

**S. P. Mandali's**  
**Ramnarain Ruia Autonomous College**  
*(Affiliated to University of Mumbai)*



**Syllabus for**  
**VOCATIONAL SKILL COURSE**

(As per the guidelines of National Education Policy 2020  
Academic year 2023-24)

(Choice based Credit System)



## COURSE OUTLINE

### VOCATIONAL SKILL COURSE

Course Code : RUSVSCBOT.E111

Course Title: Entrepreneurial Botany- Horticulture Industry

Academic year 2023-24

SEMESTER	COURSE CODE/ Unit	COURSE TITLE	CREDITS
I	RUSVSCBOT.E111	<b>Entrepreneurial Botany- Horticulture Industry</b>	01
	Unit- I	Horticulture Industry	
	RUSVSCBOTP. E111	Practicals based on RUSVSCBOT.E111	01

#### COURSE OUTCOMES:

COURSE OUTCOME	DESCRIPTION
	<b>A student completing this course will be able to:</b>
<b>CO 1</b>	Acquire professional competency in culturing horticultural plants, experiment the procedures in cultivating indoor horticultural plants
<b>CO 2</b>	Make a terrarium, dish garden, Bonsai and grow microgreens and establish entrepreneurship in these areas.
<b>CO 3</b>	Implement the post harvest technology so as to make the horticultural produce available throughout the year.
<b>CO 4</b>	Realize the potential of local flora and its diversity by studying techniques to identify, describe and make digital records.
<b>CO 5</b>	Develop entrepreneurship skills and develop problem solving abilities, plan and schedule events

## DETAILED SYLLABUS

Course Code	Unit	ENTREPRENEURIAL BOTANY- Horticulture Industry	Credits/ Hours
RUSVSCBOT.E111	1	<ul style="list-style-type: none"> <li>• Introduction to Horticulture, Branches of horticulture, Plant propagation – Layering , cutting and grafting</li> <li>• Table Top Garden (Terrarium, Dish garden) and Kokedama</li> <li>• Bonsai</li> <li>• Microgreens</li> </ul> <p>Post harvest technology: fruit and vegetable-based products (squash and pickle) – ready to serve (RTS) (syrup/ pulp / paste/ ketchup/ soup/ vegetable sauces /jam and jellies</p>	<b>1 Credit 15 hours</b>

PRACTICALS		
RUSVSCBOTP. E111	ENTREPRENEURIAL BOTANY- Horticulture Industry	Credits – 1
1	Plant propagation – Layering, cutting and grafting	
2	Table Top Garden (Terrarium, Dish garden) and Kokedama	
3	Bonsai	
4	Microgreens	
5	Post harvest technology- Preparation of squash and pickle, syrup/ pulp / paste/ ketchup/ soup/ vegetable sauces /jam and jellies	
6	Stem, Leaf , Inflorescence, Flower, Fruit	
7	Identification of common herbs, shrubs and trees	
8	Field Photography	

### References:

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- Khanna, S.S., 2016. Entrepreneurial development. S.Chand company limited, New Delhi. ISBN: 9788121918015.
- Manohar, D., 1989. Entrepreneurship of small scale industries, vol.III. Deep and deep publication, New Delhi. ISSN: 09735925.
- Lal, G., Siddhapa, G.S. and Tandon, G.L., 1988. Preservation of fruits and vegetables. Indian Council of Agricultural Research (ICAR). ISSN: 0101-2061.
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products, Second edition, Tata mcgraw hill, New Delhi. ISBN: 9780074518519.

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- Patil M. S., Karale A. R., Badgujar, C. D, Adiga, J. D. (2022) Essence Of Horticulture (2nd Fully Revised & Enlarged Edition) NIPA, ISBN: 9789386546807
- Gurjar ,P. K. S., Nikhil Parihar (2022) Precise & Protected Cultivation of Horticulture crops. Bluerose Publishers Pvt. Ltd.; First Edition, ISBN-13 : 978-9357042208
- Sindhu, V, . Ashok Kumar,B, Eggadi Ramesh (2020) Textbook of Protected Cultivation and Precision Farming for Horticultural Crops Publisher: science technology; 1st Edition 2021 ASIN : B09P46J919.
- Singh,A K, K.L. Chadha V.B. Patel (2011) Horticulture To Horti-Business. Westville Publishing House ISBN-10 : 8185873674, ISBN-13 : 978-8185873671
- Elhadi Yahia (2019) Postharvest Technology of Perishable Horticultural Commodities 1st Edition Paperback ISBN: 9780128132760 Woodhead Publishing
- Rosemary McCreary (2006) Tabletop Gardens Paperback, Publisher : Storey Books, ISBN-10 : 1580178375, ISBN-13 : 978-1580178372
- Takaaki Kagawa (2017) Kokedama: A step-by-step guide, Publisher : WriteHit.com; 2nd edition ASIN : B01NBU5X1B Kindle Edition available
- Jasmine Richardson (2009) Microgreens: A Guide to Growing Nutrient Packed Greens, Publisher : Gibbs M. Smith Inc; Illustrated edition ISBN-10 : 1423603648, ISBN-13 : 978-1423603641
- Robert Smith (2022) Bonsai Book for beginners, Publisher: Jpinsiders, ISBN-10 : 1778131840, ISBN-13 : 978-1778131844 Kindle Edition available
- Shrikant Ingalhalikar (2022) Leaf Based Identification For Trees Of Sahyadri Forest, Mangrove And Urban Trees Of Western Ghats In South Gujarat, Maharashtra, Goa And North Karnataka (Second Edition) Corolla Publications.
- Rup K. Roy (2015) Ornamental Trees of India Identification, Descriptor and Landscape Use Pointer Publishers ISBN: 9788171328000
- Rajendra D Shinde and Kalpit Ganesh Mhatre (2016) Ethno Medicinal Plants of Raigad District, Maharashtra, Dattsons Publishers, ISBN: 9788171921232
- Pradeep Sachdeva (2016) A Naturalist's Guide to the Trees & Shrubs of India (Naturalist's Guides) Paperback John Beaufoy Publishing Ltd, ISBN-10: 1909612820, ISBN-13: 9781909612822
- Adrian Davies (2023) Plant Photography Crowood Press ISBN-10: 0719842077, ISBN-13: 978-0719842078
- Sadhu, M.M.,(1989) Plant Propagation, New Age International (P) Limited Publishers, New Delhi, ISBN 8122400655

## Modality of Assessment Vocational Skill Course (2 credits)

### A) Internal Assessment (Theory)- 40%- 10 Marks

Sr No	Evaluation type	Marks
1	Class Test/Assignment/Open Book Test	10
	<b>TOTAL</b>	<b>10</b>

### B) External Examination (Semester End)- 60%- 15 Marks

#### Semester End Theory Examination:

1. Duration – The duration for these examinations shall be of **30 min**
2. Theory question paper pattern:

#### Paper Pattern:

Question	Options	Marks	Questions Based on
Q.1	Attempt ANY 1 out of 3	5	Unit I
Q.2	Attempt ANY 1 out of 3	5	Unit I
Q. 3	Attempt ANY 1 out of 3	5	Unit I
	<b>TOTAL</b>	<b>15</b>	

### Practical Examination Pattern: Total Marks 50

#### A) Internal Examination - 40%- 20 Marks

#### B) External Examination (Semester End)- 60%- 30 Marks

INTERNAL EXAMINATION	
Particulars	Practical Marks
Field study/ Assignment	10
Journal	05
Practical participation	05
Total	<b>20</b>
SEMESTER END EXAMINATION	
Laboratory work	30
Total	<b>30</b>
Total	<b>50</b>



## PRACTICAL JOURNAL

The students are required to present a **duly certified journal** for appearing at the practical examination, failing which they will not be allowed to appear for the examination.

In case of loss of Journal and/ or Report, a Lost Certificate should be obtained from Head/ Co-ordinator / Incharge of the department; failing which the student will not be allowed to appear for the practical examination.

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