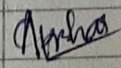
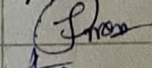
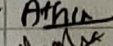
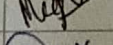
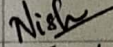
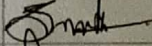
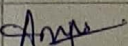
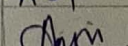
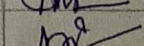
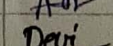
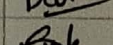
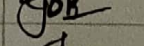
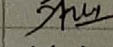
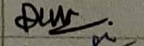
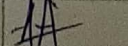
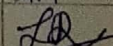
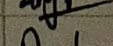


MANNAM MEMORIAL NSS COLLEGE, KOTTIYAM

STUDENT ENROLMENT LIST

Name of Department : **ZOOLOGY**

Name of course : **Horticulture**

Sl No	Name of Student	Signature
1	AKSHARA	
2	ANADHA KRISHNAN K	
3	ANJANA A S	
4	ANJANA PREM	
5	ARYA A S	
6	ATHIRA R B	
7	MEGHA UNNI	
8	DEVIKA UNNI	
9	NAMITHA R PILLAI	
10	NISHA M A	
11	SRUTHI S	
12	VARUNIMA MAHESH	
13	ARYALEKSHMI P B	
14	ANJANA RAJ	
15	ANUDEV	
16	DEVIKA MOHAN	
17	GOKUL RAJ	
18	KAVYA S	
19	KRISHNENDHU S	
20	S DEVANATH	
21	SARATH R	
22	AKHIL A	
23	LEKSHMI R	
24	ANJANA B	
25	ARCHANA S	
26	DEVIKA SAJEEV	
	DEVIKA SHAJI	



28	DEVU S R	PSR
29	GOURI HARI	Gouri
30	KRISHNA S S	Krishna
31	LEKSHMI PRIYA M	Lekshmi
32	SARANYA SATHIYAN	Sanya
33	SREELAL R S	Sreelal
34	ABHIRAMI T A	Abhirami
35	AISWARYA S	Aishwarya
36	AKSHAI KRISHNA O S	Akshai
37	AMAL B	Amal
38	ANANDAKRISHNAN H	Anand
39	ANANDHU N	Anandhu
40	ANJALI J	Anjali
41	ANJALI S	Anjali
42	ANJANA CHANDRAN	Anjana
43	APARNA S	Aparna
44	ARCHA L D	Archa
45	ARYA MOHAN	Arya
46	DARSANA K SUBHASHI	Darsana
47	DHANYALEKSHMI P B	Dhanya
48	FATHIMA S	Fathima
49	KAVYA S	Kavya
50	MALAVIKA	Malika
51	NIDHUN M	Nidhun
52	RAMCY R	Ramcy
53	ROHITH R	Rohith
54	SANDRA SANTHOSH	Sandra
55	VEENA U	Veena
56	SRUTHY MANIKANDAN	Sruthy



Sheela David

Lekshmi

HORTICULTURE

Number of contact hours : 30 hrs

Aim of the course: To develop knowledge about principles of gardening, propagation and flower arrangement

Objectives:

- To introduce horticultural methods
- To familiarize propagation methods in plants.
- To study types of gardens and flower arrangements

MODULE-I

12hrs

1. Introduction ,importance and scope of horticulture.
2. Principles of garden making
3. Types of pots and containers
4. Potting mixture and potting media – soil, sand, peat, sphagnum moss, vermiculite
5. Soil types, Soil preparation
6. Manures and fertilizers
7. Farmyard manure, compost, vermi compost and biofertilizers.
8. Time and application of manures and fertilizers.

MODULE-II

8hrs

I Propagation methods

1. Cuttings- root, stem, leaf
2. Layering – Air layering, Ground layering (Tip, Trench and Compound)
3. Budding – T-budding
4. Grafting – Approach grafting, Bridge grafting, whip and tongue grafting.

MODULE- III

6hrs

1. Components of Garden
2. Garden tools and implements
3. Conservatory or green houses, Indoor garden, Roof garden
4. Bonsai
5. Plant protection- Weedicides, Fungicides, Pesticides

MODULE- IV

4hrs

1. Flower Arrangement-Containers and requirements for flower arrangements Free style, Shallow and Mass arrangement, Dry flower arrangement
2. Bouquet and garland making



REFERENCES

1. Arora J.S (1990). Introductory Ornamental Horticulture, Kalyani Publications
2. Bailey L.H (1901). The Standard Cyclopaedia of Horticulture Volume 1,2 and 3, Macmillan Publications.
3. Bose T.K and Mukerjee D (1987). Gardening in India, Oxford Book House
4. Chauhan V.S, (1972). Vegetable Production in India, Ram Prasad & Sons
5. Gupta S N (2010) Instant Horticulture, Jain Brothers publishing
6. Kumar N (1989). Introduction to Horticulture, Rajalakshmi Publications
7. Manibhushan Rao K (1991). Text Book of Horticulture, Macmillan Publications
8. Shujnroto, (1982). The Essentials of Bonsai, David & Charles, Newton
9. Rajesh Kumar, Kaushal Kumar Misra, (2014) Fundamentals of Horticulture, Biotech publishers
10. Singh J (2017) Fundamentals of Horticulture, Kalyani publishers

Expected outcome

- Students are familiarized in horticulture implements and methods of gardening
- Better understanding of commercial horticulture, flower arrangement, cut flowers
- Can understand about fertilizers and Plant protection
- Can propagate plants through grafting, budding and layering & can prepare manures, fungicides etc.



Lekshmy S

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Head, Dept. of Zoology
M.M.N.S.S. College
Kottiyam, Kollam

2018-19

ZOOLOGY Add on Course

HORTICULTURE

COURSE SCHEDULE

DATE	TIME	TOPIC
02/10/2018 (Tuesday)	3.30 – 4.30 pm	Introduction importance and scope of horticulture
03/10/2018 (Wednesday)	3.30 – 4.30 pm	Principles of garden making
04/10/2018 (Thursday)	3.30 – 4.30 pm	Pots and containers
05/10/2018 (Friday)	3.30 – 4.30 pm	Potting mixture and media-soil , sand
06/10/2018 (Saturday)	9.00 – 1.00 pm	Media continuation .Sphagnum , vermiculite Soil types and preparation
15/10/2018 (Monday)	3.30 – 4.30 pm	Manures and fertilizers
16/10/2018 (Tuesday)	3.30 – 4.30 pm	Farmyard manure, compost
17/10/2018 (Wednesday)	3.30 – 4.30 pm	Vermicompost and Biofertilizers
18/10/2018 (Thursday)	3.30 – 4.30 pm	Time and application of manures and fertilizers
19/10/2018 (Friday)	3.30 – 4.30 pm	Propagation Methods –Cuttings –root stem and leaf
20/10/2018 (Saturday)	9.00 – 1.00 pm	Layering , Budding –Types
05/11/2018 (Monday)	3.30 – 4.30 pm	Grafting-Types-Approach and Bridge Grafting
06/11/2018 (Tuesday)	3.30 – 4.30 pm	Grafting Types –Whip and Tongue grafting
07/11/2018 (Wednesday)	3.30 – 4.30 pm	Components of Garden
08/11/2018 (Thursday)	3.30 – 4.30 pm	Garden tools and Implements
09/11/2018 (Friday)	3.30 – 4.30 pm	Conservatory –Green Houses
10/11/2018 (Saturday)	9.00 – 1.00 pm	Indoor garden and Roof garden, Bonsai-Making and Types
19/11/2018 (Monday)	3.30 – 4.30 pm	Weedicides , Fungicides and pesticides
20/11/2018 (Tuesday)	3.30 – 4.30 pm	Flower arrangements –Containers and requirements, Free shallow and mass style
21/11/2018 (Wednesday)	3.30 – 4.30 pm	Dry Flower arrangements
22/11/2018 (Thursday)	3.30 – 4.30 pm	Bouquet and garland making
03/12/2018 (Monday)	END COURSE EVALUATION	



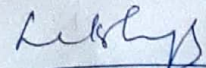
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ZOOLOGY Add on Course HORTICULTURE

Mark Sheet of End Course Evaluation

No	Name	Marks /40	
1	AKSHARA	32	Akh
2	ANADHA KRISHNAN K	29	Ana
3	ANJANA A S	35	An
4	ANJANA PREM	37	Pm
5	ARYA A S	29	Arya
6	ATHIRA R B	36	Athira
7	MEGHA UNNI	38	Megha
8	DEVIKA UNNI	39	Dev
9	NAMITHA R PILLAI	32	Na
10	NISHA M A	28	Nisha
11	SRUTHI S	31	Sruthi
12	VARUNIMA MAHESH	37	Varun
13	ARYALEKSHMI P B	38	Arya
14	ANJANA RAJ	29	Anjin
15	ANUDEV	28	Anu
16	DEVIKA MOHAN	31	Devi
17	GOKUL RAJ	24	Gok
18	KAVYA S	31	Kav
19	KRISHNENDHU S	34	Krish
20	S DEVANATH	29	Dev
21	SARATH R	26	Sarath
22	AKHIL A	28	AA
23	LEKSHMI R	35	LB
24	ANJANA B	38	Ana
25	ARCHANA S	35	Arch
26	DEVIKA SAJEEV	37	Dev
27	DEVIKA SHAJI	36	Dev
28	DEVU S R	33	Dev

29	GOURI HARI	38	Soni
30	KRISHNA S S	31	Sh
31	LEKSHMI PRIYA M	34	Lpm
32	SARANYA SATHYAN	33	Sar
33	SREELAL R S	28	Slee
34	ABHIRAMI T A	32	Abhi
35	AISWARYA S	35	Aish
36	AKSHAI KRISHNA O S	29	Aksh
37	AMAL B	28	Amal
38	ANANDAKRISHNAN H	28	Abh
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41	ANJALI S	37	An
42	ANJANA CHANDRAN	35	Anji
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50	MALAVIKA	31	Malav
51	NIDHUN M	27	Nidhun
52	RAMCY R	33	Ram
53	ROHITH R	30	Rohit
54	SANDRA SANTHOSH	34	Sandra
55	VEENA U	37	Vena
56	SRUTHY MANIKANDAN	36	Sm


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2018-19

ZOOLOGY Add on Course

HORTICULTURE

Course Report

Horticulture the branch of plant agriculture dealing with garden crops, generally fruits, vegetables, and ornamental plants. As a general term, it covers all forms of garden management, but in ordinary use it refers to intensive commercial production. This add on Course on Horticulture was given, keeping in mind the objectives of introducing different horticultural methods, Media preparation, Garden and Bonsai making, flower arrangement etc. A total of students actively attended the course and got familiarized with the various horticultural practices, like Cutting, layering, budding and grafting. They also got an understanding regarding various fertilizers and manures used for plant growth and the various pesticides used for plant protection. They also got a better understanding about commercial horticulture and flower arrangement. The course has been concluded on 03.12.2018 with an End Course Evaluation.



Lekshmy S

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Principal

Principal
M.M.N.S.S. COLLEGE
KOTTIYAM

2018-19

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