



S.A.S. GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM, WEST GODAVARI DISTRICT-534411
(AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM)
Phone: 08818 252189. E-mail: narayanapuram.jkc@gmail.com



DEPARTMENT OF BOTANY



CERTIFICATE COURSE IN

SUSTAINABLE HOME GARDENING

Academic Year - 2021-22

CERTIFICATE COURSE AT A GLANCE

1. TITLE OF THE COURSE: SUSTAINABLE HOME GARDENING
2. LEVEL OF THE COURSE: UG
3. NAME OF THE INSTRUCTOR: SHAIK.AAISHA
4. DURATION OF THE COURSE: 30 HOURS
5. DATE OF COMMENCEMENT: 08.07.2022
6. DATE OF CLOSURE: 16.08.2022
7. TIME OF CONDUCT OF THE CLASSES: 9:00 AM - 10:00 AM
8. NUMBER OF STUDENTS ENROLLED FOR THE COURSE:15
9. NUMBER OF STUDENTS COMPLETED THE COURSE:15
10. ASSESSMENT CRITERION: EVALUATION TEST



CONTENTS

1. Minutes of the Departmental meeting
2. Permission letter to the principal
3. Proceedings of the principal
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10. Question paper
11. Valued scripts
12. Photographs of conducting the classes
13. Model certificate
14. Report on the Certificate course



Minutes of departmental meeting on certificate



The faculty members of the Department of Botany met in the principal's chamber under the chairpersonship of Dr G Giri Babu at 3 PM on Dt: 30.06.2022 discussed and resolved as detailed here under.

After a thorough discussion on the agenda of conducting the certificate course as per the departmental action plan, it was resolved to

1. Conduct a certificate course titled Sustainable Home Gardening with a duration of 30 hours during the working days
2. Frame the syllabus and regulations for the successful completion of the certificate course
3. Examine the completion of the course and issue certificates to the qualified students
4. Set 40% of marks as eligibility for the completion of the course
5. Serve notice to the students well in advance for their enrollment into this course
6. Commence the course on the date fixed obtaining due permission from the chair.

Signatures of the faculty

DR. A. S. Giri Babu
DEPARTMENT OF BOTANY
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406

Principal

PRINCIPAL
SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM
West Godavari District.
Pin: 534 406, Andhra Pradesh

Request Letter to Principal for Certificate Course *Permission*



From

Department of Botany,

SAS GDC, Narayanapuram.

Narayanapuram, *Permit*

Date: 01.07.2022.

To

The Principal,

SAS GDC, Narayanapuram.

Respected Sir/Madam

Sub:-Accord Permission to Certificate Course on SUSTAINABLE HOME GARDENING – Request-Reg.

The Department of Botany proposed to Conduct a Certificate course on SUSTAINABLE HOME GARDENING on 08.07.2022. The Duration of the Course is 30 Hours.

In this connection, the Department of Botany requests you to accord permission to conduct above mentioned Certificate Course from 08.07.2022.

Thanking You Sir,

Faithfully

SK Aashna
Shakuntala

Department of Botany
SAS GOVERNMENT DEGREE COLLEGE
Lecturer in Botany
NARAYANAPURAM-534 406

Enclosures

1. A Xerox copy of the minutes of Departmental meeting dt.30.06.2022
2. A copy of the syllabus

PROCEEDINGS OF THE PRINCIPAL



Sub:- Accord Permission to the Department of Botany for conducting Certificate Course on SUSTAINABLE HOME GARDENING -Reg :-

Ref:- Letter from the in charge, Department of Botany dated 02.07.2022

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The In-charge of the Department of Botany requested permission to conduct a certificate course in SUSTAINABLE HOME GARDENING From 08.07.2022 vide reference cited. Accordingly, the Principal is pleased to accord permission to start a certificate course on SUSTAINABLE HOME GARDENING from 08.07.2022 onwards.

The In-charge, Department of Botany action in this regard.

L
Principal
PRINCIPAL
SAS GOVT. DEGREE COLL
NARAYANAPURAM
West Godavari District
Pin: 534 406, Andhra Pradesh

NOTICE



Dt.04.07.2022

All the students of SAS Govt. Degree College, Narayanapuram is hereby informed that the Department of Botany is intending to conduct a certificate course in "Sustainable Home Gardening" from 08.07.2022 onwards. The required permission from the honorable Principal of the college has been obtained. Hence the students who are interested in enrolling themselves for the course may please contact the in-charge of the department for further details on or before dt.

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Initials of the Principal
PRINCIPAL
SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM
West Godavari District.
Pin: 534 406, Andhra Pradesh

SK Aesha
In-charge of the Deptt
Department of Botany
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406

OBJECTIVES :

The main objectives of the program are intended to:



1. Enable students to contribute to a household's nutrition and food security.
2. This course helps students to get opportunities for employment and livelihood sustainably.
3. To impart the knowledge to provide rapid and direct access to a diversity of foods that can be harvested, prepared, and eaten by family members daily or as a part of business

OUTCOMES :

1. Students gain the knowledge of cultivating vegetables at home in a sustainable way.
2. Self-employment opportunities and entrepreneurship.
3. Students gain knowledge of gardening cost-effectively and sustainably.

S.A.S. GOVT. DEGREE COLLEGE, NARAYANAPURAM
SYLLABUS FOR CERTIFICATE COURSE



SUSTAINABLE HOME GARDENING: Course Syllabus:

SUSTAINABLE HOME GARDENING course syllabus is framed by botany-certified experts, which will help you to understand how to perform gardening more efficiently and sustainably, from the basic to advanced level. This sustainable home gardening syllabus makes you an expert in growing your garden in a more organic and eco-friendly way.

HOME GARDENING:

- Introduction
- Managing vegetable crops in home gardens
- Amaranthus
- Water Spinach
- Bitter Gourd

BAG GARDENING:

- Advantages of bag gardening
- Preparation of bag gardening
- Establishment of a bag garden
- Do's and Don't's

SEED EXTRACTION AND STORAGE:

- Introduction
- Production of seeds of Tomato, Cucumber, Melons, Beans, Okra
- Seed storage
- Pre-storage seed test

GRAFTING TECHNIQUES :

- Introduction
- Preparation for grafting
- Steps for grafting

*8/1
Incharge
Department of Botany
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406*

SAS GOVERNMENT DEGREE COLLEGE, NARAYANAPURAM
Eluru District, Andhra Pradesh-534406



DEPARTMENT OF BOTANY

Enrolled students list

S.NO.	ROLL NOS. and STUDENT NAME	CLASS
1	213557110017. A.Mounika	I BZC
2	213557110018. B.Devi	I BZC
3	213557110019 B.Likhita Mythili	I BZC
4	213557110020 B.Ruthvik	I BZC
5	213557110021. B.Janaki latha bai	I BZC
6	213557110022. B.Vasavi	I BZC
7	213557110023. B.Bharathi	I BZC
8	213557110024. E.Sowjanya	I BZC
9	213557110025. G.Annapurna	I BZC
10	213557110027. K.Kondala rao	I BZC
11	213557110028. K.Leela Satya Mangaveni	I BZC
12	213557110029. K.Durga Bhavani	I BZC
13	213557110031. P.Satya Durga	I BZC
14	213557110017. A.Mounika	I BZC
15	213557110035. S.Vanaja	I BZC

SK Acharya
Dept of HOD
Department of Botany
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406

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PRINCIPAL
SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM
West Godavari District.
Pin: 534 406, Andhra Pradesh

SAS GOVT. DEGREE COLLEGE, NARAYANAPURAM

(Affiliated to Adikavi Nannaya University, Rajamahendravaram, AP)



Department of Botany, 2021-2022

Certificate course on SUSTAINABLE HOME GARDENING - Student Attendance Register

S. NO	Regd No	Attendance Days														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	213557110017. A.Mounika	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
2	213557110018. B.Devi	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
3	213557110019 B.Likhita Mythili	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
4	213557110020 B.Ruthvik	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
5	213557110021. B.Janaki latha bai	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
6	213557110022. B.Vasavi	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
7	213557110023. B.Bharathi	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
8	213557110024. E.Sowjanya	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
9	213557110025. G.Annapurna	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
10	213557110027. K.Kondala rao	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
11	213557110028. K.Leela Satya Mangaveni	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
12	213557110029. K.Durga Bhavani	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
13	213557110031. P.Satya Durga	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
14	213557110017. A.Mounika	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
15	213557110035. S.Vanaja	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p

SK Aasha
Department of Botany
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406

S.A.S. GOVT. DEGREE COLLEGE, NARAYANABURAM

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Department of Botany, 2021-2022

Certificate course on SUSTAINABLE HOME GARDENING - Student Attendance Register

S.NO	Roll No.	Attendance Days														
		16	17	18	19	22	21	22	23	24	25	26	27	28	29	30
1	213557110017. A.Mounika	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
2	213557110018. B.Devi	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
3	213557110019 B.Likhita Mythili	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
4	213557110020 B.Ruthvik	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
5	213557110021. B.Janaki latha bai	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
6	213557110022. B.Vasavi	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
7	213557110023. B.Bharathi	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
8	213557110024. E.Sowjanya	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
9	213557110025. G.Annapurna	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
10	213557110027. K.Kondala rao	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
11	213557110028. K.Leela Satya Mangaveni	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
12	213557110029.	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p

SKA
Incharge
Department of Botany
SAS GOVERNMENT DEGREE COLLEGE
NARAYANABURAM

	K.Durga Bhavani																				
	213557110031.	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	
	P.Satya Durga																				
14	213557110017.	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	
	A.Mounika																				
15	213557110035.	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	
	S.Vanaja																				



S.K. Abel
 Department of Botany
 SAS GOVERNMENT DEGREE COLLEGE
 NARAYANAPURAM-534 406

QUESTION PAPER



Time-30 minutes.

$$30 \times 1 = 30 \text{ marks}$$

1. Tall sacks filled with soil in which vegetables can be grown are called

- a) Sack Gardens
- b) Bag Garden
- c) Both a and b

2 Coir pith is

- a) light weight
- b) water resistant
- c) not better than soil

3.combination ratio of coir and decomposed cow dung for bag garden

- a) 2:1
- b) 1:1
- c) 2:2

4. pick the restricted things for bag gardening

- a) Do not make too many holes in a bag
- b) Do not open the bags fully

c) both a and b

5. Storing garden seeds is like

a) Storing family jewels

b) less than family jewel storage

c) not required at all

6. grafted plants withstand

a) bacterial wilts

b) prion infection

c) rodents

7. containers are cheap and ideal for a home garden?

a) Plastic

b) Iron

c) Earthen

8. What should be the optimum soil temperature of potting medium?

(a). 18 to 21°C.

(b). 15 - 22°C.

(c). 8 - 10°C.

(d). None of the above.

9. What should be the optimum pH of potting medium for the successful growing of fern



- (a). 4 to 6.
- (b). 3 to 3.5.
- (c). 6.5 to 7.
- (d). 7 to 7.5.

10. Air layering is common in.

- (a). Dracaena.
- (b). Croton.
- (c). Aglaonema.
- (d). All of the above.

11 The act of growing plants inside the house is called

- a) Indoor gardening
- b) outdoor gardening
- c) rock gardening

12. Cultivation of plants that require a low amount of light and water to thrive are

- a) Indoor gardening
- b) outdoor gardening
- c) . landscape gardening

13. Most of the summer vegetables are:

- a) Annual
- b) Biennial
- c) Perennial



14. During seed formation, a sear left by the funiculus is termed as

- a) Hilum
- b) Funiculus
- c) Operculum.



15. Cracking in tomato fruit is due to:

- a) High nitrogen level
- b) Temperature fluctuations
- c) both a and b

16. Orthodox seeds after dissemination may be

- a) None dormant
- b) Dormant
- c) All of the above

17. Seed vigor is affected by

- a) Time of storage
- b) Type of seed stored.
- c) both a and b

18. Tetrazolium test to check seed viability is

- a.) Chemical test
- b) Germination test.

c.) a & b

19. Researchers describe seed moisture contents in terms of :

a. Dry weight

b. Wet weight.

c) a & b

20. Controlled inhibition of seed is termed as:

a. Priming

b. Soaking

c. None of the above

21. Celery and lettuce at high temperature become

a. Photodormant

b. Thermodormant

c. Ecodormantd.

22. Excessive soil moisture, late in the season cause.

a. Decrease in TSS decrease in dry matter

b. Increase in TSS decrease in dry matter



Decrease in TSS increase in dry matter



23. Which of the following statements are correct about artificial vegetative propagation of plants?

- A. We get seedless plants by this method.
- B. By artificial propagation many plants can be grown from just one parent.
- C. The new plants produced by this method will be exactly like the parent plants.
- D. All the above

24. Name a method in which the cut stems of two different plants are joined together to grow as a single plant?

- A. Layering
- B. Grafting
- C. Cutting
- D. None of the above

25. Name the method of asexual reproduction in plants in which callus is produced?

- A. Regeneration
- B. Micro propagation
- C. Fragmentation
- D. Vegetative Propagation

25. In which artificial propagation method Stock and Scion are involved?

- A. Tissue Culture
- B. Cuttings
- C. Grafting
- D. Layering

26. In Lemon and China rose plant which method of artificial propagation is used?

- A. Cuttings
- B. Layering
- C. Grafting

D. Tissue Culture



27. What type of artificial propagation method is used in sugarcane, banana and cactus trees?

- A. Layering
- B. Grafting
- C. Cutting
- D. Regeneration

28. In Apple, peach, apricot and pear trees what type of artificial propagation method is used?

- A. Cutting
- B. Layering
- C. Grafting
- D. Both A and B

29. In which method of artificial propagation of plants the parts of branches which are buried in soil grow their own roots?

- A. Cutting
- B. Layering
- C. Grafting
- D. Both B and C

30. Artificial propagation of plants is done by how many methods?

- A. 6
- B. 5
- C. 4
- D. 3

REPORT ON THE CERTIFICATE COURSE



As a part of academic activity, the Department of Botany has conducted a certificate course in sustainable home gardening from 08.07.2022 for the academic year 2021-2022. The important objective of the course is to improve basic knowledge on sustainable gardening among UG degree students. As per the instructions given by the principal during the minutes of the meeting, 15 members of the students are enrolled in the certificate course. The botany faculty member has engaged in classes for 30 hours and dealt the basic concepts of the subject. At the end of the course an external examination with multiple choice questions was conducted for the assessment of learners understanding levels of knowledge. The minimum qualifying marks for the award of certification is 40%. All the students completed the course successfully and got certificates during the academic year 2021 and 2022.

Laura
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West Godavari District.
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NARAYANAPURAM, W.G DISTRICT-534406



DEPARTMENT OF BOTANY

CERTIFICATE

This is to certify that **Miss K. Durga Bhavani** Section **A** Roll No. **12** has attended the **CERTIFICATE COURSE IN SUSTAINABLE HOME GARDENING** conducted during academic year 2021 - 2022 and having passed the examination prescribed therefore was declared to have completed the course.

S. K. Asatha
Head of the Department

Department of Botany
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406



P. Praveena
SAS GOVT. DEGREE COLLEGE
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DEPARTMENT OF BOTANY

CERTIFICATE

This is to certify that Ms. **R. Likhita Mytili** Section **2** Roll No. **03** has attended the **CERTIFICATE COURSE IN SUSTAINABLE HOME GARDENING** conducted during academic year 2021 - 2022 and having passed the examination prescribed therefore was declared to have completed the course.

Head of the Department

SAS GOVERNMENT DEGREE COLLEGE
KOLKATA-700 014. 534 406



**SAS GOVT. DEGREE COLLEGE
NARAYANA PURAM
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