MANDSAUR UNIVERSITY, MANDSAUR
SH-31, By-pass Square, Rewas Dewra Road, Mandsaur (M.P.)- 458001

Scheme of Examination, 2019-20
Department of Agriculture
B.Sc. (Hons) Agriculture
Semester:- VIII

S.N.	Module Code/ Course Code	Course Title / Module Title	Theory			Practical		Hours / Week		Credits			Total Marks
			End Sem, Test (EST)	Mid Sem. Test (MST)	Assignment (CET)	Practical	Assignment (CET)	Th	Pr	Th	Pr	Total	
1	ELP/ M-01 – M-012		-	-	-	80	20	-	24	0	10	10	100
2	ELP/ M-01 – M-012		-	-	-	80	20	-	24.	0	10	10	100
Total (Credit Courses)			**-**	**-**	**-**	**160**	**40**	**-**	**48**	**0**	**20**	**20**	**200**

***** Module Code and their Titles will be different for different students and will be finalized after their allotment as per guidelines.

A Student has to register 20 credits opting for two modules, each of (0+10) credits from the following package of modules in the VIII Semester.

Code	Course Title / Module Title	Code	Course Title / Module Title
ELP/M-01	Production Technology for Bio-agents and Biofertilizer	ELP/M-07	Commercial Horticulture
ELP/M-02	Seed Production and Technology/Hybrid Seed Production Technologies	ELP/M-08	Floriculture and Landscaping
ELP/M-03	Mushroom Cultivation Technology	ELP/M-09	Food Processing
ELP/M-04	Soil, Plant, Water and Seed Testing	ELP/M-10	Agriculture Waste Management
ELP/M-05	Commercial Beekeeping	ELP/M-11	Organic Production Technology
ELP/M-06	Poultry Production Technology	ELP/M-12	Nursery Management

Acad. Coordinator DIRECTOR AGRI

(IV). Syllabus for Modules to Be Offered and Their Details:

(6). Module – VI: Poultry Production Technology (Credits 0 + 10)

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 weighing 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.

(1). Module - I: Seed Production and Technology (Credits 0 + 10)

Germination test, purity percent and quality parameters; Generation system of seed multiplication; Identifications 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 important crops.

(2). Module –II: Mushroom Cultivation Technology (Credits 0 + 10)

Construction cultivation room/structure and disinfection; Compost preparation and 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.

(3). Module –III: Production Technology for Bio-agents and Bio-fertilizer (Credits 0 + 10)

Isolation and pure culture establishment of bio-fertilizers 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-fertilizers and bio-pesticides; Testing the final product in small scale level; Storage, marketing and cost analysis of bio-fertilizers and bio-pesticides.

(4). Module –IV: Soil, Plant, Water and Seed Testing (Credits 0 + 10)

Collection and soil water and plant sample for analyses; Soil profile study; Bulk density, particle density, porosity, water holding capacity and soil texture; Estimation of soil moisture by gravimetric and volumetric methods; Lime requirement, Organic carbon, pH, EC 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. Seed viability and germination testing.

(5). Module – V: Commercial Beekeeping (Credits 0 + 10)

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; Specifies of honey bees; Bee pasturage, Honey composition and value, Bee crop and tissue.

(6). Module – VI: Poultry Production Technology (Credits 0 + 10)

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 weighing 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 (Credits 0 + 10)

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 (Credites 0 + 10)

Preparation of project report, soil and water analysis, preparation of land and layout; Production and management of commercial flowers; Harvesting and post-harvest 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 (Credits 0 + 10)

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 (Credits 0 + 10)

Analysis and design of systems for vermi-composting and compost; Collection, storage, treatment, transport and utilization of disposable organic water and waste 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 (Credits 0 + 10)

Concept and principles of organic production technology; Role of organic farming in national economy; Management of soil health with organic sources and nutrient recycling, green manuring crops, biomass production and nutrient accumulation by green manure crops; Management of insect-pest, weeds and diseases under organic production; Organic production of major crops – cereals, pulses, oilseeds, fodder, vegetable and fruit crops; Vermi-compost production methodology; Harvesting, storing and packing of vermin-compost; Management of residue under organic farming; Aerobic and anaerobic methods of compost making; Nursery raising of important agro-forestry and shelter belts tress; Indigenous technology knowledge (ITK); Quality analysis of organic inputs and products; Relative economics of organic production programmes; Socio-economic impacts, marketing and export potential of organic products; Quality standards, inspection, certification, labeling and accreditation procedures of organic farm produce; Visit to a nearby modern organic farm.

(12). Module – II: Nursery Management (Credits 0 + 10)

Nursery raising in field, vegetable, flower and fruit crops; Seed treatments for breaking dormancy and inducing vigorous seedling growth; Media for nursery bed preparation and seed sowing; Nursery techniques, propagation of plants in nursery beds, pot and mist chamber; Propagation/nursery structures, humidifiers, greenhouses, glasshouses, hot beds, cold frames, poly-houses, nursery tools, implements; Growth regulators in seed and vegetative propagation; Nutrient and insect-pest/disease management in nursery; Propagation through specialized organs, corm, runners, suckers; Micro propagation, hardening of plants in nurseries; Maintenance of nursery records; Visit to tissue culture laboratory/public and private nurseries.

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