**Skill enhancement courses for choice Based credit system ( CBCS)**

**Semester: 3rd**

**Subject : Sericulture**

**Course Code : SEC-SR-16-301 (Mulberry cultivation technology)**

**(Credits: Theory-04)**

**Unit-1 Establishment of new mulberry garden**

1. Introduction, Requirements, precautions and technique involved in soil sampling.
2. Preparation of land, raising of saplings and seedlings in nursery beds, precautions maintenance.
3. Raising of temperate varieties (hard to root) under polyhouse conditions.
4. Planting systems- Pit,row and paired row system of planting, precautions.
5. Preparation of cuttings and grafting, precautions.

**Unit-2 Irrigation and Manuring**

1. Irrigation- frequency and methods of irrigation.
2. Composting ,vermicomposting through recycling of sericultural farm residues ,precautions.
3. Chemical fertilizers – schedule for nursery and established gardens
4. Biofertilizers, adventages, disadventages and precautions.

**UNIT-3 DISEASES OF MULBERRY**

1. Visual identification of Foliar diseases and their management
2. Visual identification of Root diseases and their Management.
3. Deficiency diseases and their Management
4. Preparation and spray of Fungicides, Application of Bio-formulations

**Unit-4 Mulberry pests**

1. Leaf eating pests of mulberry ( important) and their management
2. Sap sucking pests of Mulberry (important ) and their Management
3. Preparation of Spray solution of insecticides and its application method
4. Survey of mulberry pests, scoring of their incidence**.**

**Skill enhancement courses for choice Based credit system ( CBCS)**

**Semester: 4th**

**Subject : Sericulture**

**Course Code : SEC-SR-16-401 (silkworm rearing technology)**

**(Credits: Theory-04)**

**Unit-1 Rearing Facilities and incubation**

1. Introduction, model rearing house, rearing implements
2. Appliances needed for disinfection and maintaining optimum conditions
3. Disinfection of rearing house, appliances and methods of disinfection
4. Incubation methods of incubation , hatching and Brushing

**Unit-2 Rearing Management**

1. Chawki rearing (I and II) Instar larvae, methods
2. Late age silkworm rearing, ( shelf, floor and shoot ) rearing
3. Maintenance of optimum conditions for chawki and late age rearing
4. Harvesting and preservation of leaf, chopping, Feeding, moulting care ,spacing, bed cleaning**,**

**Unit-3 Harvesting and marketing management**

1. Mountages-types of mountages , effects of mountages
2. Spinning, Harvesting , drying of cocoons, methods of drying.
3. Transportation of cocoons, physical characteristic of cocoons for commercial purpose
4. Defective cocoons, cocoon markets

**Unit -4 Diseases and pests (brief)**

1. Silkworm diseases causal agents ,symptoms ( fungal , bacterial, viral, protozoan)
2. Bed disinfectants, prevention control and management of diseases
3. Major silkworm pests and their control (uzifly and Dermestid beetles)

**Skill enhancement courses for choice Based credit system ( CBCS)**

**Semester: 5th**

**Subject : Sericulture**

**Course Code : SEC-SR-16-501 (post harvest technology)**

**(Credits: Theory-04)**

**Unit-1 processing of raw material**

1. Introduction , Stifling and methods

2. Storage , Sorting and deflossing of Cocoons

3. Cocoon cooking/boiling: Definition and objectives, different methods of cocoon boiling-

Mono pan, three pan.

4. Cocoon brushing: Definition and objectives; methods- stick, hand and mechanical brushing.

**Unit-2 Reeling operation**

1.Introduction and reeling end formation

2. Filament twisting, drying and distribution of thread on reels

3.jetteboutte,Button, different types of croissures

3. Reeling Appliances(charaka, cottage basin, multi-end silk reeling machine,)

4.Re –reeling ,Lacing and Skeining

**Unit -3 Wet processing**

1.Introduction and Flow chart of silk processing

2. Degumming and different methods of degumming

3.Bleaching and dyeing of silk ( acid and reactive dyes)

4.Printing-methods of printing and Finishing- methods of finishing

**Unit-4 VALUE ADDITION (cut cocoons and mulberry fruit)**

1. introduction, Basic Raw Material, Other Miscellaneous material
2. Methods of cocoon dying
3. Material and Methods for Development of Cocoon Crafts.
4. Designing of cocoon craft products (Cocoon Flower, Single flower bouquet, Flower “Bunch” bouquet)
5. Garland Designing(Single flower garland, Flower “Bunch” garland, Cocoon cap garland)
6. Greeting Card Preparation and Fancy items of Gift/Interior Decoration
7. Economics of Designing/Development of cocoon crafts /Expenditure/cost of input items

 8 collection of mulberry fruit and preservation

 9. Ingredients, Equipment and procedure for making Mulberry Jam

**Skill enhancement courses for choice Based credit system ( CBCS)**

**Semester: 6th**

**Subject : Sericulture Course Code : SEC-SR-16-601 (integration of sericulture with poultry and fisheries)**

**(Credits: Theory-04)**

**Unit-1 introduction**

1. Define Integration, sericulture, rearing wastes, Silkworm pupae, poultry, fishery
2. Utility of mulberry leaves ( leftover and winter fallen), pupae , moths, silkworm excreta.
3. Quantification of silkworm pupae- Feeding value for animals. Medicinal value.
4. Proximate composition of mulberry leaf, silkworm pupae , silkworm excreta, fish meal

**Unit-2 Fish farming:**

1.Introduction, Market potential, *Requirement for Pond/Tank,*

## 2.Quantitative relationship between mulberry, silkworm and fish farming

## 3.Mulberry plot-fish ponds” model, pond Management

4. Pond fertilization, Kinds of organic manures -Silkworm excreta, green manure , Composting of sericultural farm residues and methods of application,

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## Unit-3 Poultry Farming:

## Introduction, Market potential, Breeds,

##  Poultry housing, types of poultry houses, different types equipments, disinfection of poultry house

## Brooding, methods of brooding, brooding care, feeding of chicken

##  Methods of rearing system, Vaccination, Management

**Unit-4 FEED PREPARATION**

1. Preparation of feed for broiler chicken by using fish meal as protein source
2. Preparation of feed for broiler chicken by using pupal meal as protein source
3. Preparation of feed for broiler chicken by using mulberry leaf as protein source
4. Preparation of feed for trout fish by using fish meal as protein source
5. Preparation of feed for trout fish by using pupal meal as protein source
6. Comparative cost of feed formulations