

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE Vertical 3

Faculty of Science

Board of Studies in Botany

Second Year Programme

Semester

IV

Title of Paper

Credits

I) MICROGREENS – URBAN SUPERFOOD

2

From the Academic Year

2025-26

Title of Paper: MICROGREENS – URBAN SUPERFOOD

Sr. No.	Heading	Particulars
1	Description of the course : Including but Not limited to :	This course covers microgreens cultivation, sustainable growing methods, health benefits, and market opportunities, distinguishing them from sprouts and mature plants. Microgreens play a vital role in nutrition, urban farming, and sustainable agriculture, offering high-yield, eco-friendly food solutions. Students gain hands-on skills in soil and hydroponic cultivation, along with insights into their health benefits and commercial potential. It complements studies in horticulture, agronomy, nutrition, and sustainable agriculture. With rising demand for organic and nutritious foods, microgreens cultivation is a growing sector in agriculture and health industries. Students can explore careers as urban farmers, agripreneurs, food industry consultants, and sustainable agriculture specialists.
2	Vertical :	Open Elective
3	Type :	Theory
4	Credit:	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: To enable the learner 1. Gain knowledge about microgreens and distinguish them from sprouts and mature plants.. 2. Learn hands-on techniques of microgreens cultivation. 3. Understand eco-friendly and sustainable approaches for homegrown microgreens, including soil and hydroponic methods. 4. Comprehend the role of microgreens in health, sustainability, and urban agriculture. 5. Identify opportunities for microgreens cultivation and marketing	

8	Course Outcomes: The learner will be able to 1. Define microgreens and distinguish them from sprouts and mature plants. 2. Identify different types of microgreens and their nutritional benefits. 3. Demonstrate knowledge of homegrown microgreens, 4. Analyze the role of microgreens in health, sustainability, and urban agriculture. 5. Explore entrepreneurial opportunities in microgreens cultivation and marketing.
---	---

9	Module 1: Introduction to Microgreens 15 Lectures
	1. Understanding Microgreens • What are microgreens? Difference between sprouts, microgreens, and baby greens. • History and evolution of microgreens as a superfood. • Importance in urban and indoor gardening. 2: Types of Microgreens • Commonly grown microgreens. (Mustard, Fenugreek, Spinach, Radish, Sunflower, Basil, Pea Shoots) • Indian vs. Exotic microgreens. • Nutritional benefits and medicinal value. 3: Growing Microgreens at Home • Materials needed (seeds, trays, soil/coconut coir, water). • Step-by-step process of growing microgreens indoors. • Troubleshooting common issues (mold, overwatering, poor growth).
	Module II: (15 Lectures) Applications, Health Benefits & Business Opportunities of Microgreens
	1: Microgreens and Health Benefits • Nutritional comparison with mature plants. • Role of microgreens in immunity and detoxification. • Use of microgreens in traditional and modern diets. 2: Culinary Uses of Microgreens

	• Incorporating microgreens into daily meals. (salads, smoothies, soups, garnishing) • Microgreens in fine dining and gourmet cuisine. • Traditional Indian recipes using microgreens. 3: Microgreens for Sustainable Living • Urban farming and rooftop gardening with microgreens. • Reducing carbon footprint through homegrown food. • Role of microgreens in tackling food security issues.	
10	Text Books / Reference Books: 1. “Microgreens: A Guide to Growing Nutrient-Packed Greens” – Eric Franks & Jasmine Richardson 2. “The Grow Your Own Microgreens Cookbook” – Mark Mathew Braunstein 3. “Year-Round Indoor Salad Gardening” – Peter Burke 4. “Hydroponics for Beginners: Start Growing Vegetables, Herbs & Microgreens Without Soil” – Nick Jones 6. “The Urban Farmer: Growing Food for Profit on Leased and Borrowed Land” – Curtis Stone 7. “Microgreen Garden: Indoor Grower’s Guide to Gourmet Greens” – Mark Braunstein 8. “Homegrown Microgreens: A Guide to Growing, Using, and Enjoying Nature’s Superfoods” – Fionna Hill 9. “Microgreens: Innovative Urban Farming & Healthy Eating” – Richa Jain Additional Online Resources • FAO Reports on Urban Farming and Microgreens • ICAR Publications on Small-Scale Farming • Websites like GrowGreens India and Krishi Jagran for recent updates	
11	Internal Continuous Assessment: 40%	External, Semester End Examination 60% Individual Passing in Internal and External Examination
12	Continuous Evaluation through: 20 marks Quizzes, Class Tests, presentation, project, role play, creative writing, assignment etc.(at least 3)	Term end exam for 30 marks: Attempt any 3 questions out of 6 questions. (10 marks each)

13 **Format of Question Paper:** for the final examination

Time: 1 hour

Marks: 30

Note:

- 1. Attempt any 3 questions out of 6 questions.**
- 2. All questions carry equal marks**

Q1.10 Marks

Q2.10 Marks

Q3.10 Marks

Q4.10 Marks

Q5.10 Marks

Q6.10 Marks

Sd/-
Sign of the BOS
Chairman
Prin. Dr. Vasant Mali
BOS in Botany

Sd/-
Sign of the
Offg. Associate Dean
Dr. Madhav R. Rajwade
Faculty of Science &
Technology

Sd/-
Sign of the Offg. Dean
Prof. Shivram S. Garje
Faculty of Science &
Technology