TASAR TECHNOLOGY
PAPER- I
SEED TECHNOLOGY AND REELING

MM: 50

UNIT- I

1. Spinning behaviour of non-mulberry cocoons, Physical and commercial characters of cocoons.
2. Pierced cocoons: storage and disposal
3. Marketing of cocoons: price fixation according to silk content
4. Selection & transportation of cocoon for reeling

UNIT- II

1. Economics of seed organisation: Equipment for preparation of economically viable unit of grainage, cocoon DFLS-ratio, manpower requirement.
2. Organising a grainage, cost of preparation of DFLS.
3. Maintenance of records and registers in grainage.
4. Economics of seed production: salaries, wages, establishment, charges, cold storing of eggs, sale of eggs, cost of chemical equipments, egg sheets, furniture, contingencies & miscellaneous expenditure.

UNIT- III

1. Protective measures in seed production
2. SILK REELING: Introduction, evolution, importance & statistics of silk reeling
3. Position of reeling industry in India and other silk producing countries.
4. Raw materials for silk reeling-factor affecting the production of silk yarn, different varieties their characteristics.

UNIT- IV

1. Reeling: object, details study of yarn passage, raw silk yarn size (denier) and importance.
2. Physical, Chemical & Microscopic properties of tasar silk. Uses of tasar silk, different type of silk yarn & their characteristics and uses.
3. Difference between mulberry and non-mulberry silk, Main problem of reeling of tasar silk.
4. Silk testing & quality control: Testing of raw silk, advantage of testing, silk conditioning and testing house, wining test, Seri-plane and serigraph tests, cohesion and standardisation of raw silk.

UNIT- V

1. Reeling machine: Conventional charkha, improved charkha, cottage basin/filature basin, multi end silk reeling basin.
2. Automatic & semi-automatic reeling machine, recent advances in reeling.
3. Re-reeling & packing: object, importance of re-reeling yarn distribution and skein formation, skein finishing, Raw silk book making and building.
4. Stifling: Definition, various methods of stifling.

TASAR TECHNOLOGY
PAPER-II
SPINNING, DYEING & PRINTING OF TASAR SILK

MM: 50

UNIT-I

1. Spinning: Principles of spanning. Charkha spinning. Hand spinning, spun silk mills, spun silk Industry.
2. Silk throwing: Introduction. Objective of silk throwing preparation for twisting (Highlight) twist-high twist & low twist.)
3. Winding: object of winding, principle of winding, types and methods of winding.
4. Silk processing: Degumming of silk. Bleaching. Dyeing finishing.

UNIT-II

1. Types of water used in processing.
2. Process Involved in spun silk preparation: washing drying opening. Filling. Combing. Drawing, rowing. Spinning, doubling. Gassing, cleaning, recalling.
3. Introduction of textile fibre general properties classification of textile fibre Physical and chemical properties of different fibres (Tasar, well, action deflector.)

UNIT-III

1. Establishment of small reeling units, efficiency, machinery management, production & economics.
2. By products of silk, pupa different types of silk waste.
3. Traditional ghicha preparation of tasar silk blending of tasar silk with other fibre and its problems.
4. Noil and noil yarns

UNIT-IV

1. Bleaching: Introduction of bleaching, purpose of bleaching, bleaching of tasar silk, wool & cotton.
2. Dyeing: Introduction of dyeing of tasar silk, cotton and wool with different class of dyestuffs normally used after their treatment.
3. Printing: Introduction of printing, study of different methods and styles of printing.

UNIT-V

1. Printing of tasar silk & cotton by block method, with different group of colour normally used.
2. Brief Idea of transfer and foam Printing, thickening agents.
3. Finishing: Introduction of finishing, classification of finishing, study of different type of temporary and permanent finishing of tasar silk and cotton.

PRACTICALS
PAPER-I: SEED TECHNOLOGY AND REELING.
PAPER-II: SPINNING, DYEING & PRINTING OF TASAR SILK.

MM: 50

1. Sorting and grading of tasar cocoons.
2. Determination of physical/commercial characters of cocoons.
3. Stifling and cooking of tasar cocoon.
4. Reeling of tasar cocoons on natwa.
5. Study of reeling and spinning machines.
6. Identification of textile fibres, silk, wool & cotton.
7. Flaw of grainage buildings & equipment.
8. Cutting of seed cocoons: sex separation. By rupal methods.
9. Study of multi-end silk reeling machine, automatic & semi-automatic reeling mechine.
10. Study of silk testing: winding test, denier (size) test.
11. Degumming of raw silk yarn and silk waste by soap & soda method.
12. Study of silk fabric manufacturing unit: power loom & hand loom.
13. Study of silk dying and printing unit: visit to practical centers.
14. Charkha reeling.: economic model of silk reeling unit
15. Visit to seed cocoon markets.
16. Visit to multi-voltime & bi-voltime seed forms.
17. Visit to temperate & tropical states of India.
18. Provision to arrange guest/ lectures/film/slide shows.

LIST OF REFERENCE BOOKS:-

1. Silkworm Egg: by Y. Tazima (1962) Published by CSB Bombay.
2. Silk Dyeing, Printing and Finishing: Gulrabani.
3. Sericulture & Silk Industry: by Tripurali Sharma.
4. Silk Processing: by Kim.
5. Technology of Printing: by Shenai.
6. Finishing: by Marsh.
7. Dye & Dye Intermediates: by S.B.P.
8. Raw Silk Reeling: by B.H. Kim.
9. Silk of Industry Problem and Prospects: by A. Ajab, H. Lawpper.
10. Dying of Textile Fibres: by Shenai.
11. The Development of Indian Silk: by Sanjay Sinha (1990)