

VISAKHA GOVERNMENT DEGREE COLLEGE FOR WOMEN



Certificate course on Horticultural techniques



CONDUCTED BY DEPARTMENT OF BOTANY

GENERAL OBJECTIVES OF THE COURSE:

1. To inculcate the importance of studying horticultural practices and usage of horticultural crops.
2. To equip the students with practical knowledge of horticultural practices.
3. To familiarize the students with the horticulture based industries at national and international level.
4. To impart the basic skills of entrepreneurship in the students specifically in the field of horticulture.

Course Coordinator

S. Padmavathi

Lecturer in Botany

V.G.D.C (W) VISAKHAPATNAM

Course Director

Dr.S. Shobha Rani

Principal

V.G.D.C (W) VISAKHAPATNAM

GENERAL OBJECTIVES OF THE COURSE:

1. To inculcate the importance of studying horticultural practices and usage of horticultural crops.
2. To equip the students with practical knowledge of different horticultural practices.
3. To familiarize the students with the horticulture based industries at national and international level.
4. To impart the basic skills of entrepreneurship in the students specifically in the field of horticulture.

DURATION: 30 hours

MEDIUM OF INSTRUCTION: English

LEARNING OUTCOMES

Students will develop an understanding of propagation process.

In the course they are able to learn transplanting and potting techniques.

Students are able to tackle the challenges that come across.

JOB OPPORTUNITIES:

Students are able to establish a green house and start a small-scale industry of culturing exotic plants.

They can also export flowers using online services.

Horticulture Syllabus

1. Definition of Horticulture and Importance of Horticulture in terms of economy production employment generation.
2. Scope for Horticulture in India, and Divisions of Horticulture with suitable examples and their importance.
3. Classification of Horticulture crops based on soil and climatic requirements, Establishment of Kitchen garden.
4. Different steps in Establishment of Orchards and Management of Orchards and different systems of planting and their merits and Demerits.
5. Definition of manures and Fertilizers – Different methods of application of manures and Fertilizers to Horticulture crops.
6. Cropping systems -Inter cropping and multi tier cropping their merits and demerits with suitable examples.
7. Study of Different types of Irrigation systems.
8. Classification of soils and study of different types Soils.
9. Definition of mulch -objectives of mulching different types of mulches – organic and inorganic mulches with suitable examples.
10. Definition of Propagation, Need and Potentialities for plant multiplication.
11. Sexual and Asexual methods of propagation and their Advantages and Disadvantages
12. Study of different types of Nursery tools and Implements.
13. Definition of Nursery, Different types of Nursery beds – Flat beds, Raised beds, and Sunken beds their merits and Demerits.
14. Different Nursery techniques and their Management.
15. Seed dormancy – means to break Seed dormancy (Stratification and Scarification) external factors and seed treatment for germination.
16. Methods of grafting -Approach grafting ,Veneer grafting, Wedge grafting, Saddle grafting, Tongue grafting, Whip grafting and Epicotyl grafting.
17. Methods of Budding T Budding, Inverted T budding , Shield budding, Chip budding , Flute budding and Ring Budding.
18. Selection of mother plant, Establishment of Progeny Orchard / mother plant block, Pre-curring of Scion.

19. Introduction to green houses – history – Definition Green house effect – advantages of green houses.
20. Brief description of green houses green houses based on shape, utility , Construction covering materials and cost shade nets.
21. Irrigation system used in green houses rules of watering – hand watering, peri meter, watering overhead, Sprinkles, and Drip Irrigation.
22. Study of Ornamental garden and different components.
23. Study of Different Ornamental plants Trees, Shrubs, Climbers, Palms, and their methods of Planting.
24. Importance of fruit and Vegetable Preservation -Definition of preservation, Classify the different methods of preservation.
25. Principles and methods of Preservation- Preservation by Asepsis, High temperature, low temperature , chemicals Drying filtration, Carbonation, Fermentation, Sugar salt.
26. Study of some important diseases in Horticulture crops and their management
27. Importance of Post-Harvest technology of Horticultural crops -post harvest losses in the country loss of Revenue in the country.
28. Definition of organic farming and study of steps involved in organic farming, organic pest control.
29. Study of composting principles of composting vermiculture, vermi-composting, coir pits manure.
30. Study of mushroom production and their nutritional aspects.

PRACTICALS

1. Study of features of Orchards / fruit garden
2. Study and practicing of different propagation methods
3. Preparation of Nursery Beds
4. Training and Pruning of Topiary plants and hedges
5. Preparation of fertilizer mixtures and field preparation

2016 - 2017

S-NO	Name of the student	27/7	28/7	29/7	30/7	1/8	2/8	3/8	4/8
1	E. Sesi Kala	P	P	P	P	P	P	P	P
2	M. Vara lakshmi	P	P	A	P	P	P	P	P
3	T. Sri Jyothi	P	P	P	P	P	P	P	A
4	U. vijaya lakshmi	P	P	P	P	P	P	P	P
5	I. Soba Rani	P	P	P	A	P	P	P	P
6	P. Divya	P	P	P	P	P	A	P	P
7	A. Hymaswari devi	P	P	P	P	P	P	A	P
8	S. usha Rani	P	P	P	P	A	P	P	P
9	G. Usha Rani	P	P	A	P	P	P	P	P
10	P. Pavani	P	P	A	P	P	P	P	P
11	R. RUPAVANI	P	P	P	P	A	P	P	P
12	T. Tejaswini	P	P	P	P	P	P	A	P
13	A. Jyothi	P	P	P	A	P	P	P	P
14	N. Bhavani	P	P	P	P	P	A	P	P
15	Cti. uma	P	P	P	P	P	A	P	P
16	B. Ramalakshmi	P	P	P	P	P	P	A	P
17	M. goshya begum	P	P	P	P	A	P	P	P
18	M. Alekhya	P	P	P	P	P	P	P	A
19	M. Nooka Ratnam	P	A	P	P	P	P	P	P
20	k. Sonia	P	P	P	P	P	A	P	P
21	G. Pushpa Latha	A	P	P	P	P	P	P	P
22	P. Devi	P	P	A	P	P	P	P	P
23	A. Pydi Rajeswari	P	P	P	A	P	P	P	P
24	S. Nalini	P	P	P	P	A	P	P	P
25	Ch. Dhana lakshmi	P	P	P	A	P	P	P	P
26	Y. Alekhya	P	P	A	P	P	P	P	P
27	S. Shivani	P	P	P	P	A	P	P	P
28	M. Inalira bala	P	P	P	A	P	P	P	P
29	M. Mohini	P	P	P	P	A	P	P	P
30	G.V. Lalitha Rao	P	P	P	P	P	A	P	P

04	1879	1879	1879	1879	1879	1879
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P	P	P	P	P	P	P
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P	P	P	P	P	A	P
P	P	A	P	P	P	P

Multiple Choice Questions

1. _____ deals with the planning and execution of Ornamental gardens, parks, etc.,
 - a) Landscape architecture
 - b) Ornamental horticulture
 - c) Landscape gardening
 - d) None of the above

2. Quincunx in Horticulture refers to
 - a) Pruning Method of grapes
 - b) Desuckering method of Banana
 - c) Harvesting fruits from trees
 - d) Planting method of trees

3. Seed rate of Amaranth is _____ kg/ha
 - a) 1.5-2
 - b) 4-6
 - c) 2-4.5
 - d) 8-10

4. Vitamin A is rich in
 - a) Mango
 - b) Papaya
 - c) Spinach
 - d) Walnut

5. Fruits that are severely damaged by vibration during transplantation, that damaged is referred as
 - a) Roller bruising
 - b) Impact bruising
 - c) Compression bruising
 - d) None of the above

6. Sapota is commercially propagated by
 - a) Grafting
 - b) Budding
 - c) Cutting
 - d) Layering

7. *Artemesia pallens* (Davanam) belong to which family
 - a) Apiaceace
 - b) Asteraceae
 - c) Lridaceae
 - d) Acaraceae

8. The soil pH can be increased by adding
 - a) Gypsum
 - b) Potash
 - c) Lime
 - d) Sand

9. The key principles of organic farming
 - a) Integrated farming
 - b) Crop rotation
 - c) Organic cycle
 - d) All of the above

10. Which of the following is not a Ridge gourd variety
- | | |
|-------------------|-----------------|
| a) Swarna manjari | b) Pusa manjari |
| c) Arka prasan | d) Swarna uphar |
11. Calculate no. of plants in Square system of planting if given, area of land is 1 hectare (1ha) and spacing between rows and plant is 10m?
- | | |
|--------|--------|
| a) 100 | b) 200 |
| c) 300 | d) 400 |
12. Which chemical is used for degreening of fruits
- | | |
|--------------------|--------------|
| a) IBA | b) Cytokinin |
| c) GA ₃ | d) Ethylene |
13. “Azolla” biofertilizer is mainly used in this crop
- | | |
|----------|------------|
| a) Jowar | b) Rice |
| c) Maize | d) Millets |
14. Which plant part of Dioscorea spp. (Yam) is used for medicinal purpose?
- | | |
|--------------------|------------------|
| a) Rhizome (tuber) | b) Fruit (Berry) |
| c) Stem | d) Leaves |
15. Spraying of fungicides along with wettable sulphur is management practice of _____ disease
- | | |
|------------------|-------------------|
| a) Sooty moulds | b) Anthracnose |
| c) Fusarium wilt | d) Powdery mildew |
16. Water use efficiency (WUE) is high in which type of irrigation
- | | |
|---------------------|---------------------------|
| a) Flood irrigation | b) Sub-surface irrigation |
| c) Drip irrigation | d) Sprinkler irrigation |
17. Which tools are used for applying pesticides, weedicides and other agro chemicals
- | | |
|-----------------|----------------------|
| a) Sprayers | b) Dusters |
| c) Both A and B | d) None of the above |
18. Removal of part of terminal growing portion of stem is called as
- | | |
|---------------|----------------|
| a) Pinching | b) Defoliation |
| c) Disbudding | d) Deshooting |

19. Picking berries left on plant irrespective of ripening stage

- a) Gleanings
- b) Stripping
- c) Fly picking
- d) Main picking

20. CPCRI (Central Plantation Crops Research Institute) located at

- a) Kottayam
- b) Mysore
- c) Appargala
- d) Kasargod

21. Most commonly used vegetative method in Rose

- a) Layering
- b) Grafting
- c) Budding
- d) Tissue culture

22. Which of the following green house styles is recommended for hilly areas

- a) Even span
- b) Uneven Span
- c) Lean to
- d) Ridge and form

23. Which Irrigation method is most suitable for lawn /turf

- a) Furrow
- b) Drip
- c) Basin
- d) Sprinkler

24. Which of the following is a medicinal crop

- a) Sugar cane
- b) Aloe vera
- c) Cotton
- d) None of the above

25. Which fruit is also known as poor man Orange

- a) Potato
- b) Pumpkin
- c) Tomato
- d) Tea

26. Gladiolus flower called as

- a) Spike
- b) Raceme
- c) Spadix
- d) Capitulum

27. Head is economical part of

- a) Cabbage
- b) Cauliflower
- c) Knol khol
- d) Sprouting broodi

28. The cultivation and growing of flowers is called

- | | |
|--------------|-----------------|
| a) Botany | b) Floriculture |
| c) Phenology | d) Zoology |

29. Which one of the following is non-climacteric fruit

- | | |
|-----------|----------|
| a) Mango | b) Apple |
| c) Papaya | d) Grape |

30. Vegetative propagation of onion , garlic is through

- | | |
|-----------|-----------|
| a) Corn | b) Runner |
| c) Stolon | d) Bulb |



Horticultural techniques Result Analysis



S.No.	Name of the student	Written exam(60)	Practical score(40)	Total
1	B.AMANI	42	36	78
2	CH.HYMAVATHI	34	28	62
3	D.VARDINI	46	36	82
4	D.LAKSHMI	38	34	72
5	E.SANDHYA	46	35	81
6	J.SANDHYA	40	33	73
7	J.GEETHIKA	48	36	84
8	K.REVATHI	34	32	66
9	K.SRIDEVI	44	38	82
10	M.BABY RANI	32	28	60
11	M.RAJESWARI	38	34	72
12	M.SWATHI	48	36	84
13	N.LIKITHA	34	28	62
14	N.SIVATHI	36	30	66
15	P.DIVYA	42	34	76
16	T.PRAVALLIKA	46	36	82
17	V.SIRISHA	36	32	68
18	Y.RAMALAKSHMI	38	36	74
19	Y.MANASA	34	30	64
20	B.DURGA	44	36	80
21	B.VARALAKSHMI	48	38	86
22	G.SUSHMITHA	42	36	78
23	K.VENKATALAKSHMI	32	30	62
24	K.SAI PRIYA	46	35	81
25	K.HARSHA VARDHINI	48	36	84
26	K.HAMSA VAHINI	36	30	66
27	K.SWAPNA	34	30	64
28	K.SRAVANI	38	35	73
29	O.MOUNICA	48	36	84
30	P.PRAVEENA	46	36	82

DEPARTMENT OF BOTANY

CERTIFICATE COURSE IN HORTICULTURAL TECHNIQUES

SUMMARY REPORT

The Certificate Course in Horticultural techniques will be effective from the academic year 2016 – 2017. Horticulture plays a pivotal role in the food and livelihood security of India. Economists view that commercialization of agriculture and promotion of agri- business in India is correlated to the progress in the plantation and horticulture sectors. Horticulture and Plantation sector cover production, post-harvest management, marketing, processing and export of produce. The syllabus has been prepared keeping in view the unique requirements of the horticulture based industries and society. The emphasis of the contents is to provide students the latest information of application of horticulture with the aim of disseminating skills of entrepreneurship. The Private sector has come up with massive investments in corporate farming, processing and marketing. The course content also lists new practical exercises so that the students get hands on experience of the latest techniques that are currently in use. The course will also inspire students towards becoming an entrepreneur and enable students to get employed in plant based industries.