

KONGUNADU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
COIMBATORE – 641 029



DEPARTMENT OF BOTANY
CERTIFICATE PROGRAMME IN BONSAI

CURRICULUM AND SCHEME OF EXAMINATIONS
(CBCS)
(2026 – 2027 onwards)

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PROGRAMME OUTCOMES (PO)

PO1

- ❖ Bonsai is an art that is rooted deep in culture and tradition. Growing bonsai trees provides a pleasant exercise of effort and ingenuity for the grower

PO2

- ❖ The bonsai plant itself is a source of aesthetics, tranquility and peace.

PO3

- ❖ To know the latest development in the field of Bonsai

PO4

- ❖ To develop skills in the area of designing, styles and making of bonsai

PO5

- ❖ Identify and utilize plants species from natural habitats for bonsai making

PO6

- ❖ It is impossible to get agitated or frustrated among students life when they are growing bonsai.

PO7

- ❖ Growing bonsai well bring students to be a lot more patient and relaxed life.

PO8

- ❖ Caring bonsai will bring harness positivity and evoke a sense of good spirit among students.

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO1

- ❖ To create knowledge on self-employment through and entrepreneur skills

PSO 2

- ❖ To understand the common and special types of bonsai

PSO3

- ❖ To recognize the marketing potential of bonsai in India

PSO4

- ❖ To identify the wild plants species for bonsai making.

PSO5

- ❖ To select the suitable tools for bonsai making.

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PROGRAMME NAME: CERTIFICATE PROGRAMME IN BONSAI

Curriculum and Scheme of Examination under CBCS

(Applicable to the students admitted during the Academic Year 2026-2027 and onwards)

Semester	Subject Code	Title of the Paper	Instruction hours /cycle	Exam Marks			Duration of Exam (hours)	Credits
				CIA	ESE	Total		
	26CCB101	C.P.1- Introduction to Bonsai Principles and Techniques	2	25	75	100	3	2
	26CCB102	C.P.2- Ethics, Values and Marketing of Bonsai	2	25	75	100	3	2
	26CCB1CL	C.Pr.1 - Bonsai Techniques	2	40	60	100	3	2
	26CCB1Z1	Project & Viva-Voce	2	20	80	100	3	2
		Grand Total	8	-	-	400	-	8

Note:

CBCS - Choice Based Credit System

CIA - Continuous Internal Assessment

ESE - End of Semester Examinations

Tally Table:

S. No.	Subject	Marks	Credits
1.	Core-Theory	200	4
2.	Core Practical	100	2
3.	Project & Viva-Voce	100	2
Grand Total		400	8

- 25% CIA is applicable for all subjects
- A **Field Trip** preferably relevant to the course should be undertaken during the course

Teaching Pedagogy

Smart Class Room / Powerpoint presentation/Seminar/Quiz/Discussion/Flipped Classroom/Peer Learning/Experimental Learning/Blended learning

Flipped Classroom

Preamble:

- Under flipped classroom model, students review foundational content before class, with class time dedicated to practice, discussion, and problem – solving where the role of the teachers will be facilitating discussions and enabling students to embark on a holistic learning perspectives

Work instructions:

- One flipped session / unit is made mandatory and the course In-charge shall identify and specify the topic to be covered in the flipped session in the lesson plan.
- Detailed session plans must be intimated to all students at least one week in advance.
- Curated content such as LORs, video lectures, animations, and other relevant digital content shall be provided to students in advance to facilitate effective preparation for the flipped classroom session.

Peer Learning

Preamble:

- Peer Assisted learning enables students to learn from each other sharing knowledge in a collaborative learning environment.
- Development of leadership skills and student engagement through student to student academic support.
- Reduce drop out/failure rates of the students and create a supportive academic culture where a high performing or trained student assists peers academically.

Work Instructions:

- Course In-charge shall supervise the programme by periodically reviewing its implementation, conducting review meetings, and monitoring the progress reports.
- Course In-charge shall identify 5 to 6 fast learners based on their academic performance in internal and external examinations.
- Course In-charge shall also identify students who require additional academic support and assign 4 to 5 such students to each fast learner to facilitate peer learning.

This team will operate remedial classes on a peer learning mode as per the following:

- a) One session / week / course and each session shall be for 30 minutes in duration, with follow-up learning activities.
- b) The faculty In-charge shall review attendance records and monitor the academic progress of the students.

Blended learning

Preamble:

- Blended learning integrates traditional in class instruction with digital tools exposing students to a myriad options for learning from subject experts across the globe
- It is provided with online learning sessions on recorded videos, lecture captured sessions (included under guided library hours), digital resources, and guided sessions facilitated by internal faculty members and external experts through Zoom meets etc.,

Work Instructions:

- For every course, students will be motivated to attend additional webinar/online courses through any interactive learning tools such as, telepresence systems, podcasts, interactive videos etc. with minimum of 2 sessions/course and maximum of 3 sessions/course.

Components of Continuous Internal Assessment (CIA)

Components		Marks	Total
Theory			
CIA I	75	(75+75=150/10) 15	25
CIA II	75		
Objective capacity Testing */Seminar		5	
Attendance		5	
Practical			
CIA Practical		25	40
Observation Notebook		10	
Attendance		5	
Project			
Review		15	20
Regularity		5	

Objective Capacity Testing:

- For the first assessment, questions shall be set from 2 ½ units (25 questions) and evaluation for 5 marks. The assessment shall be conducted through any authentic online platform, one week prior to the commencement of I CIA theory examinations.
- For the second assessment, questions shall be set from 2 ½ units (25 questions) and evaluation for 5 marks. The assessment shall be conducted through any authentic online platform, one week prior to the commencement of II CIA theory examinations.
- The average of the first and second assessment scores shall be considered for the final **5 marks** allocation.

BLOOM'S TAXONOMY BASED ASSESSMENT PATTERN

K1 - Remembering; **K2** - Understanding; **K3** - Applying; **K4** - Analyzing; **K5** - Evaluating

1. Theory Examination - Part I, II & III

(i) CIA I & II and ESE: 75 Marks

Knowledge Level	Section	Marks	Description	Total
K1 Q1 to 10	A (Answer all)	10 x 1 = 10	MCQ	75
K1 – K5 Q11 to 15	B (Either or Pattern)	5 x 5 = 25	Short Answers	
K2 - K5 Q16 to 20	C (Either or Pattern)	5 x 8 = 40	Descriptive / Detailed	

2. Practical Examination:

Knowledge Level	Section	Marks	Total
K3	Experiments & Record Work	50	60
K4		10	
K5			

3. Project Viva Voce:

Knowledge Level	Section	Marks	Total
K3	Project Report & Viva voce	60	80
K4		20	
K5			

Programme Code: 05	CERTIFICATE PROGRAMME IN BONSAI			
Core Paper 1: INTRODUCTION TO BONSAI PRINCIPLES AND TECHNIQUES				
Batch	Hours / Week	Total Hours	Credits	Entrepreneurship
2026-2027	2	30	2	

COURSE OBJECTIVES

- To know the latest development in the field of Bonsai
- To develop skills in the area of designing, styles and making bonsai
- To create knowledge on self employment and entrepreneurship skill development

COURSE OUTCOMES

On successful completion of the course, the students will be able to

K1 ↑ ↓ K5	CO1	Recognize preliminary aspects of Bonsai techniques.
	CO2	Understand necessary skills for the maintenance of Bonsai.
	CO3	Apply knowledge on various styles of Bonsai making.
	CO4	Imbibe the gathered information on bonsai and exhibit their entrepreneurial skills
	CO5	Implement the acquired knowledge on commercial applications of Bonsai

SYLLABUS

UNIT I: (6 hours)

Introduction - History, aim, scope and importance of Bonsai - Identification and collection of suitable plants for bonsai making.

UNIT II: (6 hours)

Tools, containers, wiring and preparation of media. Designing, Styles and making of bonsai. Training and pruning techniques in bonsai. Irrigation, pest and disease management.

UNIT III: (6 hours)

Styles of Bonsai - Upright Style, Formal Upright, Informal Upright Style, Slanting Style Windswept Style, Broom Style.

UNIT IV: (6 hours)

Cascade Styles of Bonsai - Semi Cascade Style, Formal Cascade Style, Informal or Vertical Cascade Style, Displaying Cascade Style Bonsai.

UNIT V: (6 hours)

Multiple tree styles of Bonsai - Two-Tree and Twin Trunk Style Bonsai. Forest Style Bonsai*. Bonsai with Special Characteristics.

* Self study

TEXT BOOKS

1. Paul Lesniewicz., 1994. Bonsai in your home. Sterling publishing Co, New York.
2. G.S. Randhawa and Amitabha Mukhopadhyay, 2000. Floriculture in India, Allied publishers, India.

REFERENCE BOOKS

1. Roy Edwin Biles, (2003). The complete Book of Gardening. Biotech Books, Delhi - 35.
2. S.K. Bhattacharjee, (2006). Advances in Ornamental Horticulture. Pointer Publication, Jaipur.
3. Doesh Beer Singh and Poonam Wazir, (2002). Bonsai - An art. Scientific Publishers, Jodhpur.

WEB RESOURCES

1. https://homescience10.ac.in/writable/uploads/media/1723096184_78a949de816abe8e2414.pdf
2. <https://centralfloridabonsaiclub.com/wp-content/uploads/2017/08/BeginnersManual.pdf>
3. <https://www.scribd.com/document/317848534/Bonsai-Project-doc>
4. <https://egyankosh.ac.in/bitstream/123456789/73055/1/Unit-7.pdf>

MAPPING

PSO CO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	S	H	H	M	H
CO2	S	M	H	H	M
CO3	H	S	M	H	H
CO4	S	H	M	S	M
CO5	H	S	M	H	H

S - Strong

H - High

M - Medium

L – Low

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Programme Code: 05	CERTIFICATE PROGRAMME IN BONSAI			
Core Paper 2: ETHICS, VALUES AND MARKETING OF BONSAI				
Batch	Hours / Week	Total Hours	Credits	Entrepreneurship
2026-2027	2	30	2	

COURSE OBJECTIVES

- To know the ethical value of bonsai
- To understand the common and special types of bonsai
- To recognize the marketing potential of bonsai in India

COURSE OUTCOMES

On successful completion of the course, the students will be able to

K1 ↑ ↓ K5	CO1	Recognize the traditions and ritual values of bonsai
	CO2	Understand the types of commercial and aesthetic types of bonsai
	CO3	Implement knowledge on source materials for bonsai making
	CO4	Refine the economic value of bonsai
	CO5	Explore the commercial production and marketing aspects of bonsai

SYLLABUS

UNIT I: (6 hours)

Bonsai rules, traditions and rituals - Respect for Nature and conservation - Miniature Bonsai - Developing Miniature Bonsai, Containers and Soil for Miniature Bonsai, Care and Maintenance.

UNIT II: (6 hours)

Special techniques in Bonsai - Driftwood Style, Selecting Material for Driftwood Style Bonsai, Creating Driftwood Style Bonsai and Dead Wood on Bonsai. Root over rock bonsai.

UNIT III: (6 hours)

Collecting, refining and displaying Bonsai - Sources of Material for Bonsai, Collecting Material from the Ground, Buying Material, Propagating Bonsai Material by, Seeds, Cuttings, Dividing, Grafting and Layering.

UNIT IV: (6 hours)

Refining Bonsai, Review the Basic Styles*, Species, Roots, Trunk, Branches and Foliage, Container, Soil and Displaying. Displaying in a Private Collection, Displaying in a Public Exhibit.

UNIT V:

Economic importance of Bonsai in tribal livelihood - marketing of Bonsai in ecotourism places. Bonsai - Rehabilitation prospects.

* Self study

TEXT BOOKS

1. K.L. Chadha, (2001). Handbook of horticulture. ICAR, New Delhi.
2. S.K. Bhattacharjee, (2004). Landscape gardening and design with plants. Aavishkar Publishers and Distributors, Jaipur, India.

WEB RESOURCES

1. https://nibmehub.com/opacs-service/pdf/read/Miniature%20Bonsai%20_%20the%20complete%20guide%20to%20super-mini%20bonsai.pdf
2. <https://www.slideshare.net/slideshow/introduction-to-bonsai-tree/250072616>
3. <https://bonsaisarajevo.wordpress.com/wp-content/uploads/2015/12/bonsai-styles.pdf>
4. https://agritech.tnau.ac.in/horticulture/horti_Landscaping_bonsai.html

MAPPING

PSO CO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	S	H	H	M	H
CO2	S	M	H	H	M
CO3	H	S	M	H	H
CO4	S	H	M	S	M
CO5	S	M	H	H	M

S - Strong

H - High

M - Medium

L – Low

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Programme Code: 05	CERTIFICATE PROGRAMME IN BONSAI			
CORE PRACTICAL 1: BONSAI TECHNIQUES				
Batch 2026-2027	Hours / Week 2	Total Hours 30	Credits 2	Entrepreneurship

COURSE OBJECTIVES

- To identify wild plant species for bonsai making
- To select the suitable tools for bonsai making
- To prepare bonsai with commercial market value

COURSE OUTCOMES

On successful completion of the course, the students will be able to

K3 ↑ K5 ↓	CO1	Apply principles and concepts for the conservation of plant species through bonsai techniques
	CO2	Refine the suitable plant species for bonsai making
	CO3	Examine the role of fertilizers in bonsai making
	CO4	Determine the nature of tools used in bonsai making
	CO5	Implement the acquired knowledge on commercial production and marketing of Bonsai

SYLLABUS**LIST OF PRACTICALS**

1. Identification of Plants suitable for making bonsai
2. Identification of tools for making bonsai (Repotting, pruning tools)
3. Role of fertilizer and its importance for bonsai making (organic and inorganic)
4. Selection of suitable plants to make different styles of bonsai
5. To acquire knowledge on special styles in bonsai (Bonsai on Rock and Root over bonsai)

MAPPING

CO \ PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	S	H	S	M	S
CO2	S	M	H	S	H
CO3	H	H	M	H	H
CO4	S	H	S	M	M
CO5	H	M	H	S	H

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L - Low

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**CERTIFICATE PROGRAMME QUESTION PAPER (PRACTICALS)
End of Semester Examination Question Paper Pattern
(For the candidates admitted from the academic year 2026-2027 onwards)**

Time: 3 Hours

Max. Marks: 60 Marks

BREAK UP OF MARKS

- | | |
|--|-------------------|
| A. Identification of plants suitable for making bonsai | -10 Marks |
| B. Identification of tools for making bonsai | -10 Marks |
| C. Cutting, wiring and pruning techniques | -10 Marks |
| D. Role of fertilizer and its importance for bonsai making | - 10 Marks |
| E. Styles of bonsai | -05 Marks |
| F. Set-up Root over Rock | -05 Marks |

Record **- 10 Marks**

TOTAL - 60 Marks

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Programme Code: 05	CERTIFICATE PROGRAMME IN BONSAI			
PROJECT & VIVA – VOCE				
Batch 2026-2027	Hours / Week 2	Total Hours 30	Credits 2	Entrepreneurship

COURSE OBJECTIVES

- To identify and utilize plants species from natural habitats for bonsai making
- To select the suitable plants for designing bonsai
- To gain knowledge on aesthetic value of bonsai of global importance

COURSE OUTCOME

On successful completion of the project work, the students will be able to

K3 ↑	CO1	Develop architectural skills in bonsai makings
	CO2	Analyze the sustainable utilization of tree species obtained from various natural vegetation
	CO3	Evaluate the nature and various styles of bonsai
	CO4	Apply the principles and concepts in their research components
K5 ↓	CO5	Execute standard operating procedures and interpretation of appropriate results

Group project work will be allotted to group of students under the supervision and guidance of the faculty members during I Semester. Project works related with bonsai techniques will be allotted to the students based on the lot system. The students shall do their projects under their supervisors and submit their dissertations at the end of I Semester. Both the Internal and External Examiners shall jointly evaluate the project reports submitted by the students and marks will be awarded on the basis as mentioned below.

Guidelines for the Distribution of Marks:

CIA	Project Review	15	20
	Regularity	5	
ESE	Project Report Present	60	80
	Viva – Voce	20	
	Grand Total		100

MAPPING

CO \ PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	H	H	S	M	S
CO2	S	S	H	S	H
CO3	S	H	S	H	S
CO4	S	H	M	S	M
CO5	H	M	S	M	L

S - Strong

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