

**Modules for Skill Development and Entrepreneurship:** A student has to register 20 credits opting for two modules of (0+10) credits each (total 20 credits) from the package of modules in the **VIII semester**.

<b>VIII Semester</b>		
<b>Course</b>	<b>Title of the module</b>	<b>Credits</b>
AMB 5421	Production Technology for Bioagents and Biofertilizer	0+10
APB 5421	Seed Production Technology	0+10
APP 5421	Mushroom Cultivation Technology	0+10
ASOIL 5421	Soil, Plant and Water Testing	0+10
AENT 5421	Commercial Beekeeping	0+10
AVET 5421	Poultry Production Technology	0+10
AHVG 5421	Commercial Horticulture	0+10
AHFL 5421	Floriculture and Landscaping	0+10
AHFR 5421	Food Processing	0+10
APP 5422	Agriculture Waste Management	0+10
AGRO 5421	Organic Production Technology	0+10
AENT 5422	Commercial Sericulture	0+10
AEC 5421	Natural Recourse Management	0+10
AEXT 5421	Agricultural Journalism and Behavioral Skills	0+10

**NOTE:** In addition to above ELP modules other important modules may be given to the students by SAUs

**Evaluation of Experiential Learning Programme/ HOT**

<b>S.No.</b>	<b>Parameters</b>	<b>Max. Marks</b>
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
<b>Total</b>		<b>100</b>

The student undergoing ELP may be allowed to register for a maximum two courses.

- 1. Module-I: Production Technology for Bioagents and Biofertilizer:-** Isolation and pure culture establishment of bio-fertilisers and bio-pesticides. Culture methods and substrates. Scale of methods for bio-fertilizers and bio-agents. Substrate preparation and mixing techniques. Quality analysis of bio-fertilisers and bio-pesticides. Testing the final product in small scale level. Storage, marketing and cost analysis of bio-fertilisers and bio-pesticides.
- 2. Module-II: Seed Production Technology:-** Germination test purity percent and quality parameters, generation system of seed multiplication, identification of suitable area/location for seed production; Ear to row method and nucleus seed production - major characteristics of released and notified, varieties, hybrid seed production technology of importance crops.
- 3. Module-III: Mushroom Cultivation Technology:-** Construction cultivation room/structure and Disinfection. Compost preparation & pasteurization. Procurement of mother culture and spawn preparation. Procurement of casing soil and preparation for production. Mushroom seeding, Casing with soil and maintenance, Harvesting, processing, Grading, packing, marketing and Cost economics of mushroom culture.

4. **Module-IV: Soil, Plant and Water Testing:-** Collection and soil water and plant sample for analyses, soil profile study, bulk density, particle density, porosity, water holding capacity, soil texture, estimation of soil moisture by gravimetric and volumetric methods, depth of water in soil column, line requirement, soil pH, EC, organic carbon and available major and micronutrient in soil and plant sample, leaf area by leaf area meter, relative water content of leaf, specific leaf weight, chlorophyll content of leaf, irrigation water quality analysis, measurement of soil water potential, water flood measurement.

5. **Module-V: Commercial Beekeeping :-** Beneficial insect, scope of apiculture, honey bee colony, different bee hives and apiculture equipment, summer and winter management of colony, Honey extraction and bottling study of pests and disease of honey bees. Species of honey bees, Bee pasturage, Honey composition and value, bee crop and tissue.

6. **Module-VI: Poultry Production Technology :-** Important Indian and foreign breeds of poultry; Breeding management of Chick, Grower and Layer birds; Incubation and hatching, management of incubator during incubation; care and management of chicks – grown up birds, equipment, feeders, drinker systems, housing programs – Farm knout, house design, orientation of shed, cross ventilation, lighting systems – floor space requirements, brooder space, water space and feeding space at different

age of broilers – random weighting of chicks, commonly used major feed ingredients  
identification – Feed manufacturing – preparation of feed for different age groups of  
broilers different methods of injection and procedure; structure of poultry eggs,  
selection and care of hatching egg; disease of poultry, vaccination schedule.

- 7. Module-VII: Commercial Horticulture:-** Nursery production of fruit crops:  
Raising of rootstocks, grafting and budding of rootstocks, management of grafted  
plants, plant certification, packaging and marketing, quality control. Nursery  
production of ornamentals: Production of plantlets, production of potted plants,  
management and maintenance, sale and marketing. Protected cultivation of  
vegetables and flowers: Nursery raising/procurement and transplanting, management  
and maintenance of the crop, postharvest handling, quality control and marketing
- 8. Module-VIII: Floriculture and Landscaping:-** Preparation of project report, soil  
and water analysis, preparation of land and layout. Production and Management of  
commercial flowers. Harvesting and postharvest handling of produce. Marketing of  
produce, Cost Analysis, Institutional Management, Visit to Flower growing areas and  
Export House, Attachment with private landscape agencies. Planning and designing,  
site analysis, selection and use of plant material for landscaping. Formal and informal  
garden, features, styles, principles and elements of landscaping. Preparation of  
landscape plans of home gardens, farm complexes, public parks, institutions, high

ways, dams and avenues. Making of lawns, use of software in landscape. Making of bouquets, button hole, wreath, veni and gazaras, car and marriage palaces. Dry flower Technology (identification of suitable species, drying, packaging and forwarding techniques).

**9. Module IX: Food Processing:-** Planning and execution of a market survey, preparation of processing schedule, preparation of project module based on market information, calculation of capital costs, source of finance, assessment of working capital requirements and other financial aspects, identification of sources for procurement of raw material, production and quality analysis of fruits and vegetables products at commercial scale, packaging, labeling, pricing and marketing of product.

**10. Module-X: Agriculture Waste Management:-** Analysis and design of systems for etc collection, storage, treatment, transport and utilization of disposable organic water and west waters, operating system and laboratory evaluation of materials and processes, mass and energy balance for process systems, water and water analysis; Physical, chemical and biological basis for waste treatment and recycling; waste treatment systems, management of dead animals rendering plants, incineration, disposal pits; gaseous waste treatment

**11. Module-XI: Organic Production Technology** :- Organic production requirement, Crop management in organic farming, organic seed production, organic manures, composting, vermin composting, Green maturing, biofertilizers, organic liquid fertilizers, organic management protection for controlling insects, disease and weeds, organic certification, processing and marketing, Quality standards; Important herbs, shrubs and trees their identification, uses and characteristics; habitat management is rainfed and integrated farm, integrated farming system.

**12. Module- XII; Commercial Sericulture** :- Importance and history of sericulture, silk worms kinds and their hosts, systemic position, distribution, life cycle; establishment of mulberry garden, preparation of mulberry cutting, planting methods under integrated and rainfed condition; maintenance of mulberry garden- pruning, fertilization, irrigation and leaf harvest; mulberry pests and disease and their management and nutritional disorders; study of different kinds of silk worms and mulberry, silk worm morphology, silk glands; sericulture equipment; Reading of silk worms – chalky reading; reading of silk worms late age silk worm reading and study of montages; study of silk worm pests and their management; study of silk worm disease and its management.

**13. Module-XIII: Natural Resource Management:** - Introduction to natural resource basis; forest, land, water, energy, food resources, fish and other marine resources; mineral resources, resource management paradigms, approaches in resource management, management of common international resources; resources management in mountain ecosystems; dry-land ecosystems and their management; case study of shifting cultivation and their management; mangrove ecosystems and their management; soil erosion by water and wind and the VSLE equation; soil and water conservation and quality.

**14. Module XIV: Agricultural Journalism and Behavioral Skills:-** Scope of Agro Journalism in various media, Understanding various source of information in agriculture, use of research journals and original contribution for exclusives of information understanding agro- climatic regions and significance; problems of farmers with respect to it; communication behavior; exercises as preparation skills, listening in village through appropriate tools.