

| Name of Faculty:               |         |                                                                                                                                                                                                       |
|--------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Branch: Textile Technology     |         |                                                                                                                                                                                                       |
| Subject: Knitting Technology-1 |         |                                                                                                                                                                                                       |
| Lesson plan Duration: 15 weeks |         |                                                                                                                                                                                                       |
| Week                           | Lecture | Topics                                                                                                                                                                                                |
| 1                              | 1       | Definitions- Knitting, course ,wale, loop, weft knitting, warp knitting, , stitch, stitch length                                                                                                      |
|                                | 2       | Definitions- stitch density, single jersey fabric, double jersey fabric, yarn liner density, GSM, Gauges                                                                                              |
|                                | 3       | Definitions- cams, plating, racking , laying- in, long and short butt needles                                                                                                                         |
| 2                              | 1       | Comparison of weaving with Knitted fabric in relation to yarn, feed material, preparatory processes, industry structure, machines, fabric properties, end use, labor, maintenance, cost effectiveness |
|                                | 2       | Comparison of weaving with Knitted fabric in relation to yarn, feed material, preparatory processes, industry structure, machines, fabric properties, end use, labor, maintenance, cost effectiveness |
|                                | 3       | Comparison of weft and warp knitting.                                                                                                                                                                 |
| 3                              | 1       | Comparison of weft and warp knitting.                                                                                                                                                                 |
|                                | 2       | Weft Knitting machine Introduction and classification                                                                                                                                                 |
|                                | 3       | Weft knitting machine knitting elements, needles and its types                                                                                                                                        |
| 4                              | 1       | Latch needle and its parts.                                                                                                                                                                           |
|                                | 2       | Spring bearded needle and compound needle, and their parts                                                                                                                                            |
|                                | 3       | Advantages and disadvantages of needles                                                                                                                                                               |
| 5                              | 1       | Knitting cycle of latch needle.                                                                                                                                                                       |
|                                | 2       | Knitting cycle of spring bearded needle.                                                                                                                                                              |
|                                | 3       | Knitting cycle of compound needle.                                                                                                                                                                    |
| 6                              | 1       | Revision class                                                                                                                                                                                        |
|                                | 2       | <b>Sessional – I</b>                                                                                                                                                                                  |
|                                | 3       | Sinker- function, shapes, detailed description                                                                                                                                                        |
| 7                              | 1       | Cams and general description of cam                                                                                                                                                                   |
|                                | 2       | Passage of material through flatbed knitting machine                                                                                                                                                  |
|                                | 3       | Passage of material through flatbed knitting machine                                                                                                                                                  |
| 8                              | 1       | Passage of material through circular knitting machine                                                                                                                                                 |
|                                | 2       | Knitted fabric representation – verbal, symbolic, diagrammatic, graphical.                                                                                                                            |
|                                | 3       | Knit, tuck and float stitch –Representation, characteristics and uses.                                                                                                                                |
| 9                              | 1       | Special Stitch- Laying-in, Plating, Openwork Structures.                                                                                                                                              |
|                                | 2       | Plain knitted fabric – knitting cycles, characteristics, ornamentation,                                                                                                                               |

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|    | 3 | Plain knitted fabric – derivatives and its end uses.                                    |
| 10 | 1 | Rib knitted fabric – characteristics, derivatives and its end uses.                     |
|    | 2 | Interlock knitted fabric – characteristics, ornamentation, derivatives and its end uses |
|    | 3 | Doubt class                                                                             |
| 11 | 1 | <b>Sessional – II</b>                                                                   |
|    | 2 | Purl knitted fabric – knitting cycles, characteristics, ornamentation and its end uses  |
|    | 3 | Purl knitted fabric – derivatives                                                       |
| 12 | 1 | Purl knitted fabric – derivatives                                                       |
|    | 2 | Hose, half hose. Manufacturing process of hose                                          |
|    | 3 | Modification in heel and toe- Y-heel, gusset toe, scotch heel.                          |
| 13 | 1 | Doubt class                                                                             |
|    | 2 | <b>Sessional – III</b>                                                                  |
|    | 3 | Calculation related to production                                                       |
| 14 | 1 | Calculation related to production                                                       |
|    | 2 | Calculation related to weight per linear yard, no. of needles required                  |
|    | 3 | Calculation related to width of fabrics                                                 |
| 15 | 1 | Quality requirements of knitted yarn                                                    |
|    | 2 | Quality requirements of knitted yarn                                                    |
|    | 3 | Faults in knitted fabrics                                                               |

1. To study Yarn parameters for hosiery yarn.
2. To study Parts and knitting cycle of latch needle.
3. To introduce terms for single and double hook latch needle according to ISO.  
Classification of cross section of hook, hook position, hook shapes, latch shapes, latch fit and butt shapes.
4. To study Sinker shape, functions, and have detailed description of its part.
5. To construct Sinker for plain, plush and fleece.
6. To study Cams (needle sinker control unit) and its type (sliding cam, flexible cam, changeable cam).
7. To study rib setting of cylinder and dial with synchronous and delayed timing.
8. Passage of material through flat bed knitting machine with specific stress on cam system (single and double), direct and indirect yarns feed.
9. To draw cardigan stitches, racked and ribbed structure in flat bed knitting machine.
10. To study mechanically and electronically controlled flat bed jacquard knitting.
11. To study knitting cycle of flat bed purl knitting machine.
12. Passage of material through circular knitting machine.
13. To construct and develop a Plain knitted fabric.
14. To study cam arrangement and construct a rib knitted fabric or Interlock knitted fabric.
15. To study basic element and camming arrangement of garment length machine.
16. To discuss the production and development of heel and toe.
17. To discuss the production of hosiery.
18. To discuss different types of heel and toes.
19. To prepare special designs like horizontal stripping, intarsia and individual stitch selection.