

Placement in Industry

Nursery Production & Management

Sr.No.	Course No	Course Title	Credits
1	IND (H)-472	Nursery Production	0 + 5 = 5
2	IND (H)-473	Economics of Horticultural crops.	0 + 1 = 1
3	IND (H)-474	Extension education & Rural Sociology	0 + 1 = 1
4	IND (H)-475	Integrated Pest and disease Management.	0 + 2 = 2
5	IND (H)-476	Soil test & Integrated Nutrient Management	0 + 1 = 1
		Total	0 + 10 = 10

Sr. No.	Particulars	Department	Weightage (%)
1.	Survey of Agro Based Industries in the region	Horticulture, Agril. Economics, Extension Education	4
2.	Selection of Agro Based Industry	Horticulture, Agril. Economics, Extension Education	4
3.	Features and general information of selected Agro Based Industry	Horticulture, Agril. Economics	3
4.	Documentations Required and procedure for establishment of selected Agro Based Industry/Unit	Horticulture	4
5.	Management system and Process in selected Agro Based Industry/Unit	Horticulture, Agril. Economics and other related fields	5
6.	Identification of critical management areas in selected Agro Based Industry/Unit	Horticulture, Agril. Economics and other related fields	5
7.	Human Resource Planning: Forecasting, Inventorying, Anticipating Planning, Job analysis.	Horticulture, Agril.	5

	Human Resource Acquisition: Recruitment, Selection, Placement, Induction, Socialization. Human Resource Development: Training, Career Management, Monitoring and Performance coaching, Team building, Compensation Strategy and Award management, industrial relation	Economics, Extension Education, Agril. Entomology, Agril. Chemistry and Soil Science, Agril. Botany and other related fields	
8.	Resource use management in Agro Based Industry/Unit. Raw materials, capital, man power, machinery and equipment, energy, site.	Horticulture and other related fields	5
9.	Process flow-chart, Technical Aspects	Horticulture, Agril. Engineering	5
10.	Inventory management in selected Agro Based Industry/Unit. Raw materials, work in process, finished product. Inventory account and control.	Horticulture, Agril. Engineering	5
11.	Total quality management in selected Agro Based Industry/Unit. Operation management, Quality improvement, Quality assurance, Quality policy	Horticulture, Agril. Engineering	5
12.	Marketing management in selected Agro Based Industry. Marketing function management: Assembling, Transportation, packaging, storage, sale promotion, distribution. Marketing mix strategy: Product strategy, pricing strategy, distribution strategy, communication strategy.	Horticulture, Agril. Economics, Extension Education,	15
13.	Supply chain management in selected agro based industry: procurement, management, distribution management	Horticulture, Agril. Economics,	5
14.	Estimation of Cost of Production of selected agro based industry: Total Variable Cost: Raw Material Cost, Fuel Cost, Labour Cost, Transportation Cost, Packing cost, other (Light bill, stationary etc.). Total fixed cost: Land rent, Depreciation, Interest on fixed capital, Total cost= Total Variable Cost+ Total fixed cost B:C ratio, liquidity ratio, turnover ratio, profitability ratio	Horticulture, Agril. Economics,	10
15.	Financial Management of selected agro based industry Sources of funds, allocation of funds, financial feasibility, Break-Even Analysis	Horticulture, Agril. Economics,	10
16.	SWOT Analysis of selected Agro Based Industry/Unit- Strength, Weakness, Opportunities	Horticulture, Agril.	5

	and Threats	Economics, Extension Education and other related fields	
17.	Summary and Conclusion	Horticulture and other related fields	5
	Total		100

STUDENTS READY PROGRAMME

Experiential Learning Modules in Horticulture for B.Sc. (Hort.)

1. Objectives

To develop skill in producing quality planting material of fruit and ornamentals crops Commercial production of vegetables

Demand base large-scale production of cut flowers, cut greens and vegetables

To acquire skills in Post-harvest management and value addition of fruits and vegetables

To develop competence, capability, capacity building, acquiring skills, expertise and built up confidence among the students to start their own enterprise and turn job creators instead of job seekers.

2. Justification

The term READY refers to “Rural Entrepreneurship Awareness Development Yojana” has been proposed by V Dean’s Committee to reorient the agricultural graduates for ensuring and assuring employability and develop entrepreneurs for emerging knowledge in the field of horticulture. Horticulture has become a key driver for economic development in many states of the country but one of the constraints is availability of planting material, poor yields and low productivity, wider year to year fluctuations and poor quality of produce. The use of low grade and poor quality planting materials is one of the major causes for low productivity. This warrants proper planning to increase production and productivity for which trained skilled human resources development in the field of horticulture are the prime needs of the hour. Through experiential learning programme on commercial horticulture to develop competence, capability, capacity building, acquiring skills, expertise and built up confidence among the students to start their own enterprise and turn job creators instead of job seekers. The students will produce quality planting material of fruits, vegetables, ornamentals, cut flowers and processed products of fruits and vegetables.

3. Activity components

- a. Survey and risk assessment
- b. Sourcing for inputs
- c. Production plan
- d. Production and quality control
- e. Saleable produce
- f. Packaging & marketing
- g. Financial accounting
- h. Profits

4. Project development

- i) Demand assessment :To be obtained from concerned state Horticulture/ Agriculture departments, market need assessment, hostel mess in nearby area, consumers, housing societies,
- ii) Sourcing of Inputs :Planting material of fruits, vegetables and flowers, manures, agrochemicals, fertilizers, raw material, etc.
- iii) Type of products : Nursery plants, vegetables, flowers.
- iv) Action plan :Production of nursery plants, vegetables, flowers.
- v) Funding agencies :ICAR/SAU
- vi) Marketing :Housing societies, hotels, local market, college counter, college mess, sale units etc.
- vii) Financial accounting :

5. Faculty responsibilities

- Orientation – introduction,
objectives Procurement of inputs
Monitoring, assessment and evaluation
Arrangement of guest lectures and expert entrepreneurs
Supervision of production and marketing

6. Evaluation of Experiential Learning Programme

Sl.No.	Parameters	Max. Marks
1.	Project Planning and Writing	10
2.	Presentation	10
3.	Regularity	10
4.	Monthly Assessment	10
5.	Output delivery	10
6.	Technical Skill Development	10
7.	Entrepreneurship Skills	10
8.	Business networking skills	10
9.	Report writing skills	10
10.	Final Presentation	10
	Total	100

OR

Sr. No.	Parameters	Max. Marks
1	Attendance	10
2	Daily diary	10

3	Work performed	
	a) Resource management	10
	b) Time management	10
	c) Review of literature	10
	d) Report Presentation	10
4	Examination/Demonstration	20
5	Preparation of project report	10
6	Viva-voce	10
	Total	100

OR

Distribution of marks (Subject wise):

Sr. No.	Particulars	Horti. (0+8)	Social Science (0+1)	Plant Protection (0+1)	Total Marks
1	Attendance (10%)	40	5	5	50
2	Diary (10%)	40	5	5	50
3	Preparation of project report (10%)	40	5	5	50
4	Practical examination/ Demonstration(20%)	80	10	10	100
5	Work performed (40 %)	160	20	20	200
6	Viva-voce (10 %)	40	5	5	50
	Total	400	50	50	500

Module: Commercial Horticulture 481/1/2 (0+10 credits)

Sr. No. Activity Credit hours

a. Nursery Management of Horticultural Crops (0+10)

b. Vegetable production (0+10)

Note: Any one of above module will be offered

Syllabus

1. Course No. HORT EL-481/1

Title: Nursery Management of Horticultural Crops Credits: 0+10=10

Sr. No.	Topics	Discipline
1	Importance and scope present status of Horticulture nurseries – in Maharashtra and India.	Horticulture
2	Nursery Act- Legislation/rules, regulation, producer of obtaining license.	Horticulture
3	Planning and layout of nursery	Horticulture
4	Maintenance of mother orchards.	Horticulture
5	Procurement/preparation of scion material of commercially important varieties Horticulture crops.	Horticulture
6	Selection and raising of roots stocks	Horticulture
7	Commercial production of rooted cutting, grafts, layers, seed, bulbs corns, etc. of Horticultural crops.	Horticulture
8	Selection and preparation of scion material of commercially important Horticultural crops	Horticulture
9	Selection and raising of rootstock for different Horticultural Crops.	Horticulture
10	Raising seedlings: vegetable, flower, fruit and ornamental plants.	Horticulture
11	Propagation by cutting of fruits, flowers and ornamental plants	Horticulture
12	Propagation by grafting, layering and budding viz. fruit and flower crops.	Horticulture
13	After care nursery plants, viz; watering, nutrient management, use of plant growth regulators and protection against adverse climate.	Horticulture
14	Disease management	Pathology
15	Pest management	Entomology
16	Estimation of cost of production of nursery plants. Entrepreneurship development in nursery, marketing of nursery plants	Economics
17	Visit to different plant nursery unit/Industry.	Horticulture
18	Report writing.	Horticulture
Note-Quantity of the planting materials to be prepared on commercial basis		

2. Course No. HORT EL-481/2

Title: Vegetable Production

Credits: 0+10=10

Sr. No.	Topics	Discipline
	Production technology of vegetables a. Fruit vegetables: Chilli, brinjal, okra, capsicum etc b. Cole crops: Cabbage ,cauliflower etc c. Cucurbits: Cucumber, bottle gourd, bitter gourd, ridge gourd, water melon, musk melon etc d. Bulb and root crops: Onion, carrot, radish etc e. Peas and beans: cluster bean, french bean, garden pea, cowpea etc f. Leafy vegetables: Fenugreek, palak, shepu, coriander, amaranthusetc	Horticulture
1	Nursery bed preparation and seed treatment, sowing and after care	Horticulture
2	Preparation of main field and layout	Horticulture
3	Seedling treatment and transplanting	Horticulture
4	Weed management and mulching	Horticulture
5	After care, irrigation and nutrition management	Horticulture
6	Intercultural operations	Horticulture
7	Special horticultural practices	Horticulture
8	Application of bio-regulators	Horticulture
9	Disease management	Pathology
10	Pest management	Entomology
11	Harvesting, grading, packing, transport and marketing	Horticulture
12	Survey of domestic and market channels for vegetables	Economics
13	Estimation of cost of production and marketing of vegetables	Economics
14	Visit to commercial vegetable farms	Horticulture
Note: Area for each crop should be 5 R as group activity of five students		

3. Course No. HORT EL-482

Title: Protected Cultivation of high value horticultural crops

Credits: 0+10=10

Sr. No.	Topics	Discipline
1	Important, scope and constraints for protected cultivation	Horticulture
2	Site of selection and preparation of site for green house erection	Agril. Engg.
3	Different types of green-houses/shadenet houses and cladding materials	Agril. Engg.
4	Climatic control devices	Horticulture
5	Preparation of media, sterilization and bed preparation	Horticulture
7	Irrigation and fertigation	Agril. Engg.
8	Production technology of vegetables - Capsicum Cucumber, gourds, melons and tomato	Horticulture
9	Production technology of cut flower crops- Rose, Carnation, Chrysanthemum, Orchids and Gerbera	Horticulture
10	Disease management	Pathology
11	Pest management	Entomology
12	Harvesting, pre-cooling, grading, packing, transport and marketing of vegetables and flowers	Horticulture
13	Market study, economics of production, cost benefit ratio of above mentioned vegetables and flowers	Economics
14	Visit to commercial green house/shade net projects	Horticulture
15	Govt. /NHB scheme, finance and insurance for protected cultivation.	Horticulture

Note: Area for each crop should be 5 R as group activity of Five students

4. Course No. HORT EL-483

Title: Processing of fruits and Vegetables for value addition Credits: 0+10=10

Sr. No.	Topics	Discipline
1	Current status and importance of post-harvest technology and value addition of fruits and vegetables	Horticulture
2	Site selection and layout for post harvest unit.	Horticulture
3	Sorting, grading and packaging house for fruit/vegetables.	Horticulture
4	Identification and use of tools and equipments for post harvest handling and processing	Horticulture
5	Quality standards and procurement of fruits and vegetables packaging of fruits and vegetables	Horticulture
6	Minimal processing	Horticulture
7	Processing of aonla- candy, supari and powder	Horticulture
8	Processing of banana	Horticulture
9	Processing of dried flakes and powder	Horticulture
10	Drying of flowers	Horticulture
11	Flower bouquets and garlands	Horticulture
12	Quality evaluation and spoilage of processed products	Biochemistry and microbiology
13	Working out economics of preparation of products	Economics
14	Marketing of minimally processed and processed products	Economics
15	Visit to commercial processing units.	Horticulture
16	Govt. /NHB scheme, finance and insurance for processing units.	Horticulture
17	Project report	Horticulture
Note-Quantity of the products to be prepared on commercial basis		

5. Course No. HORT EL-484

Title: Floriculture and Landscape architecture

Credits: 0+10=10

Sr. No.	Topics	Discipline
1	Current status, importance, constraints/problems of floriculture and landscape architecture	Horticulture
2	Production technology of major flower crops	Horticulture
	Marigold	
	Aster	
	Tuberose	
	Gladiolus	
	Chrysanthemum	
3	Gaillardia	
3	Special horticulture practices	Horticulture
4	Harvesting, grading, packing and marketing of flowers	
5	Working out economics of production of major flower crops	Economics
6	Production technology of ornamental plants, climbers, creepers, shrubs, trees, annuals, bulbs, cacti, succulents, palms and bonsai	Horticulture
7	Identification of climbers, shrubs, annuals, trees, bulbous plants, cacti, succulents and palms	Horticulture
8	Training and pruning of climbers, shrubs, trees, staking, pinching and bending, etc.	Horticulture
9	Preparation of bonsai, and flower arrangement	Horticulture
10	Principles of garden design, type of garden, lawn making and its management,	Horticulture
11	Garden features and adornments	Horticulture
12	Utility of trees, shrubs, palms, cycads, climbers in garden and placement in landscape design	Horticulture
13	Layout plans of gardens for different places,	Horticulture
14	Indoor gardening, planning and ecotourism	Horticulture
15	Selection of ornamental plants	Horticulture
16	Landscaping of road side, road divider, railway lines, private buildings, hostels	Horticulture
17	Garden tools and implements, garden features	Horticulture
18	Nursery techniques for different species used for landscaping	Horticulture
19	Visit to public parks, garden and nurseries	Horticulture
20	Pest management	Entomology
21	Disease management	Pathology

