

SRR & CVR Government Degree College

An Autonomous & ISO 9001: 2015 Certified Institution:: Ranked by NIRF in 101-150 band at NIRF-2020 & 151-200 band in NIRF 2019 NAAC accredited Institution with grade B+ with C.G.P.A 2.6 during March, 2017

Machavaram, Vijayawada, Krishna District, AP-520 004

Board of Studies - AY:2021-22



HORTICULTURE

Department of Botany

SRR & CVR Government Degree College

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Machavaram, Vijayawada, Krishna District, AP-520 004

Department of Botany

Report on Board of Studies Meeting for UG Programmes of the Department for AY-2021-22

The Board of Studies meeting in Horticulture was convened on 27th November 2022 at 10.30 A.m. in the Department of Botany (Botany Lab 2), under Chairmanship of Ms. G. Swapna , In- Charge of the Department, SRR & CVR Govt. Degree College (Autonomous), Vijayawada – 520004 for the Academic year 2021-2022 .

SRR & CVR Govt. Degree College (Autonomous), Vijayawada, is one of the prestigious educational institutions, located in a historically important place like Vijayawada in Krishna District, Andhra Pradesh. Vijayawada is a place of historical and cultural significance and importance. In the same way SRR & CVR Govt. Degree College, has also acquired its significance and prominence in and around Vijayawada by moulding the lives of many students to become great personalities. This college is named after late Sri Raja Rangayyappa Rao and late Sri Chunduru Venkata Reddy, who have been great and noble donors of the city Vijayawada, by whose generosity the college has reached and attained such and this elevated status by way of shaping the lives of many generations of students making them worthy citizens of the country. This college has acquired great standards academically by the contributions of great teachers as well because in the history of any educational institution its teachers play a vital role. The college was established in 1937. It offers undergraduate and postgraduate academic programs. The institution was accredited with grade B+ with C.G.P.A 2.6 during March, 2017 by NAAC and got ISO 9001: 2015 certificate during 2019 and ranked by NIRF in 101-150 band at NIRF-2020 & 151-200 band in NIRF 2019.

The Department of Botany is the oldest Department in the college. The Department offers two B.Sc programmes, BSc BZC (Botany,Zoology,Chemistry) program in both Telugu and English media and B.SC BHC(Botany,Horticulture,Chemistry)program in English medium. The department has continually been striving for excellence in teaching and research. CBCS has been implemented for both UG B.Sc (BZC) and B.Sc (BHC) programmes. The department has its own well established and well equipped Labs along with a 24x7 internet facility. This academic year the department got an opportunity to offer a B.Sc Horticulture program on an autonomous platform . The department is ready to utilize this golden opportunity to offer a new UG Program on academic autonomous status. Definitely the department will frame the curriculum on Learning Outcomes-based Framework to enrich knowledge in the area of Plant Sciences.

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Board of Studies Composition - Horticulture

S.No	Name of the Resource person	Designation
1	Ms. G.Swapna In-charge of the Department Department of Botany	Chairman of BOS
2	Dr.T.Rose Mary HOD, Department of Botany Andhra Loyola College, Vijayawada-08 Mobile: 9989892440	University Nominee
3	Dr.R.V.Sujatha, Associate Professor, Department of Agricultural Economics Dr.YSR Horticultural University, Venkataramannagudem, West Godavari District Mobile: 9666621341	Subject Expert
4	Mr. K.GaniRaju Lecturer in Botany Government College (A), Rajahmundry-533105 Mobile:9948088250	Subject Expert
5	Dr. S. Siva Rama Krishna ((Industry nominee) Jeevaka Ayurveda, Tenali Mobile: 9441898805 e-mail:srksamala@gmail.com	Industrialist
6	GoriparthiVenkataSai Ram Yadav Mobile: 9989059219	Alumni
7	V. Naga Padmavati Lecturer in Botany Mobile: 9182179891	Member
8	Dr. Ch. Srinivasa Reddy Lecturer in Botany Mobile: 9908721905	Member

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA-52004

An autonomous college in the jurisdiction of Krishna University, Machilipatnam. A.P.

STRUCTURE OF HORTICULTURE

Semester	Course	Title of the Course	Hrs/ Week	Credits	CIA(M)	SEE(M)	Total(M)
FIRST YEAR							
I	1	Fundamentals of Horticulture (T)	4	4	40	60	100
		Fundamentals of Horticulture (P)	2	1	25	25	50
II	2	Plant propagation and nursery management (T)	4	4	40	60	100
		Plant propagation and nursery management (P)	2	1	25	25	50
SECOND YEAR							
III	3	Basics of Vegetable science (T)	4	4	40	60	100
		Basics of Vegetable science (P)	2	1	25	25	50
IV	4	Basics of fruit science (T)	4	4	40	60	100
		Basics of fruit science (P)	2	1	25	25	50
	5	Pests and diseases of horticultural crops and management (T)	4	4	40	60	100
		Pests and diseases of horticultural crops and management (P)	2	1	25	25	50

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Machavaram, Vijayawada, Krishna District, AP-520 004

Department of Botany

BOARD OF STUDIES MEETING FOR Horticulture

AGENDA

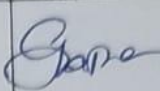
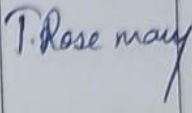

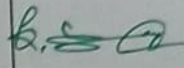
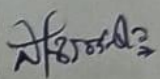
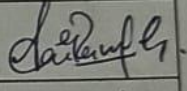
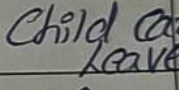
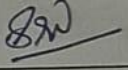
ACADEMIC YEAR: 2021-22

The Board of Studies meeting in Horticulture was convened on 27th November 2022 at 10.30 A.m. in the Department of Botany (Botany Lab 2), under Chairmanship of Ms. G. Swapna , In- Charge of the Department, SRR & CVR Govt. Degree College (Autonomous), Vijayawada – 520004 for the Academic year 2021-2022 .

Agenda

1. To Discuss the Course structure and Syllabus , suggest if any modifications and approve the Structure of the Course, syllabus , blueprint,model question paper, question banks for the Academic Year (2021-2022) for B.SC (Botany Horticulture Chemistry) I Semester Horticulture Paper I and II Semester Horticulture Paper II .
2. To Discuss and suggest or approve a panel of names to the Academic Council for appointment of examiners and Question paper setters.
3. To discuss and suggest measures coordinating research, teaching, extension and other academic activities in the department.
4. To suggest Proposals for Community Service/Extension Activities/ Projects for the benefit of society.
5. To discuss and suggest scope/possibility of introducing new relevant market oriented skill development courses in the area of Horticulture .
6. Any other Proposal / matter with the permission of the Chair.

Members Presented

S.No	Name of the Resource person	Designation	Signature
1	Ms. G.Swapna In-charge of the Department Department of Botany	Chairman of BOS	
2	Dr.T.Rose Mary HOD, Department of Botany Andhra Loyola College, Vijayawada-08	University Nominee	
3	Dr. R.V. Sujatha Associate Professor in Ag. Economics Dr. YSR Horticultural University Venkataramannagudem West Godavari District	Subject Expert	
4	Mr. K.Gani Raju Lecturer in Botany Government College (A), Rajahmundry-533105	Subject Expert	
5	Mr. S. Siva Rama Krishna (Industry nominee) Jeevaka Ayurveda, Tenali Mobile: 9441898805 e-mail: srksamala@gmail.com	Industrialist	
6	Goriparthi Venkata Sai Ram Yadav	Alumni	
7	V. Naga Padmavati Lecturer in Botany	Lecturer	
8	Dr. Ch. Srinivasa Reddy Lecturer in Botany	Lecturer	

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Department of Botany

BOARD OF STUDIES MEETING FOR HORTICULTURE

CONDUCTED ON 27th November, 2021

MINUTES

ACADEMIC YEAR: 2021-22

The Minutes of First Board of Studies meeting in Horticulture which was convened in blended mode on 27th November 2021 at 10.30 a.m. under Chairmanship of Ms G.Swapna, the In- Charge of the department is as follows:

Minutes and Resolutions of Board of Studies

Meeting

Agenda 1: To Discuss the newly proposed Horticulture Course structure and Syllabus , suggest if any modifications and approve the Structure of the Course, syllabus ,blueprint,model question paper, question banks for B.SC(Botany Horticulture Chemistry) I Semester Horticulture Paper I and II Semester Horticulture Paper II for the Admitted batch 2021-2022.

Proposal: The Chairperson, Ms G.Swapna, the In- Charge of the department welcomed the members of BoS and initiated discussion on agenda points. Ms G.Swapna , presented newly proposed Horticulture Semester I and Semester II Courses structure, syllabus , model question paper,question bank,blueprint before BOS members for the approval , Suggestions and inputs if any and opened the discussion.

Discussion: The University Representative, Dr. T.Rosemary and Subject expert Dr R.V. Sujatha along with all members thoroughly examined the content of the syllabus for the two courses and framework of the courses. Then , Dr R.V Sujatha , Horticulture Subject Expert suggested some needed modifications and gave her valuable inputs in two courses. Dr R.V Sujatha felt that for Horticulture students priority should be given to Practical field work than theory and each concept in horticulture should be practiced by students practically in nursery fields and Botanical Gardens . Every other member approved the inputs and suggestions proposed by Dr R.V Sujatha , Horticulture Subject expert and the suggested changes are incorporated in the Proposed syllabus.. Faculty members agreed to the suggestions and took a decision to give priority for the practical work in horticulture . Mr S. Siva ramakrishna Industrialist suggested some training and workshops in areas of Horticulture and faculty members agreed, These

are no notable changes in credits of courses, Blue print , Model Question paper and framework of the courses.

Resolution 1: After thorough analysis and discussion the Board members resolved to approve the Course structure and the syllabus with suggested modifications ,blueprint ,model question paper, question bank proposed for the academic year 2021-2022 for B.SC (Botany Horticulture Chemistry) I Semester Horticulture Paper I and II Semester Horticulture Paper II .

Agenda 2: To Discuss and suggest or approve a panel of names to the Academic council for appointment of examiners and Question paper setters.

Proposal: The chairman placed the list of Question paper setters and Examiners before the participants for seeking their approval welcoming the needed suggestions if any.

Discussion : BOS members discussed the panel of examiners and question paper setters and suggested some more names to incorporate if possible .

Resolution : Board members unanimously approved a panel of examiners and question paper setters along with some more names which were being incorporated into the proposed panel for the academic year 2021-2022.

Agenda 3 : To discuss and suggest measures coordinating research, teaching, extension and other academic activities in the department.

Proposal: Ms G. Swapna initiated a discussion on proposing some academic activities before the BOS Committee welcoming the needed suggestions and inputs.

Discussion : All BOS members, University Nominee and subject experts , Industrialist and Alumni members suggested extension activities like field works , Nursery activities Seminars, Group discussions, Projectworks ,Workshops, Training programs , Industrial exposure hands on experience on various concepts of curriculum. Faculty members agreed to incorporate all the academic activities in the Action plans of the department .

Resolution : Board members resolved to approve all academic activities which were proposed in panel discussion for the academic year 2021-2022.

Agenda 4: To suggest Proposals for Community Service/Extension Activities/ Projects for the benefit of society.

Proposal: Dr R.V Sujatha Subject Expert in Horticulture initiated a discussion on proposing some extension activities before the BOS members citing the necessity of the extension activities in the areas of Horticulture

Discussion : All BOS members, University Nominee and subject experts , Industrialist and Alumni faculty members suggested extension activities like field works , Nursery beds Preparation, various types of gardens development Public awareness activities related

to Horticulture . Faculty members agreed to incorporate them in the action plan of the Horticulture course.

Resolution : Board members resolved to approve all extension activities which were proposed in panel discussion for the academic year 2021-2022.

Agenda 5: To discuss and suggest scope/possibility of introducing new relevant market oriented skill development courses in the area of Horticulture .

Proposal: Ms G. Swapna and Dr Ch. Srinivasa Reddy opened the discussion for considering the possibility of market oriented skill development courses in the area of Horticulture .

Discussion : Dr R.V Sujatha Subject Expert in Horticulture and majority BOS members felt that as B.Sc Horticulture course is starting this academic year as a new course initially there is a need to strengthen the core course before considering other options. .All BOS members, University Nominee and subject experts , Industrialist and Alumni agreed to it and suggested the same to strengthen the core course.

Resolution : Board members resolved to strengthen the core course primarily and did not show any interest for other market oriented new courses .

Agenda 6: Any other Proposal / matter with the permission of the Chair.

To consider and approve the Student Evaluation Policy and Procedure and split- up of CIA & SEE.

Proposal: The chairman proposed the evaluation system in each course will be 40 : 60 for Internal Continuous Internal Evaluation (CIA) and Semester End Evaluation (SEE).

Discussion: The members of BoS discussed the merits, demerits and feasibility for the implementation of (40% CIA & 60% SEE) proportion and split-up of CIA. Faculty members of the department expressed their willingness to frame question papers based on the active verbs used to frame question paper patterns on **Bloom's Taxonomy**.

Resolution : It is resolved to approve the Student Evaluation Policy and Procedure and split-up of CIA & SEE.

(Ms G. Swapna)
Chairman, the Board of Studies

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Department of Botany

*Syllabi for Courses in Semester I & II under CBCS with Learning Outcomes-based Curriculum
Framework (LOCF)*

FUNDAMENTALS OF HORTICULTURE

I-B.Sc., BHC	Horticulture-I	SEM-I	Course code: HORT-1321	2021-22	No. of Credits:4	No. of Hrs /Week:4
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Course Outcomes:

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

- CO1:** Understand the Horticulture divisions, Scope and potential of horticulture products , Fruit and vegetable zones in India and Andhra Pradesh.
- CO2:** Classify the horticulture plants based on soil and climate and understanding about olericulture and floriculture.
- CO3:** Illustrate different systems of planting in an orchard and predict the number of plants in a given land , pruning and training methods and procedures.
- CO4:** Understand the environmental factors on horticultural crops
- CO5:** Knowledge about integrated nutrient management and demonstrating the skills of soil testing.

Unit I : Introduction to Horticulture

12 Hrs.

1. Horticulture: Definition, importance of horticulture in terms of economy, production, employment generation, environmental protection and human resource development.
2. Divisions of horticulture with suitable examples and their importance.
3. Fruit and vegetable zones of India and Andhra Pradesh.
4. Export scenario and scope for Horticulture in India.

Unit II : Classification Horticulture Crops

12 Hrs.

1. Classification of horticultural crops based on soil and climatic requirements.
2. Vegetable crop gardens – Nutrition and kitchen garden – tracer garden- roof garden.
3. Gardens in floriculture – flower gardens – soil and mixed gardens; landscape Horticulture.

Unit III : Characteristics of Orchards

12 Hrs.

1. Orchard: Definition, different systems of planting orchards – square, rectangular Quincunx, hexagonal and contour.
2. Calculation of planting densities in different systems of planting.
3. Different types and methods of pruning.
4. Training: Definition, principles and objectives; merits and demerits of open and close centered, and modified leader systems.

Unit IV : Environmental factors and Horticultural crops

12 Hrs.

1. Influence of soil-Physical and chemical properties
2. Climatic factors-Light, Photoperiod, Temperature, relative humidity, Rainfall
3. Micro climate, pollution
4. Influence of biotic and abiotic stress on crop production

Unit V: Soil as a medium for plant growth**12 Hrs.**

1. Soil taxonomy, soil colour, texture, and structure, other physical properties
2. Macro and micro nutrients
3. Integrated nutrient management and soil test.

Text books:

1. Prasad and Kumar (2014). Principles of Horticulture 2nd Edition Agribios India
2. Kumar, N.(1990). Introduction to Horticulture. Rajyalakshmi Publications, Nagarkoil, Tamilnadu
3. Jithendra Singh, 2002. Basic Horticulture. Kalyani Publishers, Hyderabad
4. Kausalkumar Misra and Rajesh Kumar, 2014 Fundamentals of Horticulture, Biotech books
5. Brady Nyle C and Ray R Well 2014 Nature and Properties of Soil, Pearson Educational Inc , New Delhi

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FUNDAMENTALS OF HORTICULTURE

I-B.Sc., BHC	Horticulture-I	SEM-I	Course code: HORT-1321P	2021-22	No. of Credits:1	No. of Hrs /Week:2
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1. Study of features of orchard planning and layout orchard.
2. Study of tools and implements in Horticulture.
3. Identification of various Horticulture crops.
4. Lay out of the nutrition garden.
5. Preparation of nursery beds to sow vegetable seeds.
6. Layout of different Planting systems.
7. Study of different methods of pruning.
08. Preparation of fertilizer mixtures and field application.
09. Layout of different irrigation systems.
10. Identification and management of nutritional disorders in important fruit, vegetable and flower crops.
11. Visit to nearby orchards/Horticulture farms/organic farms
12. Soil sample testing

SRR & CVR GOVERNMENT DEGREE COLLEGE (A): VIJAYAWADA
I. B.Sc., HORTICULTURE SEMESTER END EXAMINATION; Course-I
(FUNDAMENTALS OF HORTICULTURE)

Course Code : HORT-1321

Max. Marks: 60M

Time: 3hrs

Pass Min: 24M

MODEL QUESTION PAPER

SECTION-A

Answer any five of the following

5X4=20M

1. (a) Olericulture (b) Pomology
2. Kitchen garden
3. (a) Tracer garden (b) Vegetable forcing
4. (a) Quincunx orchard (b) Contour orchard
5. Microclimate
6. Photoperiod
7. Humus
8. Soil test

SECTION – B

Answer the following

5X8=40M

9. a) Discuss about fruit and vegetable zones in Andhra Pradesh.
(OR)
b) Write an essay on export scenario of horticulture produce and its scope in India.
10. a) Describe how horticulture plants are classified based on soil requirement?
(OR)
(b) Give a brief account on vegetable crop gardens .
11. a) Describe calculation methods used in different planting systems.
(OR)
b) Explain different types and methods of pruning.
12. a) Explain the influence of soil physical and chemical properties on Horticultural crops .
(OR)
b) Give an account on the influence of biotic and abiotic stress on crop production
13. a) Give an account of Soil taxonomy
(OR)
b) Describe the Integrated nutrient management

SRR & CVR GOVERNMENT DEGREE COLLEGE (A): VIJAYAWADA
I. B.Sc., HORTICULTURE EXTERNAL PRACTICAL EXAMINATION; Course-I
(FUNDAMENTALS OF HORTICULTURE)

Course Code : HORT-1321P

Max. Marks: 25M

Time: 2hrs

Pass Min: 10 M

- | | |
|---|-------|
| 1. Identify the horticulture tool/equipment and write its uses. | 3 M |
| 2. Draw the layout of a kitchen garden. | 6 M |
| 3. An irrigation method followed for horticulture crops with a neat sketch. | 6M |
| 4. Demonstration of a training method. | 5 M |
| 5. Record + viva voice | 3+2=5 |

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA-52004

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I-B.Sc., BHC	Horticulture-I	SEM-I	Course code: HORT-1321	2021-22	No. of Credits:4	No. of Hrs /Week:4
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FUNDAMENTALS OF HORTICULTURE QUESTION BANK

UNIT-I

Essays

1. Explain about the Divisions of horticulture with suitable examples and their Significance.
2. Describe about Fruit and vegetable zones of India and Andhra Pradesh.
3. Write an essay on Export scenario and scope for Horticulture in India

Short answers

1. Olericulture
2. Sub tropical zone of fruit crops
3. Horticulture: Economy Production
4. Pomology

UNIT-II

Essays

1. Describe the classification of horticultural crops based on soil conditions.
2. Explain the types of gardens in Floriculture
3. Give a brief account on vegetable crop gardens .

Short answers

1. Kitchen Garden
2. Tracer Garden
3. Temperate crops
4. Vegetable forcing

UNIT-III

Essays

1. What is Orchard and explain different types of planting orchards.
2. Describe the calculation of planting densities in different systems of planting.
3. Explain the different types and methods of pruning

Short answers

1. Contour orchard system
2. Modified leader system
3. open and close centered training
4. Quincunx Orchard system

UNIT-IV

Essay

1. Explain the influence of soil physical and chemical properties on Horticultural crops .
2. Give an account on the influence of biotic and abiotic stress on crop production
3. Explain the effects of Light and Temperature on Horticultural crops.

Short Answer

1. Microclimate
2. Photoperiod
3. Heavy metal stress
4. Nematodes

UNIT-V

Essay

1. Give an account of Soil taxonomy
2. Describe the Integrated nutrient management
3. Write an essay on soil micronutrients

Short Answer

1. Soil test
2. Soil structure
3. Humus
4. Molybdenum

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An autonomous college in the jurisdiction of Krishna University, Machilipatnam. A.P.

I-B.Sc., BHC	Horticulture-II	SEM-II	Course code : HORT-2321	2021-22	No. of Credits:4	No. of Hrs /Week:4
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PLANT PROPAGATION AND NURSERY MANAGEMENT

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

Course Outcomes :

CO1: Demonstrate skills on vegetative propagation of plants.

CO2: Explain sexual and asexual propagation methods of plants.

CO3: Demonstrate the techniques on raising of different types of nursery beds ,
role of various propagation structures in raising horticulture plants.

CO4: Understand the regulation to establish a plant nursery, quality
parameters , different routine activities in a nursery.

CO5: Understand the economics of a plant nursery and can maintain necessary records.

Unit- 1 : Vegetative propagation techniques

12 Hrs.

1. Introduction, principles and classification of plant propagation methods
2. Cuttings: Definition, propagation by root, leaf and stem cuttings.
3. Layering : Definition, techniques of simple, serpentine, mound, trench and air layering.
4. Grafting : Definition; approach and detached scion (Veneer, whip, cleft, side and bark) grafting techniques.
5. Budding : Definition; techniques of T- , patch and chip budding.

Unit -2: Sexual propagation

12 Hrs.

1. Sexual propagation – advantages and disadvantages.
2. Seed germination, process of seed germination; factors affecting seed germination
3. Pre-germination treatments and viability tests; sowing methods of seeds.
4. Polyembryony in propagation of *Opuntia*, trifoliate orange, mango and *Citrus*.

Unit -3: Asexual propagation

12 Hrs.

1. Asexual propagation – advantages and disadvantages.
2. Using bulbs, corms, tubers and rhizomes to raise a nursery.
3. Stolons, runners and offsets in raising nursery.
4. Apomixis : Definition; role of apomictics in propagation of apple, mangosteen and *Citrus*.

Unit – 4 : Basic requirements of a nursery

12 Hrs.

1. Plant nursery: Definition, importance; Basic facilities for a nursery; layout and components of a good nursery.

2. Nursery beds – types, their merits and demerits; precautions to be taken during preparation.
3. Brief account of growing media; nursery tools and implements.
4. Containers for plant nursery.
5. Brief account of plant propagation structures.

Unit -5: Nursery management

12 Hrs.

1. Bureau of Indian Standards (BIS-2008) related to nursery; guidelines for nursery raising.
2. Nursery accreditation and Certification.
3. Seasonal activities and routine operations in a nursery; watering, weeding and control of pests and diseases.
4. Common possible errors in nursery activities.
5. Economics of nursery development and record maintenance; online nursery information and sales systems.

Text Books:

1. Sadhu . M .K. (1996). Plant propagation, New Age International Publishers, New Delhi
2. Sarma. R. R. (2002). Propagation of Horticultural crops : Principles and practices Kalyani Publishers, New Delhi
3. Hartman, H.T. and D.E. Kester (1976). Plant propagation. Principles and Practices, Prentice Hall of India Pvt. Limited, Mumbai
4. Ratha Krishnan, P. (2014). Plant Nursery Management: Principles and Practices. Central Arid Zone Research Institute (ICAR), Jodhpur.

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I-B.Sc., BHC	Horticulture-II	SEM-II	Course code: HORT-2321P	2021-22	No. of Credits:1	No. of Hrs /Week:2
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PLANT PROPAGATION AND NURSERY MANAGEMENT

Practical:

1. Observations on causes for dormancy in seeds and vegetative propagules.
2. Methods of breaking dormancy in seeds
3. Media for propagation of plants in nursery beds, pots and Mist chamber.
4. Preparation of nursery beds and sowing of seeds, Raising of rootstock.
6. Preparation of plant material for potting, Hardening of plants in the nursery.
8. Practicing different types of vegetative propagation techniques - cutting, layering, grafting and budding.
9. Seed viability test

SRR & CVR GOVERNMENT DEGREE COLLEGE (A): VIJAYAWADA
I. B.Sc., HORTICULTURE SEMESTER END EXAMINATION; Course-II
(PLANT PROPAGATION AND NURSERY MANAGEMENT)

Course Code : HORT-2321

Max. Marks: 60M

Time: 3hrs

Pass Min: 24 M

MODEL QUESTION PAPER

SECTION-A

I. Answer any five of the following

5X4=20M

1. Stem cuttings
2. Chip budding
3. Seed viability
4. Polyembryony
5. Offsets
6. Mist chamber
7. Trowel
8. BIS 2008 standards

SECTION – B

II. ANSWER THE FOLLOWING

5X8=40M

9. a) Describe the different types of layering techniques with suitable examples.

(OR)

- b) What is grafting ? Explain the various methods of Grafting .

10. Describe the Seed germination, process of seed germination and factors affecting seed germination

(OR)

- b) Explain the advantages and disadvantages of Sexual propagation.

11. Explain the role of apomictics in propagation of apple, mangosteen and *Citrus*.

(OR)

- b) Explain the usage of bulbs, corms, tubers and rhizomes to raise a nursery.

12. (a) Explain the Nursery beds types, their merits and demerits and precautions to be taken during preparation.

(OR)

- b) Explain the layout and components of a good nursery.

13. (a) Explain about online nursery information and sales systems

(OR)

- b) Describe the Seasonal activities and routine operations in a nursery;

SRR & CVR GOVERNMENT DEGREE COLLEGE (A): VIJAYAWADA
I. B.Sc., HORTICULTURE EXTERNAL PRACTICAL EXAMINATION; Course-II
(PLANT PROPAGATION AND NURSERY MANAGEMENT)

Course Code :

Max. Marks: 25M

Time: 2hrs

Pass Min: 10 M

- | | |
|--|-----------|
| 1. Demonstrate methods to break seed dormancy. | 5 M |
| 2. Demonstrate a method of vegetative propagation. | 5 M |
| 3. Demonstrate routine practices in a nursery | 4M |
| 4. Identify the tool/ equipment used in horticulture | 3× 2 = 6M |
| 5. Record + viva voice | 3+2=5M |

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA-52004

An autonomous college in the jurisdiction of Krishna University, Machilipatnam. A.P.

I-B.Sc., BHC	Horticulture-I	SEM-II	Course code: HORT-2321	2021-22	No. of Credits:4	No. of Hrs /Week:4
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PLANT PROPAGATION AND NURSERY MANAGEMENT QUESTION BANK

UNIT-I

Essays

1. Describe the different types of layering techniques with suitable examples
2. What is grafting ? Explain the various methods of Grafting
3. Explain the principles and classification of plant propagation methods

Short answers

1. Stem cuttings
2. Air layering
3. Cleft grafting
4. Chip budding

UNIT-II

Essays

1. Describe the process of seed germination and factors affecting seed germination
2. Explain the advantages and disadvantages of Sexual propagation.
3. Explain about Polyembryony in propagation of orange, mango and citrus

Short answers

5. Seed viability
6. Polyembryony
7. Pre germination treatment of seeds
8. Sowing methods

UNIT-III

Essays

1. Explain the role of apomictics in propagation of apple, mangosteen and *Citrus*.
2. Explain the usage of bulbs, corms, tubers and rhizomes to raise a nursery.
3. What is Asexual propagation and explain the advantages and disadvantages.

Short answers

5. Apomictics
6. Offsets
7. Stolons
8. Tubers

UNIT-IV

Essay

- 1 Explain the Nursery beds types, their merits and demerits and precautions to be taken during preparation.
2. Explain the layout and components of a good nursery.
3. Give a Brief account of growing media; nursery tools and implements.

Short Answers

5. Mist chamber
6. Container
7. Trowel
8. Shovel

UNIT-V

Essay

- 1 Explain about online nursery information and sales systems
2. Describe the Seasonal activities and routine operations in a nursery;
3. Give a brief account on Nursery accreditation and Certification.

Short Answer

5. Weeding
6. BIS 2008
7. Control of Pests
8. Economics of nursery development

SRR & CVR Government Degree College

An Autonomous & ISO 9001: 2015 Certified Institution:: Ranked by NIRF in 101-150 band at NIRF-2020 & 151-200 band in NIRF 2019

NAAC accredited Institution with grade B+ with C.G.P.A 2.6 during March, 2017

Machavaram, Vijayawada, Krishna District, AP-520 004

Department of Botany

Student Evaluation Policy and Procedure

1. EVALUATION POLICY AND PROCEDURE:

Students are evaluated for 100 marks in each course. These 100 Marks are splitted into Continuous Internal Assessment (CIA) and Semester End Evaluation (SEE). 40 marks are allocated to CIA and 60 marks for SEE.

1.1. CONTINUOUS INTERNAL ASSESSMENT (CIA) FOR 40 MARKS:

- 1.1.1 Out of a maximum of 100 marks in each theory paper, 40 marks shall normally be allotted for continuous internal assessment. The Assessment shall be made by the teacher handling that paper in the manner prescribed here under. Where the same paper is handled by two or more teachers, the Head of the Department shall decide upon the teacher, who shall make the internal assessment or fix the proportion of the marks among the teachers for the internal assessment of the students.
- 1.1.2 **Out of these 40 marks, 10 marks are allotted to Continuous Internal Exams.** Two Continuous Internal exams are conducted for 10 marks in each exam and the average of these two exams scale down to 10 marks, shall be deemed as the marks obtained by the student in Continuous Internal Exams.
- 1.1.3 **Out of these 40 marks, 10 marks are allotted to Assignments.** Five assignments are given to the students during the course. 2 marks are allotted for each assignment and the total of these five assignments are included in Continuous Internal Assessment. The students can submit assignments through blended mode.
- 1.1.4 **Out of these 40 marks, 10 marks are allotted to Project Work/ Group Discussion.** Students will be assigned a student study project for 10 Marks under CIA. Then the student has to submit a project report under the supervision of a Faculty Member. These 10 marks may also be assigned to group discussion also. Students will be evaluated here based on his/her way of expression, conceptual strength, attitude, listening -understanding skills and level of participation in the discussion.
- 1.1.5 **Out of these 40 marks, 5 marks are allotted to Student Seminar and 5 marks for Viva-Voce.** Each Student may give student seminar to the peer team. This student seminar will carry 5 marks. Here feedback will be collected on 5 points scale from the participants in

the student seminar [or] Viva- Voce will be conducted by the concerned subject faculty for 5 marks.

The summarized continuous internal assessment is:

- | | | |
|---|---|----------|
| 1. Average of Two Continuous Internal exams | - | 10 Marks |
| 2. Total of Two Assignments | - | 10 Marks |
| 3. Project Work/ Group Discussion | - | 10 Marks |
| 4. Student Seminar | - | 5 Marks |
| 5. Feedback /Viva-Voce | - | 5 Marks |

S.No	Theory internal	Max marks
1	Internal assessment	10 Marks
2	Assignments	2 x 5= 10 Marks
3	Seminars	05 Marks
4	Project	10 Marks
5	Attendance/Viva	05 Marks

BLUE PRINT FOR QUESTION PAPER

Pattern of question Paper: Model question papers were set according to the semester pattern. Total marks for question paper is set for maximum 60 marks.

The question paper is divided into two sections as Part **A**, Part **B**, as follows.

Part	Type of Questions	Total No. of questions	Marks for each question	No. of questions to be attempted	Total Marks
Part - A	Short answer questions	08 One question from each unit	4 M	5	20 M
Part - B	Long answer questions	10 Two form each unit with internal choice	8 M	5	40 M
TOTAL		18 Questions		10	60 M

Blue Print for question Paper						
S. No	Type of Questions Units	SA	SA	LA	LA	Total Marks
		Questions to attempt 5/8	Total Marks	Questions to attempt 5/10	Total Marks	
1	Unit 1	1/2Q	4	1Q	8M	
2	Unit2	1/2Q	4	1Q	8M	
3	Unit 3	1/2Q	4	1Q	8M	
4	Unit 4	1/2Q	4	1Q	8M	
5	Unit 5	1/2Q	4	1Q	8M	
	Total	5Q	5x4=20	5Q	5x8=40	60
	<p>Note: Short Answer Questions should be minimum one from each unit .</p> <p>Total Number of Short answer questions to attempt out of 8 are 5</p> <p>Total Number of Long answer questions to attempt out of 10 internal choice are 5</p>					

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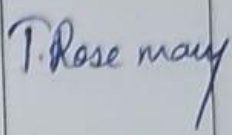
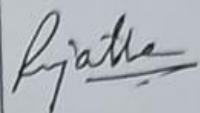
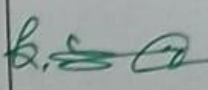
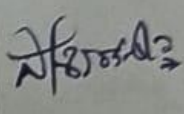
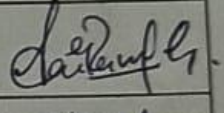
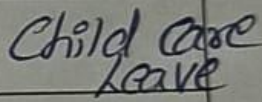
Machavaram, Vijayawada, Krishna District, AP-520 004

Department of Botany

List of Question paper setters and examiners

Sl. No.	Name of the Examiner	Designation	College	Place
1.	Dr. R.V Sujatha 99666 21341	Associate Professor	DR YSR Horticultural University	Venkataramannagudem Tadepalligudem
2	Dr Kranthi Rekha	Asst Professor	DR YSR Horticultural University	Venkataramannagudem Tadepalligudem
3	Dr KNVSS Eswari 9948899093	Lecturer	ASD GDC (w)(A)	Kakinada
4.	Dr M. Bhupathirayalu 9705377344	Lecturer	GDC Kovvuru	Kovvuru EG District
5	Mrs Uma Nischal 9985166449	Lecturer	Guntur Women's College (A)	Guntur
6	Mrs T.V.S Padamavathi 94417 81221	Lecturer	GDC Eluru	Eluru
7	Mrs Santoshi Kumari 8247092267	Lecturer	Guntur Women's College (A)	Guntur
8	Ch. Satish 9705763711	Lecturer	GDC Tiruvuru	Tiruvuru
9	Varaprasad 9908876727	Lecturer	GDC Tuni	Tuni, EG District
10.	Eswara lakshmi	Lecturer	GDC (W)(A)	Guntur

Members Presented

S.No	Name of the Resource person	Designation	Signature
1	Ms. G.Swapna In-charge of the Department Department of Botany	Chairman of BOS	
2	Dr.T.Rose Mary HOD, Department of Botany Andhra Loyola College, Vijayawada-08	University Nominee	
3	Dr. R.V. Sujatha Associate Professor in Ag. Economics Dr. YSR Horticultural University Venkataramannagudem West Godavari District	Subject Expert	
4	Mr. K.Gani Raju Lecturer in Botany Government College (A), Rajahmundry-533105	Subject Expert	
5	Mr. S. Siva Rama Krishna (Industry nominee) Jeevaka Ayurveda, Tenali Mobile: 9441898805 e-mail:srksamala@gmail.com	Industrialist	
6	Goriparthi Venkata Sai Ram Yadav	Alumni	
7	V. Naga Padmavati Lecturer in Botany	Lecturer	
8	Dr. Ch. Srinivasa Reddy Lecturer in Botany	Lecturer	