



# UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A' GRADE UNIVERSITY)  
(Baba Sahib Ambedkar Road, Jammu-180006 (J&K))

Academic Section

Email: [academicsectionju14@gmail.com](mailto:academicsectionju14@gmail.com)

## NOTIFICATION (24/ April /Adp./21)

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Academic Council, is pleased to authorize the following

- The existing syllabi and Courses of Studies of **Multidisciplinary Course, Title- Entrepreneurship in Botany, Course No: UMDBOT203** of the subject of Botany of semester IInd for Four Year Under Graduate as per NEP-2020 as notified vide no. F.Acd./II/22/5382-5425 dated 18.09.2022 is applicable for the examinations to be held May 2023 and May 2024 only.
- Adoption of the revised Syllabi and Courses of Study of subject of Botany of Semesters IInd for Four Year Under Graduate Programme as per NEP-2020 (as given in the annexure) for the examinations to be held in the years as per the details given below:

Subject	Semester	Old Course	New Course	For the examinations to be held on
Botany	Semester-II	UMDBOT203 (Multidisciplinary)	UMDBOT205 (Multidisciplinary)	May 2025, 2026 and 2027

The Syllabi of the courses is available on the University website: [www.jammuuniversity.ac.in](http://www.jammuuniversity.ac.in)

Sd/-  
DEAN ACADEMIC AFFAIRS

No. F. Acd/II/24/ 216-265

Dated: 4/4/24

Copy for information and necessary action to:

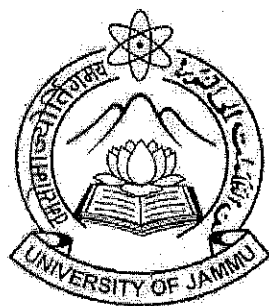
- Dean Faculty of Life-Science
- HOD/Convener, Board of Studies Botany
- Sr. P.A. to the Controller of Examinations
- All members of the Board of Studies
- Confidential Assistant to the Controller of Examinations
- Director, Computer Centre, University of Jammu
- Deputy Registrar/Asstt. Registrar (Conf. /Exams. UG)
- Incharge University Website for necessary action please

Sumit Thakur  
3/4/24  
Deputy Registrar (Academic)

8  
3/4/24  
Rab  
3/4/24  
28/4/24

# **DEPARTMENT OF BOTANY**

## **UNIVERSITY OF JAMMU**



**CURRICULUM FRAMEWORK FOR**  
**FOUR-YEAR UNDER GRADUATE (FYUG) PROGRAM IN BOTANY**  
**UNDER CBCS**  
**AS PER**

**National Education Policy-2020**

**WITH EFFECT FROM THE ACADEMIC YEAR 2022-23**

Approved By  
Board of Studies in Botany

**DEPARTMENT OF BOTANY, UNIVERSITY OF JAMMU, JAMMU**

Following courses of study are prescribed for

**1<sup>st</sup> to 4<sup>th</sup> semesters**

**FYUG program in the subject of BOTANY**

under **CBCS** as per **NEP-2020**

SEMESTER	TYPE OF THE COURSE	TITLE OF THE COURSE	COURSE NO.	CREDITS (T-Teaching P- Practical)
FIRST	MAJOR	INTRODUCTION TO THE PLANT MICROBES AND PLANT KINGDOM	UMJBOT101	4 (3T + 1P)
	MINOR	PLANT AND MICROBIAL WORLD	UMIBOT102	4 (3T + 1P)
	MULTIDISCIPLINARY	PLANTS-IMPORTANCE AND PROPAGATION	UMDBOT103	3 (T)
	SKILL ENHANCEMENT	NURSERY AND GARDENING	USEBOT104	2 (1T + 1P)
SECOND	MAJOR	ECONOMIC BOTANY AND PLANT CONSERVATION	UMJBOT201	4 (3T + 1P)
	MINOR	UTILIZATION AND CONSERVATION OF PLANTS	UMIBOT202	4 (3T + 1P)
	MULTIDISCIPLINARY	PLANTS-IMPORTANCE AND PROPAGATION	UMDBOT205	3 (T)
	SKILL ENHANCEMENT	BIO-FERTILIZERS	USEBOT204	2 (1T + 1P)
THIRD	MAJOR	DIVERSITY OF MICROBES, ALGAE, BRYOPHYTES AND PTERIDOPHYTES	UMJBOT301	4 (3T + 1P)
	MAJOR	CELL AND MOLECULAR BIOLOGY	UMJBOT302	4 (3T + 1P)
	MINOR	CELL BIOLOGY	UMIBOT303	4 (3T + 1P)
	MULTIDISCIPLINARY	PLANTS-IMPORTANCE AND PROPAGATION	UMDBOT304	3 (T)
	SKILL ENHANCEMENT	MUSHROOM CULTIVATION AND TECHNOLOGY	USEBOT305	2 (1T + 1P)
FOURTH	MAJOR	CHARACTERISTICS AND SYSTEMATICS OF SEED PLANTS	UMJBOT401	4 (3T + 1P)
	MAJOR	MYCOLOGY AND PLANT PATHOLOGY	UMJBOT402	4 (3T + 1P)
	MAJOR	PLANT ANATOMY	UMJBOT403	4 (3T + 1P)
	MAJOR	ECOLOGY AND CONSERVATION BIOLOGY	UMJBOT404	4 (3T + 1P)
	MINOR	ENVIRONMENTAL BIOLOGY	UMIBOT405	4 (3T + 1P)

**DEPARTMENT OF BOTANY, UNIVERSITY OF JAMMU, JAMMU**

**FYUG UNDER CBCS AS PER NEP 2020**

SEMESTER	TYPE OF THE COURSE	TITLE OF THE COURSE	COURSE NO.	FOR THE EXAMINATION TO BE HELD IN
SECOND	MULTIDISCIPLINARY	PLANTS-IMPORTANCE AND PROPAGATION	UMDBOT205	MAY 2025, 2026, 2027



**UNIVERSITY OF JAMMU**  
**Syllabus for FYUG Program in**  
**BOTANY (under CBCS as per NEP–2020)**  
**UG SEMESTER–II**

(For the examinations to be held in May 2025, 2026, 2027)

**PLANTS IMPORTANCE AND PROPAGATION**  
(MULTIDISCIPLINARY COURSE)

Course No. UMDBOT205

Max. Marks: 75

	Credits	Contact Hours	Units	Examination			
				Duration	(hours)	Weightage	(Marks)
				Mid semester	End semester	Mid semester	End semester
Theory	03	45	I to IV	1½	03	15	60

**Objectives:**

*The course has been framed to familiarize students with the importance of plants for sustenance of our planet in general and mankind in particular. It also aims to educate them about different modes of plant reproduction.*

**Course learning outcomes:**

*The students will learn the importance of plants and various methods of their propagation. Insights gained therein will help them to bring the economically important taxa under effective commercial production and utilization.*

**Unit–I: Plants–An Overview**

- 1.1 Diversity in habit (herb, shrub and tree) and habitat (terrestrial and aquatic) with respect to altitude (temperate, tropical, sub tropical and alpine).
- 1.2 Diversity in forms and body organisation.
- 1.3 Diversity of plant adaptation.
- 1.4 Concept of evolution and speciation.

**Unit–II: Importance of Plants**

- 2.1 Plants and their role in climate stability (soil fertility, prevention of soil erosion, availability of Oxygen, Carbon sequestration, pollution control).
- 2.2 Plants as source of food (wheat, maize, rice, mango, jamun, rajmah, apple, bottlegourd and fenugreek) – general description, botanical names and parts used.
- 2.3 Plants as source of fodder (clover, oak, *Grewia optiva*) and timber (*Pinus*, *Cedrus*, *Dalbergia* and Teak) – general description, botanical names and parts used.
- 2.4 Plants as source of medicine (quinine, belladonna, *Rauwolfia* and *Digitalis*), essential oils (lemon-grass and lavender) and beverages (tea and coffee) – general description, botanical names and parts used.

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**UG SEMESTER–II**

**(For the examinations to be held in May 2025, 2026, 2027)**

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**PLANTS IMPORTANCE AND PROPAGATION**  
**(MULTIDISCIPLINARY COURSE)**

**Course No. UMDBOT205**

**Max. Marks: 75**

**Unit–III: Modes of Vegetative Propagation**

- 3.1 General account of asexual means of reproduction.
- 3.2 Natural and artificial means of vegetative propagation; advantages and limitations.
- 3.3 Propagation by bulbs, corms, tubers, rhizomes, runners, stolons and suckers – general account.
- 3.4 Propagation by cutting, layering, grafting and budding – basic concepts.

**Unit –IV: Modes of Sexual Reproduction**

- 4.1 General account of sexual means of reproduction.
- 4.2 Structure of flower and its various forms; types of pollination (self versus cross) mechanisms.
- 4.3 Fertilization, basic concept of seed and fruit development.
- 4.4 Seed germination and dormancy; types and methods to break dormancy.

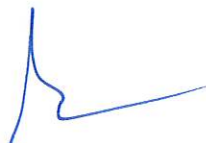
**Note for paper setters**

**End Semester University Examination (Total Marks: 60; syllabus to be covered: 100%)**

The question paper will have 2 sections. Section 'I' will be compulsory having four questions of 3 marks each and spread over the entire theory syllabus (one from each unit i.e., Units I to IV). The questions will be short answer type having answers not exceeding 50 to 70 words. Section 'II' will have eight long answer type questions, two from each unit. Each question will be of 12 marks. The candidates will be required to answer one question from each unit.

**Mid Semester assessment Test (Total Marks: 15; syllabus to be covered: up to 50%)**

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.



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**Syllabus for FYUG Program in**  
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**UG SEMESTER–II**

**(For the examinations to be held in May 2025, 2026, 2027)**

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**PLANTS IMPORTANCE AND PROPAGATION**  
**(MULTIDISCIPLINARY COURSE)**

**Course No. UMDBOT205**

**Max. Marks: 75**

**Suggested readings**

1. Bhojwani, S.S., Bhatnagar, S.P. and Dantu, P.K. (2018). The embryology of angiosperms. (6<sup>th</sup> edition). Vikas Publishing House, Noida.
2. Coulter, J.M. (1851). Morphology of Angiosperms (Morphology of Spermatophytes. Part-II). Nebu press, pp 376.
3. Johri, B.M. and Srivastava, P.S. (2013). Reproductive Biology of Plants. Springer Science and Business Media, pp 320.
4. Khan, A.S. (2017). Flowering Plants: Structure and Industrial Products. Wiley; 1st edition, United Kingdom, pp 344.
5. Kochhar, S.L. (2016). Economic Botany. Cambridge University Press, pp 680.
6. Nanda, K.K. and Kochhar V.K. (1985). Vegetative Propagation of Plants. Kalyani Publishers, New Delhi.
7. Ramawat, K.G. et al. (2014). Reproductive Biology of Plants. CRC Press, Boca Raton.
8. Sadhu, M.K. (1999). Plant Propagation. New Age International (P) Limited Publishers, New Delhi.

