

PROGRAMME PROJECT REPORT

Master's in Botany Programme
(2 Year Programme ~~in accordance with UOP 2020~~)

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School of Sciences
U. P. Rajarshi Tandon Open University, Prayagraj

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1. Programme Mission & Objectives

In line with the mission of the University to provide flexible learning opportunities to all, particularly to those who could not join regular colleges or universities owing to social, economic and other constraints, the 2-year Post-Graduate Programme in Botany aims at providing holistic and value based knowledge and guidance to promote scientific temper in everyday life. The program offers a platform to the learners to fulfill the eligible criteria in various scientific jobs in government and private sector.

The Master of Botany Programme aims at the following objectives:

- Develop a broad academic and practical literacy in botany so that students are able to critically select and apply appropriate methods and techniques to extract relevant and important information.
- Provide strong core training so that students can adapt easily to changes.
- Enable students to understand not only how to apply certain methods, but when and why they are appropriate.
- Expose students to real-world problems in the classroom and through experiential learning.

These program objectives acknowledge the interdisciplinarity and the importance of building a strong foundation with our students.

2. Relevance of the Programme with Mission and Goals

The 2-year Post-Graduate Programme in Science, M.Sc.- Botany is designed with the objective of equipping learners to cope with the emerging trends and challenges in the scientific domain. In congruence with goals of the University the Programme also focuses to provide skilled manpower to the society to meet global demands. The Programme is designed in such a manner so that a successful learner can go for higher studies as well as join the industry or govt. organization.

3. Nature of Prospective Target Group of Learners

The Program is targeted to all individuals looking to earn a post graduation degree for employment, further higher education, promotion in career, professional development.

4. Appropriateness of Programme to be conducted in ODL mode to acquire specific skills & competence

Learning outcomes after Level 9		
Learning Outcomes	Elements of the descriptor	Level 9 (Master's in - Botany)
LO 1	Knowledge and understanding	• advanced knowledge about a specialized field of enquiry with a critical understanding of the emerging developments and issues relating to one or more fields of learning,
LO 2	Skills required to perform and accomplish tasks	• advanced cognitive and technical skills required for performing and accomplishing complex tasks related to the chosen fields of learning
LO 3	Application of knowledge and skills	• apply the acquired advanced theoretical and/or technical knowledge about a specialized field of enquiry or professional practice and a range of cognitive and practical skills to identify and

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		analyse problems and issues, including real-life problems, associated with the chosen fields of learning.
LO 4	Generic learning outcomes	• listen carefully, read texts and research papers analytically and present complex information in a clear and concise manner to different groups/audiences
LO 5	Constitutional, humanistic, ethical and moral values	• embrace and practice constitutional, humanistic, ethical and moral values in one's life
LO 6	Employment ready skills, and entrepreneurship skills and mindset	• exercising full personal responsibility for output of own work as well as for group/ team outputs and for managing work that are complex and unpredictable requiring new strategic approaches.

5. Instructional Design

i. 2-year M.Sc.- Botany Programme Structure

The University follows the credit system in all its programmes. One credit is equal to 30 hours of learner's study time which is equivalent to 15 lectures in conventional system. To earn a Master's Degree, a learner has to earn 80 credits in minimum four semesters (two years) with 20 credits per semester. For earning 80 credits, a learner has to go through the following Programme Structure:

Programme Structure of M.Sc.- Botany under NHEQF

Level	Year	Sem	Core Course 1	Core Course 2	Core Course 3	Research component	Practical Lab/ Dissertation with viva voce	Total credit
8	1	1 st	4	4	4	4	4	20
		2 nd	4	4	4	4	4	20
9	2	3 rd	4	4	4	4	4	20
		4 th	4	4	4	4	4	20
Total credit								80

Explanation of terms used for categorization of courses:

- Course 1 to 3:** A course, which should compulsorily be studied by a learner as a core requirement is termed as a Core course.
- Research Component:** The components included in this category are Basics in Research (PGBR-01), PGED-02, Basic Research Tools (PGRT-03).
- Practical Lab:** Lab based on theory courses for implementing the algorithms discussed in theory papers.
- Industrial Training/ Survey/ Research Project/ Field Work/Apprenticeship/ Dissertation/ Internship:** A course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a learner studies such a course on his own with an advisory support by a counsellor/faculty member.

ii. **Course curriculum:** The details of curriculum is given in Appendix-I

iii. **Language of Instruction:** English. However, learner can write assignment and give Term End Examination (TEE) either in Hindi or English.

iv. **Duration of the Programme**

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Minimum duration in years: 02

Maximum duration in years: 04

v. Faculty & Support Staff

Professor (1), Assistant Professor (3) and support staff (2)

6. Procedure for admissions, curriculum transaction and evaluation

i. Admission Procedure

- (a) The detailed information regarding admission will be given on the UPRTOU website and on the admission portal. Learners seeking admission shall apply online.
- (b) Direct admission to 2-year M.Sc. (Botany) program is offered to the interested candidates.
- (c) **Eligibility:** The candidate should possess graduation with botany/ life science.

ii. **Programme Fee:** Rs. 12000 / year. The fee is deposited through online admission portal only.

iii. Evaluation

The evaluation consists of two components: (1) continuous evaluation through assignments, and (2) term-end examination. Learner must pass both in continuous evaluation as well as in the term-end examination of a course to earn the credits assigned to that course. For each course there shall be one written Terminal Examination. The evaluation of every course shall be in two parts that is 30% internal weightage through assignments and 70% external weightage through terminal exams.

(a) Theory course	Max. Marks
Terminal Examination	70
Assignment	30
Total	100

(b) Practical course:	Max. Marks
Terminal Practical Examination	100

Marks of Terminal Practical Examination shall be awarded as per following scheme:

i. Write up /theory work	30
ii. Viva-voce	30
iii. Execution/Performance/Demonstration	20
iv. Lab Record	20

The following 10-Point Grading System for evaluating learners' achievement is used for CBCS programmes:

10-Point Grading System in the light of UGC-CBCS Guidelines

Letter Grade	Grade Point	% Range
O (Outstanding)	10	91-100
A+ (Excellent)	9	81-90
A (Very Good)	8	71-80
B+ (Good)	7	61-70
B (Above Average)	6	51-60
C (Average)	5	41-50
P (Pass)	4	36-40
NC (Not Completed)	0	0-35

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Ab (Absent)	0	Applicable only for Non-Credit courses
Q	Qualified	
NQ	Not Qualified	

Learner is required to score at least a 'P' grade (36% marks) in both the continuous evaluation (assignments) as well as the term-end examination. In the overall computation also, learner must get at least a 'P' grade in each course to be eligible for the M. Sc. degree.

Computation of CGPA and SGPA

(a) Following formula shall be used for calculation of CGPA and SGPA

For jth semester $SGPA (S_j) = \frac{\sum (C_i * G_i)}{\sum C_i}$	where, C_i = number of credits of the i th course in j th semester G_i = grade point scored by the learner in the i th course in j th semester.
$CGPA = \frac{\sum (C_j * S_j)}{\sum C_j}$	where, S_j = SGPA of the j th semester C_j = total number of credits in the j th semester

The CGPA and SGPA shall be rounded off up to the two decimal points. (For e.g., if a learner obtained 7.2345, then it will be written as 7.23 or if s(he) obtained 7.23675 then it be will written as 7.24)

CGPA will be converted into percentage according to the following formula:

$$\text{Equivalent Percentage} = \text{CGPA} * 9.5$$

(b) Award of Division

The learner will be awarded division according to the following table:

Division	Classification
1 st Division	6.31 or more and less than 10 CGPA
2 nd Division	4.73 or more and less than 6.31 CGPA
3 rd Division	3.78 or more and less than 4.73 CGPA

7. Requirement of the laboratory support and Library Resources

The practical sessions are held in the science laboratories of the Study Centre. In these labs, the learner will have the facility to use the equipment and consumables relevant to the syllabus. The SLM, supplementary text audio and video material of the various courses of the program is available through the online study portal of the University. The University also have a subscription of National Digital Library to provide the learners with the ability to enhance access to information and knowledge of various courses of the programme.

8. Cost estimate of the programme and the provisions

2-year M.Sc. programme consists of 12 theory courses, 4 laboratory courses and research activities. One course is of 4 credits which consists of approx. 12 units. The total approximated expenditure on the development of 12 courses is:

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S. No.	Item	Cost per Unit (writing & editing)	Total cost (Rs.)
1	Total no. of units in 12 courses = 12*12=144	4500	648000
2	BOS Meetings etc.	100000	100000
Total			748000

9. Quality assurance mechanism and expected programme outcomes

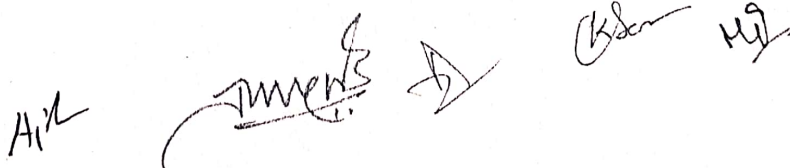
(a) **Quality assurance mechanism:** The program structure is developed under the guidance of the Board of studies comprising external expert members of the concerned subjects followed by the School board. The program structure and syllabus is approved by the Academic Council of the University. The course structure and syllabus is reviewed time to time according to the feedback received from the stakeholders and societal needs.

The Centre for Internal Quality Assurance will monitor, improve and enhance effectiveness of the program through the following:

- ✓ Annual academic audit
- ✓ Feedback analysis for quality improvement
- ✓ Regular faculty development programs
- ✓ Standardization of learning resources
- ✓ Periodic revision of program depending upon the changing trends by communicating to the concerned school

(b) Expected programme outcomes (POs)

Knowledge and understanding	PO1	Demonstrate advanced knowledge of plant sciences including taxonomy, physiology, genetics, ecology, and biotechnology.
Skills related to specialization	PO 2	Develop practical skills in plant identification, laboratory techniques, microscopy, and molecular biology tools
Application of knowledge and skills	PO 3	Apply botanical knowledge in agriculture, environmental management, conservation, and biotechnology sectors.
	PO 4	Utilize computational and statistical tools for data analysis in plant science research.
Generic learning outcomes	PO 5	Exhibit ethical values, environmental awareness, and professional responsibility in scientific practices.
	PO 6	Develop effective communication skills for scientific writing, presentations, and teaching.



ANNEXURE-I

Academic Year 2026-27
Detailed Programme Structure & Syllabus
M.Sc. Botany

Year	Sem.	Course Code	Paper Title	Theory/Practical	Max. Marks.	Credits	
1	I	PGBY-101(N)	Phycology	Theory	100	4	
		PGBY-102(N)	Mycology and Plant Pathology	Theory	100	4	
		PGBY-103(N)	Bryophytes and Pteridophytes	Theory	100	4	
		PGBR-01	Basics in Research	Theory	100	4	
		PGBY-105(N) (P)	Practical's based on PGBY 101N ,102N and 103 N	Practical Work	100	4	
	II	PGBY-106(N)	Gymnosperms and Palaeobotany	Theory	100	4	
		PGBY-107(N)	Anatomy, Reproduction and Morphogenesis	Theory	100	4	
		PGBY-108(N)	Taxonomy of Angiosperm and Economic Botany	Theory	100	4	
		PGED-02	Entrepreneurship Development	Theory	100	4	
		PGBY -110 N (P)	Practical's based on PGBY 106 N,107 N and 108 N	Practical Work	100	4	
2	III	PGBY-111(N)	Environmental Botany	Theory	100	4	
		PGBY-112(N)	Plant Physiology and Biochemistry	Theory	100	4	
		PGBY-113(N)	Cytogenetics and Plant Breeding	Theory	100	4	
		PGRT-03	Basic Research Tool	Theory	100	4	
		PGBY-115(N) (P)	Practical's based on PGBY 111 N ,112 N and 113 N	Practical Work	100	4	
	IV	Compulsory Papers					
		PGBY-118(N)	Tools and Techniques	Theory	100	4	
		PGBY-123(N) (D)	Dissertation based viva voce	Dissertation based viva voce	100	4	
		Choose any one group (Group I OR Group II)					
		Group I					
		PGBY-116(N)	Applied Microbiology	Theory	100	4	
		PGBY-117(N)/121 (N)	Bioinformatics	Theory	100	4	
		PGBY-119(N) (P)	Practical's based on PGBY 116 N ,117 N and 118 N	Practical Work	100	4	
		OR					
		Group II					
PGBY-120(N)	Plant Biotechnology, Biosafety, IPR and History of Botany	Theory	100	4			
PGBY-117(N)/121 (N)	Bioinformatics	Theory	100	4			
PGBY-122(N) (P)	Practical's based on PGBY 118 N ,120 N and 121 N	Practical Work	100	4			