2.10 40221 SPINNING PREPARATION

UNIT-1 SPINNING PREPARATION

1.1 Introduction to various processes involve in conversion of fibre into yearn with objective.

UNIT-2 GINNING AND BALING

2.1 Ginning, objects of ginning.
2.2 Classification of ginning machines.
2.3 Description and working of knife roller gins e.g. single roller gin, Double roller gin.
2.4 Description and working of Macarthy gins e.g. single macarthy gin, Double Macarthy gin.
2.5 Description and working of saw gins e.g Single saw gin, double saw gin and improved saw gin.
2.6 Defects in ginning and their removal.
2.7 Suitability of ginning machines for Indian, American and Egyptian type of cottons.
2.8 Pressing and baling and its importance.

UNIT-3 PRELIMINARY OPERATIONS

3.1 Mixing and its importance, method of mixing. Advantages and disadvantages.
3.2 Description and working of automixer and other modern blenders.

UNIT-4 OPENING AND CLEANING

4.1 Blow Room: Objects of Blow room.
4.2 Importance of opening and cleaning.
4.3 Trash content, opening by nails, air currents and beaters.
4.4 Study of opening and cleaning machines e.g. Blending bale opener, hopper feeders,
4.5 Porcupine opener, Step cleaner, S.R.R.L. opener, shirley opener, Whitin axiflow machine,
4.6 Air stream cleaner, two bladed beater, three bladed beater and Kirschner beater.
4.7 Nature of waste extracted in various openers and beaters E. R. M. cleaner and Monocylinder beaters.
4.8 Construction & Working of Bale Plucker.

UNIT-5 AUXILIARY EQUIPMENT

5.1 Use and working of cleaning trunks, Metal separators, Grid bars and leaf bar,
5.2 Air filters, Condensers, Screens or Cages, Automatic distributors, Conveyors.

UNIT-6 PREPARATION OF LAP

6.1 Lap forming mechanism, Object and mechanism of Calender Roller and their weightings.
6.2 Objects of picking. Single process and scutchers. Selection of machinery according to type of fibre and their suitable combinations.
6.3 Production and efficiency level obtainable from different blow room machineries under normal mill conditions.
6.4 Lap rejection. Introduction of modern Blow Room lines like Rieter & Trutszchler.

6.5 Feed regulating motions used in scutcher and their importance with special reference to P.I.V. gears.
6.6 Lap measuring and doffing devices in scutcher.

UNIT-7 BLOW ROOM

7.1 Calculation of production of scutchers and other machines and efficiency.
7.2 Calculation of lap length and measuring motions.
7.3 Draft calculations, draft constant, mechanical and actual draft.

UNIT-8 CARDING

8.1 Objects of carding, passage of material through the card, cards parts and their functions e.g. Feeding system Licker-in, moteknives, back plate front plate, Cylinder, Flats, Doffer, Under casing etc.
8.2 Theory of carding actions in a revolving flat card.
8.3 Drive of card parts.

UNIT-9 CARD CLOTHING

9.1 Flexible and metallic card clothing.
9.2 Method of mounting the card with flexible and metallic card clothing.

UNIT-10 MAINTENANCE

10.1 Card grinding, its objects, Grinding medium, grinding instruments, Card grinding routine, flat grinding.
10.2 Card stripping, its objects, effects of stripping equipment's e.g. Plain stripping roll and vacuum stripper.
10.3 Developments In Carding Special features of high production carding machines. Tandem cards with chute feed system.
10.4 Calculations based on efficiency, draft & production in carding.

UNIT-11 CARDING CALCULATIONS

11.1 Calculation of speeds, drafts and productions of card and drawing machines.
11.2 Calculation of speeds with respect to various motions of machines.
11.3 Calculations of production, efficiency, draft and waste percentage.

Reference Books:

1. The Complete Guide to Spinning Yarn: Techniques, Projects, and Recipes Paperback – January 31, 2012 by Brenda Gibson (Author), Eling Chang (Consultant Editor)
2. The Whole Craft of Spinning: From the Raw Material to the Finished Yarn Paperback – Illustrated, July 1, 1981 by Carol Kroll (Author)