



**JSS COLLEGE OF ARTS, COMMERCE AND
SCIENCE**

(AUTONOMOUS)

OOTY ROAD, MYSORE-570025

SEMESTER SCHEME

Add-on-Course

SYLLABUS

HORTICULTURE

2017-18 SCHEMES

MODIFIED SYLLABUS (STAR COLLEGE SCHEME)

w.e.f 2017 -18

**PROFORMA FOR THE SCHEME OF STUDY AND EXAMINATION OF THE CAREER
ORIENTED**

CERTIFICATE / DIPLOMA / ADVANCED DIPLOMA COURSES IN HORTICULTURE

Semester	Paper and title	Theory Hrs. / Week	Practical Hrs/ Week	Duration of theory exam	Duration of practical exam	Marks for theory exam	Marks for practical exam	Internal assessment marks theory	Internal assessment marks practical	Total marks for each subject
I	Basics of Horticulture	2	2	3	P1 - 2 hrs.	60	20	10	05+05	100
II	Nursery, Plant Propagation, Medicinal & Aromatic Plants	2	2	3	P2 - 2 hrs.	60	20	10	05+05	100
III	Branches Of Horticulture	2	2	3	P3 - 2 hrs.	60	20	10	05+05	100
IV	Gardening And Landscaping	2	2	3	P4 - 2 hrs.	60	20	10	05+05	100
V	Horticultural Exhibitions, Schemes & Subsidies	2	2	3	P5 - 2 hrs.	60	20	10	05+05	100
VI	Advanced Horticulture – II (Dissertation)	70 Dissertation				30 Viva – Voce				100
TOTAL										600

NOTE: The candidate should produce the record valued for internal assessment during the practical examination. For Sixth Semester submission of project report for 50 marks. The project work includes Field study/Seed companies / Food processing units / Nursery management and economic aspects / Flowering markets / Maintenance of storage units. Viva-voce for 50 marks. Based on project report.

UGC SPONSERED CAREER ORIENTED COURSE IN HORTICULTURE

Aim and objectives of the course:

It has been observed and felt that the students of science graduate course who evince interest to undertake Career oriented course in Horticulture along with their regular studies.

This is because Horticulture has application in several fields and there is considerable need for Horticulture training for students. Graduates with Horticulture knowledge would contribute and become useful citizens of the society. Keeping this in view UGC is introducing the concept of dual-programme of Certificate / Diploma and advanced Diploma courses in Horticulture.

Eligibility for Admission:

STUDENT OF SCIENCE STREAM

Course No. 1: Certificate course in Horticulture

Those who complete I and II Semesters successfully are eligible.

Course No. 2: Diploma in Horticulture

With certificate in Horticulture, those who complete III & IV semester successfully are eligible.

Course No. 3: Advanced Diploma in Horticulture

With Diploma in Horticulture, those who complete V and VI Semesters successfully are eligible.

NOTE: The student has to attend 75% of the classes that held in each semester would be eligible for taking up the Final Exams.

CAREER ORIENTED COURSE

COURSE: HORTICULTURE

- Certificate Course - One year (I and II Semesters)
- Diploma Course - Two years (I to IV Semesters)
- Advanced Diploma Course - Three years (I to VI Semesters)

DIPLOMA COURSE IN HORTICULTURE

I SEMESTER
THEORY

Paper code: HRA010

28 Hours
2 hrs/Week

BASICS OF HORTICULTURE

UNIT I: Introduction to Horticulture

1. Definition, Branches
2. Scope and Importance .

UNIT II: Basic requirements of Horticulture:

a. Soils: Types, Physical characteristics

b. Climate: Types Humid, Arid and Semiarid. Temperature, Relative humidity and Rainfall, Garden implements and tools

c. Manures, Fertilizers & improvement of soil fertility: introduction, important organic manures, chemical fertilizers, methods of application, nutrient requirements of vegetable crops, time of application.

d. Organic Farming: Organic farming practices – Raising of green manure crops (Leguminous Crops).

e. Irrigation and water management: introduction, factors determining irrigation, annual precipitation, period of moisture depletion, stages of the crops, types of the crops, soil types, rate of absorption by plants, nature of crops, system of irrigation, surface irrigation, sub soil irrigation, overhead system of irrigation.

UNIT III: Plant growth regulators in Horticulture: introduction, induction, breaking of seed dormancy, fast growth of seedling, control of growth vigor, plant tissue culture, control of flowering, flower thinning, modification of sex expression, fruit thinning, induction of parthenocarpy and fruit ripening, control of fruit drops, weed control, control of plant growth.

UNIT IV: Classification of garden plants: introduction, annuals, biennials, perennials, shrubs, trees, climbers, succulents, cacti, ferns, gymnosperms, palms, orchids, bulbous ornamentals.

Total Marks 70: 60(Theory) +10 (Internal Assessment-Test)

CERTIFICATE COURSE

HORTICULTURE

I SEMESTER

Practicals

Max. Marks: 25+5

2 hrs/Week

Paper code: HRA010

1. Study of soil-types, water holding capacity.
2. Identification of manures.
3. Study of methods of composting and making Vermicompost.
4. Biofertilizers – *Rhizobium*, *Azotobacter*, Phosphotisers. VAM

(Vesicular Arbuscular Mycorrhizal fungi. Blue green algae– Azolla.

5. System of irrigation
6. Classification of garden plants
7. Tools and Equipments used in Horticulture.

Total Marks 30: 20(Practicals)+05 (Internal Assessment-Test)+05(Record)

UNIT III: Training and pruning, tillage, mulching and weed management:

Introduction to training- principles, methods, training with and without support, pruning- thinning out, heading back, uses, special techniques and root pruning, ringing, notching, smudging, bending, coppicing, pollarding, lopping, pinching, disbudding, containment pruning, thinning.

UNIT IV: Medicinal and aromatic plants, plantation crops

- 1. Medicinal and aromatic plants:** Introduction and significance.
- 2. Plantation crops:** Introduction and significance.

Total Marks 70: 60(Theory) +10 (Internal Assessment-Test)

CERTIFICATE COURSE

HORTICULTURE

II SEMESTER

Practicals

Max.Marks:30

2 hrs/Week

Paper code: HRB010

1. Types of Nurseries
2. **Plant propagation:**
 - a. cuttage
 - b. layering
3. **Plant propagation**
 - a. grafting
4. **Training and pruning- photographs**
5. Inorganic and organic mulching
 - a. Tillage- Man, Animal and machine
 - b. Powered tillages
6. Common weeds of horticulture
7. Medicinal and aromatic plants- 4 each
8. Plantation crops- 4 each

Total Marks 30: 20(Practicals) +05 (Internal Assessment-Test) +05(Record)

DIPLOMA COURSE

HORTICULTURE

III SEMESTER

Paper code: HRC010

Practicals

Max.Marks:30

2 hrs/Week

1. Introduction & cultivation of vegetables- Onion, Tomato, Potato, Lady's finger
2. Introduction & cultivation of fruits- Mango, Banana, Pomegranate, Grapes
3. Planning & layout of Orchards
4. Preservation of fruits and vegetables
5. Identification and cultivation of flowers- Rose, Tuberose, *Gerbera*, *Anthurium*, *Chrysanthemum*, Jasmine
6. Identification of avenue trees
7. Post harvesting techniques

Total Marks 30: 20(Practicals) +05 (Internal Assessment-Test) +05(Record)

DIPLOMA COURSE IN HORTICULTURE

Paper code: HRD010

IV SEMESTER
THEORY

28 Hours
2 hrs/Week

GARDENING AND LANDSCAPING

UNIT I: Garden and its parts: 1. Introduction, living elements, hedges, edges, trees, flower beds, lawn, shrubs, climbers and creepers, paths, arches, pergola, rockery, carpet beds, topiary, trophy, sunken garden, water garden, non living elements.

2. Gardening: Introduction, Formal style, Informal style, planning a garden, creating a garden, establishment of the garden.

3. Landscaping: Home garden, Public garden. Educational institution, commercial complexes, companies.

UNIT II: Water gardens, terrace gardens (roof garden) rockery:

1. **Water gardens:** Introduction, lily pool, Formal and Informal pools.

2. **Terrace gardens (roof garden):** Introduction, components of roof garden.

3. **Rockery:** Introduction, components of rock garden, importance.

UNIT III: Indoor gardening and Bonsai: Introduction, potted plants, hanging baskets, bonsai, bromeliad tree, terrarium, bottle garden, and dish garden.

UNIT IV: Kitchen garden and lawn making:

1. **Kitchen garden:** Introduction, layout and establishment of Kitchen garden.

2. **Lawn making:** Introduction, grasses useful for lawns, Astro turf.

Total Marks 70: 60(Theory) +10 (Internal Assessment-Test)

DIPLOMA COURSE

HORTICULTURE

IV SEMESTER

Paper code: HRD010

Practicals

**Max.Marks:30
2 hrs/Week**

- 1) Study of Garden and its parts
 - a) living elements- hedges, edges, trees, flower beds, lawn, shrubs, climbers
- 2) a. living elements- creepers, paths, arches, pergola, rockery, carpet beds, topiary, trophy, sunken garden, water garden
 - b. non living elements.
- 3) Landscaping
- 4) Study of Water gardens
- 5) Study of Terrace gardens & Rockery
- 6) Cultivation of potted plants
- 7) Bonsai culture
- 8) hanging baskets, bromeliad tree, terrarium, bottle garden, and dish garden
- 9) Kitchen garden & lawn

Total Marks 30: 20(Practicals) +05 (Internal Assessment-Test) +05(Record)

ADVANCED DIPLOMA COURSE

HORTICULTURE

V SEMESTER

Practicals

Paper code: HRE010

**Max.Marks:30
2 hrs/Week**

1. Study of Green House
2. Hydroponics
3. Types of flower arrangement
4. Ikebana
5. Vegetable carving and Horticultural exhibition through photographs
6. Study of vegetable, fruit, flower rangoli and mixed rangoli
7. Entrepreneurships in Horticulture

Total Marks 30: 20(Practicals)+05 (Internal Assessment-Test)+05(Record)

ADVANCED DIPLOMA COURSE

HORTICULTURE

VI SEMESTER

Paper code: HRF010

Max.Marks:70 + 30

Advanced Horticulture – II

These students should study activities of different areas like field study / seed companies / food processing units / nursery management / storage units / horticulture marketing areas / on job training in different institutions.

Each student has to **submit a project report** on allotted Field of study He should also go to the field, study, collect data, analyze, compile and prepare a report.

He has to prepare project report for Horticulture crops to take financial aid from the bank and other such agencies.

1. Namadhari seed company, Bangalore.
2. Lab. Land Biotech, Mysore.
3. B.V. Pandit, Nanjangud (Ayurvedic Park)
4. Local Nurseries
 - (a) Bhudevi Nursery
 - (b) N. S. Nursery
 - (c) Deccan Nursery
 - (d) Nurserymen co-operative society
 - (e) Swadeshi Biotech, Mysore
 - (f) Visit to land scaping garden spots at different private and public institutions.

**SCHEME OF THEORY EXAMINATION FOR UGC CAREER ORIENTED COURSE
IN HORTICULTURE**
(Applicable to Semester I to V)

Time: 03 Hrs

Max. marks: 60

1. Answer any TEN of the following : 2 x 10 = 20
(12 questions to be given and 10 to be answered)

- a)
- b)
- c)
- d)
- e)
- f)
- g)
- h)
- i)
- j)
- k)
- l)

2. Answer any FOUR of the following 4 x 4 = 16
(6 questions to be given and 4 to be answered) – short answer type

- a)
- b)
- c)
- d)
- e)
- f)

3. (3, 4, 5 essay type questions – Each with internal choices) 8x 3 = 24

.....

Practical question paper pattern for I to V Semesters:

Time: 02 hrs.

Max. Marks: 20

1. Identify / Demonstrate A, B, C & D **04x03=12**
2. Major experiment / Preparation bed / Layout land scaping of E & F **02x02=04**
3. Critical comments on / Propagation methods / Bonsai / Photographs
/ Instruments of G & H. **02x02=04**
4. RECORD **-05**

REFERENCES

1. Complete gardening in India : Gopaldaswamy Iyengar
2. Progressive Floriculture : I.S. Yadav & M.L. Choudhary
3. Floriculture in India : G.S. Randhwa
4. Text book of Horticulture : ICAR Publications
5. Vegetable for the tropical region : Premnath
6. Ornamental Horticulture : J.B. Edmond
7. Hand book of Medicinal Plants : S.K. Battacharjee
8. Hand book of Aromatic and plantation : S.K. Battacharjee
crops
9. Improved packages of practices in : UAS Dharwad and Bangalore
Horticulture crops
10. Medicinal and Aromatic plants : Farooqui
cultivation
11. ICAR 1969 Hand book of Agriculture New Delhi
12. Textbook of Economic Botany : Robert Hill
13. Propagation of Horticultural Plants : Adriane and Brisin
14. Plant propagation-principles & practices : Hartman. H.T. & D.E. Kester
15. Handbook of Mushrooms : Nita Bahl
16. Exotica pictorial cyclopedia of : Dr. Alfred Byrd Graf
exotic plants – Volume 1 to 6.
Rochrs Company Publishers
P.O. Box. 125
East Rutherford
New Jersy – 07073
U.S.A.