

**KONGUNADU ARTS AND SCIENCE COLLEGE**  
**(AUTONOMOUS)**  
**COIMBATORE - 641 029**



**DEPARTMENT OF BOTANY**  
**CERTIFICATE PROGRAMME IN BONSAI**

**CURRICULUM AND SCHEME OF EXAMINATIONS**  
**(CBCS)**  
**(2023 - 2024 onwards)**

**KONGUNADU ARTS AND SCIENCE COLLEGE**  
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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.

## CCB1

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

#### PROGRAMME NAME: CERTIFICATE PROGRAMME IN BONSAI

Curriculum and Scheme of Examination under CBCS  
(Applicable to the students admitted during the Academic Year 2023-2024)

Semester	Subject Code	Title of the Paper	Instruction hours /cycle	Exam Marks			Duration of Exam (hours)	Credits
				CIA	ESE	Total		
	23CCB101	C.P.1- Introduction to Bonsai Principles and Techniques	2	25	75	100	3	2
	23CCB102	C.P.2- Ethics, Values and Marketing of Bonsai	2	25	75	100	3	2
	23CCB1CL	C.Pr.1 - Bonsai Techniques	2	25	75	100	3	2
	23CCB1Z1	Project & Viva-Voce	2	20	80	100	3	2
		<b>Grand Total</b>	<b>8</b>	<b>-</b>	<b>-</b>	<b>400</b>	<b>-</b>	<b>8</b>

#### 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

## CCB2

### Components of Continuous Internal Assessment (CIA)

Components	Marks	Total
<b>Theory</b>		
CIA I	75	25
CIA II	75	
Assignment/ Seminar	5	
Attendance	5	
<b>Practical</b>		
CIA Practical	25	40
Observation Notebook	10	
Attendance	5	
<b>Project</b>		
Review	15	20
Regularity	5	

### 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			

### CCB3

#### 3. Project Viva Voce:

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

<b>Programme Code: 05</b>	<b>CERTIFICATE PROGRAMME IN BONSAI</b>		
<b>C.P. 1. INTRODUCTION TO BONSAI PRINCIPLES AND TECHNIQUES</b>			
<b>Batch 2023-2024</b>	<b>Hours / Week 2</b>	<b>Total Hours 30</b>	<b>Credits 2</b>

### 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:**

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

**\* Self study****Teaching Methods**

Smart Class Room/PowerPoint presentation/Seminar/Quiz/Discussion

**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.

**REFERENCES**

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.

**MAPPING**

<b>PSO</b> <b>CO</b>	<b>PSO1</b>	<b>PSO 2</b>	<b>PSO 3</b>	<b>PSO 4</b>	<b>PSO 5</b>
<b>CO1</b>	S	H	H	M	H
<b>CO2</b>	S	M	H	H	M
<b>CO3</b>	H	S	M	H	H
<b>CO4</b>	S	H	M	S	M
<b>CO5</b>	H	S	M	H	H

S - Strong

H - High

M - Medium

L - Low



<b>Programme Code: 05</b>	<b>CERTIFICATE PROGRAMME IN BONSAI</b>		
<b>C.P. 2. ETHICS, VALUES AND MARKETING OF BONSAI</b>			
<b>Batch 2023-2024</b>	<b>Hours / Week 2</b>	<b>Total Hours 30</b>	<b>Credits 2</b>

### 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	Refining 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****Teaching Methods**

Smart Class Room/PowerPoint presentation/Seminar/Quiz/Discussion

**Text books**

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

**MAPPING**

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

**S** - Strong

**H** - High

**M** - Medium

**L** - Low

<b>Programme Code: 05</b>		<b>CERTIFICATE PROGRAMME IN BONSAI</b>		
<b>CORE PRACTICAL 1: BONSAI TECHNIQUES</b>				
<b>Batch</b> 2023-2024	<b>Semester</b> I	<b>Hours / Week</b> 2	<b>Total Hours</b> 30	<b>Credits</b> 2

### 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	Refining 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

### 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

PSO \ CO	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

**S - Strong                      H - High                      M - Medium                      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 2023-2024 onwards)

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**Time: 3 Hours**

**Max. Marks: 60 Marks**

**BREAK UP OF MARKS**

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

Record **- 10 Marks**

**TOTAL - 60 Marks**

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<b>Programme Code: 05</b>		<b>CERTIFICATE PROGRAMME IN BONSAI</b>		
<b>PROJECT &amp; VIVA – VOCE</b>				
<b>Batch 2023-2024</b>	<b>Semester I</b>	<b>Hours / Week 2</b>	<b>Total Hours 30</b>	<b>Credits 2</b>

### 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 ↑ ↓ K5	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
	CO5	Executing 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:

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

### MAPPING

PSO CO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
<b>CO1</b>	H	H	S	M	S
<b>CO2</b>	S	S	H	S	H
<b>CO3</b>	S	H	S	H	S
<b>CO4</b>	S	H	M	S	M
<b>CO5</b>	H	M	S	M	L

S - Strong                      H - High                      M - Medium                      L - Low