Mo. No.	
1.	2006-07	Bawache Sapana Anil	9405792911	M.Sc.
2.	2012-13	Amrutakar Ankita Subhash	8421936864	M.Sc.
3.	2013-14	Dhamale Jayshri Bapurav	8007241461	B.Sc.
4.	2014-15	Morankar Jagruti Yashwant	7057898036	M.Sc.
5.		Patil Pallavi Balu	9767028522	M.Sc.
6.	2015-16	Sonar Sneha Arun	7972415592	M.Sc.
7.		Patil Shital Rajendra	8007732433	M.Sc.
8.		Patil Ramanlal Hiralal	9730824502	M.Sc.
9.	2016-17	Rathod Dipali Devchand	8698416313	M.Sc.
10.		Patil Manisha Sudhakar	9420648385	B.Sc.
11.		Patil kajal Sanjay	8623890105	M.Sc.



FUTURE PLANS

- To enrich the departmental library.
- Promote research and publication for getting recognition as research laboratory.
- To enrich and update the botanical garden.
- To develop green house in garden.
- To arrange workshop for U.G. teachers.



Botanical Garden

“Purity, Peace and Pleasure”

- 1. Preservation and Propagation**
- 2. To cultivate Medicinal, Rare and Endangered plants.**
- 3. Vermicompost and Vermi-wash.**

LOCATION --- **West side of main building.**

DIMENTION --- **250ft × 60ft**

SHED NET --- **20ft × 20ft**

WATER RESOURCES --- **Well & Municipal water Supply**



Plant Species in Garden and Campus

Types of plant	No. of plant species
Herbs	56
Shrubs	47
Trees	50
Climbers	13
Aquatic	11
Bonsai	03
Pots plant (pots 180)	35
Total-	215



