

*Shri Shivaji Education Society Amravati's
Science College, Congress Nagar, Nagpur
Internal Quality Assurance Cell*

DEPARTMENT OF BOTANY

INTERNAL ACADEMIC AUDIT

2022-2023

1. A. Faculty Strength:

| Faculty | Recruited | Vacant | Remarks |
|--------------|-----------|--------|---------|
| Regular | 05 | | |
| CHB | 01 | | |
| Ad-hoc | -- | | |
| Non-teaching | 02 | 01 | |

B. Faculty profile

| Name | Highest Qualification | Designation | Specialization | Teaching Experience |
|---------------------------|-------------------------|------------------------|---|---------------------|
| Prof.. R.N. Deshmukh | M.Phil. Ph.D | Professor and Head | Algae Cytogenetics | 36 |
| Prof. P.S.Tiwari | M.Phil. Ph.D | Professor | Aerobiology, plant Tissue Culture | 25 |
| Dr.R,H.Mahakhode | B.Ed. Ph.D | Assistant Professor | Cytomorphology Cytogenetics | 12 |
| Dr. R.P.Sonwalkar | M.Phil. Ph.D | Assistant Professor | Plant biodiversity | 04 |
| Dr.Mrs.Sharayu S.Deshmukh | M.Sc., M.Phil., Ph.D | Assistant Professor | Taxonomy of Angiosperms | 04 |

2. Student's strength

| Year | Group | Number of Students Admitted |
|---------------------|-------|-----------------------------|
| B.Sc. Semester I | CBM | 33 |
| | CBZ | 57 |
| | CBG | 29 |
| | Total | 119 |
| | CBM | 27 |
| B.Sc. Semester III | CBZ | 46 |
| | CBG | 20 |
| | Total | 93 |
| | CBM | 29 |
| | CBZ | 44 |
| B.Sc. Semester V | CBG | 22 |
| | Total | 95 |
| | | |
| | | |
| | | |
| M.Sc.Semester I | | |
| M.Sc.Semester III | | |
| Ph.D. | | |
| Value Added Program | | |
| | | |

| | |
|-----------------------------------|--------|
| P. G. STUDENT INDUCTION PROGRAMME | Yes,No |
| ACADEMIC PLANNINGS | Yes,No |
| BRIDGE COURSE TAUGHT | Yes,No |
| REMEDIAL COURSE TAUGHT | Yes,No |

3.Student Performance

A. Result Analysis (Winter 2022) UG & PG

| Programme Name | Number of students who appeared in the final year | Number of students who passed in final year examination | Pass Percentage |
|----------------|---|---|-----------------|
| | | | |

| | examination | | |
|--------------------|--------------------|----|--------|
| B.Sc Semester- I | 107 | 65 | 60.74% |
| B.Sc Semester- III | 92 | 64 | 69.56% |
| B.Sc Semester- V | 94 | 79 | 84.04% |

B. Result Analysis (Summer 2023) UG & PG

| Programme Name | Number of students who appeared in the final year examination | Number of students who passed in final year examination | Pass Percentage |
|-------------------|---|---|-----------------|
| B.Sc Semester- II | 95 | 46 | 48.42% |
| B.Sc Semester- IV | 90 | 70 | 77.77% |
| B.Sc Semester- VI | 95 | 84 | 88.4% |

C. Achievements

A- (Medals/Awards/Prizes at University level)

| Sr.No. | Name of the Students | Class | Title |
|--------|-----------------------|---------------|-------------------------|
| 1 | Ku. Ketki Sonkusare | B.Sc. Sem. VI | Phytorid Technology |
| 2 | Mr. Akshay Bhatkulkar | B.Sc. Sem.V | Gene Editing & its Uses |

B- Merit Position of UG Students in RTMNU

| Sr. No. | Name of the Students | Merit Position |
|---------|-----------------------------|-----------------|
| 1 | Ku. Vinita Rajendra Tijare | 5 th |
| 2 | Ku. Vrunda Vidyadhar Borkar | 8 th |

C- Merit Position of PG Students in RTMNU

| Sr. No. | Name of the Students | Merit Position |
|---------|----------------------|----------------|
| | | |

4. Student's Progression:

| No. of students enrolling in higher Education | Name of institution joined | Name of program admitted to |
|---|--|-----------------------------|
| UG to PG - 03 | <ul style="list-style-type: none"> Institute of Science, Nagpur Shivaji Science College, | M.Sc Sem-I Botany |

| | | |
|----------------|--|----|
| | Nagpur • Shivaji Science College, Nagpur | |
| PG to Research | -- | -- |
| Placement | -- | -- |
| On-Campus | -- | -- |
| Off-Campus | -- | -- |

(i) **Students' publication in Conferences/ Journals:**

| Title of the Paper | Name of Author | Title of journal | Year of publication |
|--------------------|----------------|------------------|---------------------|
| | | | |

(ii) **Students' participation in Seminar/ Conferences:**

| Sr. No. | Name of Students | Conference type | Participation as |
|---------|------------------|-----------------|------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |

(iii) **Students' ExtensionActivity/ Extracurricular activity**

| Sr. No. | Name of the activity | The number of students who Participated |
|---------|---|---|
| | World Nature Conservation Day | 28 |
| | One day excursion to Bor Dam District Wardha | 87 |
| | One day workshop on "Nursery Techniques | 99 |
| | Project on "Hydroponics" | 10 |
| | Four days training program on Plant | 20 |

| | | |
|--|--|----|
| | Tissue Culture technique | |
| | Visited to Maharashtra State Seed Biotech Lab, Nagpur (MAHABEEJ) | 20 |
| | Workshop on “Extraction of Bioactive Compounds from plants | 39 |
| | Two days workshop on ‘Mushroom Cultivation | 20 |

(iv) **Participation of Students in online/MOOCs courses/ NPTEL/ SWAYAM**

| Sr. No. | Name of the Students | MOOCs / NPTEL/ SWAYAM |
|---------|----------------------|-----------------------|
| | | |

5. Faculty

I. Research Paper Publications

A. Total Number of publications:

i) International- 06 ii)

National - 01

B. Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

| Title Of the Paper | Name Of Author | Title Of Journal | Year Of Publication | Citation Index | Institution Affiliation As Mentioned In The Publication | Number Of Citations Excluding Self citation |
|---|----------------|--|---------------------|----------------|---|---|
| Nucleic Acids and Protein Content Changes in Seedlings of <i>Psoralea</i> | R.N. Deshmukh | Journal of Emerging Technologies and Innovative Research https://www.jetir.org | April, 2023. | | | |

| | | | | | | |
|--|-------------------|--|----------|---|--|--|
| <i>corylifolia</i> Induced by 2,4Dichlor ophenoxy Acetic Acid. Vol. 10 Issue 5 pp. 062-067. | | | | | | |
| Efficient evaluation of growth media with plant hormones on microporpag atio n of a medicativ e herb: bengal bean | Dr. P.S.Tiwari | European. Chemical. Bulletin. 2023, 12(Regular Issue 6), 355 - 359 ISSN 2063- 5346 | May22 | Scopus | | |
| Emerging Effects Of Air Pollution on Leaf Properties of Some Plants Collected From Koradi Suburb of Nagpur. | Dr. P.S.Tiwari | InternationalResearch journal ofManagement Science&Technology ISSN 2250 -1959 (online) JSSN 2348 -9367 (Print) DOI:10.32804IIRJMS T | April 23 | UGC ID 47959 IRJM ST | | |

| | | | | | | |
|---|----------------------|---|--------------|--|--|--|
| Study of Folk-Culture, Biodiversity Sources and Conservation Practices in Sundarban Region (Wb), India. IJRBAT Issue (X) Vol (III) 1825. | R.H. Mahakhod e | International journal Of Researches in Biosciences, Agriculture and Technology www.ijrbat.in | Sept. 2022 | | | |
| Chemical Screening and Antioxidant Assay of Three Indian Ethnomedicinal Plants. Vol. 14, Issue, 04 (A), pp. 2955-2960. DOI: 10.24327/IJRSR | R.H. Mahakhod e | International Journal of Recent Scientific Research UGC Approved https://www.recentscientific.com | April, 2023. | | | |
| Nucleic Acids and Protein Content Changes in Seedlings of <i>Psoralea corylifolia</i> Induced by 2,4Dichlorophenoxy Acetic Acid. Vol. 10 Issue 5 pp. 062-067. | R.H. Mahakhod e | Journal of Emerging Technologies and Innovative Research https://www.jetir.org | May 2023 | | | |
| Phytochemical Screening And Evaluation of Fruit Parts of <i>Cucumis callosus</i> (Rottl.) Cogn For Mosquitocidal Activities. | Dr. R.P. Sonwalkar | UGC –CARE List group- I Impact Factor- 4.257 Journal of Management and Entrepreneurship | June 2022 | | | |
| Phytochemical Composition & Gc- | Dr.Mrs.S.S .Deshmukh | A Double-Blind Peer | June 2022 | | | |

| | | | | | | |
|--|----------------------|---|-----------|--|--|--|
| Ms Analysis | | Reviewed & Refereed Journal | | | | |
| And Essential Oil Properties Of <i>Anisomeles indica</i> | | | | | | |
| GC-MS Analysis of <i>Leucas aspera</i> Medicinal Plant of Nagpur dist. | Dr.Mrs.S.S .Deshmukh | International Journal for Multidisciplinary Research 21 tjan 2023 | Jan 2023 | | | |
| Phytochemical & GC-MS Analysis of Aromatic Plant <i>Leonotis nepitifolia</i> | Dr.Mrs.S.S .Deshmukh | International Journal Of creative Researches thoughts (IGCRT) In | March2023 | | | |
| Properties of the Essential Oil, Chemical Composition & High Profile Thin Layer Chromatography Study Of <i>HyptisSuaveolens</i> Leaves From Nagpur Region (M.S.) | Dr.Mrs.S.S .Deshmukh | Vidyabharati International Interdisciplinary Research Journal | March2023 | | | |

| Name of the Faculty | Title of Conference/ Seminar/ workshop Attended | Period | Level International/ National/State /University /College | Whether Presented papers | Whether abst /paper publish Souvenir/ Abs Book |
|---------------------|---|--|--|--------------------------|--|
| Dr. R.N. Deshmukh | Science and Technology for Society ICSTS-2022 | 19 th & 20 th June 2022. | International | Yes | Yes |
| | 108 th Indian Science Congress | 5 th January | National | As a Resource | -- |

| | | | | |
|---|---------------------------|---------------|--------|-----|
| | 2023 | | Person | |
| Recent trends in MultiDisciplinary Research | 14-15 January 2023. | International | Yes | Yes |

Faculty participation in conferences/seminars/workshops and symposia:

| | | | | | |
|-------------------------|---|--|-----------------------|-----|-----|
| Dr. P.S.Tiwari | Science and Technology for Society ICSTS-2022 | 19-20 Jtne,2022 | International | Yes | Yes |
| | Recent trends in Multidisciplinary Research. | 14-15 January 2023 | International | Yes | Yes |
| Dr. R.H. Mahakhode | integrated Approach in S& T for sustainable future, | 26- 27 Feb,2022 | International | Yes | Yes |
| | Adopting Green initiatives for Sustainability. | 24-25 August 2022 | International | Yes | Yes |
| | Recent advances in science, Techn, Agriculture, Humanities, information sciences. | 19-24 may 2023 | International | Yes | Yes |
| | Science and Technology for Society ICSTS-2022 | 19 th & 20 th June 2022. | International | Yes | Yes |
| | Functional Materials for Sustainable Development | 10-12 October 2022. | National Symposium | Yes | Yes |
| | Recent trends in MultiDisciplinary Research | 14-15 January 2023. | International | Yes | Yes |
| | 108 th Indian Science Congress | 5 th January 2023 | National | Yes | Yes |
| Dr. R.P. Sonwalkar | Recent Trends In MultiDisciplinary Research(ICRTMR-2023) | 14-15 January 2023. | International | Yes | Yes |
| Dr.Mrs.S.S. Deshmukh | Properties of the Essential Oil, Chemical Composition & High Profile Thin Layer Chromatography Study Of <i>HyptisSuaveolens</i> Leaves From Nagpur Region (M.S.) | 24 th September 2022 | international | Yes | Yes |

| | | | | |
|---|---|---|----------------------|-----|
| Environment Impact Of Plants in Science | 3 rd JAN to 7 th Jan 2023 | National | yes | Yes |
| Phytochemical Composition & Gc-MS Analysis And Essential Oil Properties Of <i>Anisomeles indica</i> | 14 th and 15 th Jan-2023 | International conference | yes | Yes |
| Topic –AYUSH: Universal Key to Lead Healthy Life | 26 th April 2023 | Rajarshee Shahu science College, Viral road, Chandur Rly, Dist. Amravati PIN-444904 | As a Resource Person | |
| In Inter –School Medicinal Plants Exhibition | 20 th April 2023 | H.K.M Urdu High School Warud, Dist. Amravati | As a Jury member | |
| | | | | |

C. Awards to Faculty members

| Name of Teacher | Title of the Award | Title of Agency/ Conference | National / International |
|------------------|--|--|--------------------------|
| Prof. P.S.Tiwari | Academic Entrepreneurship Award- Biotechnology | Shri Paramhans education and research Academy. Regd. With the Govt. of NCT of Delhi & NITI AAYOG | National |

6. Number of functional MoUs with institutions, other universities, industries, corporate houses, etc. during the year

| The organization with which MoU is signed | Year of signing MoU | Duration | List the actual activities under each MOU year wise | Number of students/teachers who participated |
|---|---------------------|----------|---|--|
| | | | | |

| | | | | |
|--|------|---------|--|------------|
| | | | | under MoUs |
| Department of Cosmetic Technology, Nikalas Mahila Mahavidyalaya, Nagpur | 2023 | 5 years | workshop on “Extraction of Bioactive Compounds from plants” | 39 |
| | | | | |

7. Research funds sanctioned and received from various agencies, industries and other organizations

| Nature of the Project | Duration | Name of funding Agency | Amount Sanctioned | Amount Received |
|-----------------------|----------|------------------------|-------------------|-----------------|
| | | | | |

8. Books Published

| | Book | | Book Edited |
|-----------------------|---|---|--------------------------|
| | Title | ISBN and Date | Chapter |
| Dr. P.S.Tiwari | Introduction To Botany- Taxonomy of Angiosperms | ISBN: 978-8 1- 19338- 17 - 7, 2023 | ISO:9001-2015, edited |
| Dr. R.H. Mahakhode | Strategies of nanotechnology as a defense system in plants. pp. 227248. DOI: https://doi.org/10.1016/B9780-323-88535-5.00001-9 | 9780323885362 June 2022 Elsevier Publication | Chapter-01 |
| | | | |

9. Research Guidance by Faculty during the year

| Name of the guide | Ph.D | | |
|---------------------|---------|-----------|------------|
| | Awarded | Submitted | Registered |
| Dr. R. H. Mahakhode | -- | -- | 01 |
| | | | |
| | | | |

10. **Generation of funds through internal and external sources such as donations, consultancy, self-financing courses and so on.**

| Name of the nongovernment funding agencies/ individuals/ self-financing courses /consultancy service. | Purpose of the Grant/Fund | Fund generated in rupees. |
|---|---------------------------|---------------------------|
| | | |
| | | |
| | | |
| | | |

11. Alumni Engagement

a. Contributes significantly to the development of the institution through financial and other supports. Nil

12. Action Plan of the Department:

- To celebrate World Environment Day.
- To celebrate World Nature Conservation Day.
- To organize various Eco-friendly activities.
- To conduct workshop on Plant Propagation Techniques.
- Project on Hydroponics by students.
- To conduct workshop on Plant Tissue Culture
- To plan excursion tour
- To organize guest lectures
- To encourage the students in various curricular & Extra-curricular activities
- To organize workshop on Mushroom Cultivation under skill base course ▲ To encourage staff to participate in various National & International events.

13. Best Practices of the department:

- Green Activities – “Green Festive Celebration”.
- One Day Workshop On “Nursery Techniques”
- Students of Sem. VI from Botany dept. actively participated in the workshop on “Extraction of Bioactive Compounds from plants” at Nikalas Mahila Mahavidyalay, Nagpur.
- Students of Semester VI were visited to Maharashtra State Seed Biotech Lab, Nagpur

(MAHABEEJ)

- Students Participated in the workshop on Mushroom Cultivation Techniques & Plant Tissue Culture technique and Hydroponics

14. SWOT Analysis:

Strength

- Qualified, Competent and Experienced Staff.
- Committed non- teaching staff.
- Disciplined and hard working students.
- Well furnished and equipped Department. Safe and secured environment for co-education Democratic functioning.
- Various options available with Botany subject.
- Skill base certificate course on Mushroom Cultivation.
- Self-finance certificate course on Plant Tissue Culture.
- Botanical society for students.
- Good results with distinction.
- Focus on emotional & mental health of the students through Teacher Mentor Scheme.
- Parent-teacher interaction is encouraged.
- Seminars, counseling, personality development, guest lectures and Awareness programs are regularly arranged.

Weakness

- High drop out ratio due to poor socio-economic status of the students.
- Lack of risk taking ability.
- Average students seek admission in the subject.
- Moderate employment opportunity.
- Slow economic and industrial growth of Nagpur region.
- Decline of students' academic interest after pandemic (Covid-19).

Opportunity

- Employment potential in Forest department, various scientific institution e.g, NEERI, Ankur Seeds, Mahyco, CICR, CCRI, MIHAN, NMC Nagpur
- Training and placement cell in college.
- Student faculty exchange programme.
- Seminars, workshop, conferences, inter collegiate competitions, science exhibition for overall development of the students.
- Visit to Scientific laboratories and various localities.
- Research guidance facility available to students.
- Inspire camp is regularly organized to motivate the students for basic sciences. Execution planning for NEP-2020.

Threats

- Cut-throat competition in higher education.
- Declining interest of the students in basic science subject.
- Poor response of students during online classes during pandemic period.
- Majority of the students are facing emotional & mental health problems.
- Mushrooming of professional courses.



Yours sincerely

Prof. R. N. Deshmukh



HEAD
DEPARTMENT OF BOTANY
SHRI SHIVAJI EDUCATION SOCIETY
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CONGRESS NAGAR, NAGPUR