

## **OTT751 WEAVING MECHANISMS**

### DETAILED SYLLABUS

#### **OBJECTIVE:**

- To enable the students to understand the preparation for weaving and various functions of weaving machine.

#### **UNIT I INTRODUCTION**

Types of winding drums - Design of winder drums; various motions for automatic weaving—primary, secondary and auxiliary motions; Driving plain power loom; timing of motions.

#### **UNIT II SHEDDING**

Principles of tappet, dobby and jacquard shedding mechanisms, positive and negative shedding mechanisms, electronic dobby and jacquard mechanism, tappet design.

#### **UNIT III PICKING-I**

Mechanism of picking in shuttle looms, components of picking system, design of shuttle, multi shuttle mechanism.

#### **UNIT IV PICKING-II**

Principles of weft insertions in shuttle less looms; weft feeder, mechanism of weft insertion by projectile, gripper cycle; rapier loom-classification, rapier drive mechanisms, devices timings; Water jet weft insertion; Air jet weft insertion.

#### **UNIT V OTHER MECHANISMS**

Shuttle and shuttleless terry mechanisms; Let-off and take-up mechanism; selvedge mechanism in shuttleless loom, warp weft, stop motions, warp protector mechanism

#### **OUTCOMES:**

On completion of this course, the students shall,

- Understand the concepts of preparation of weaving process
- Understand different motions of loom in fabric formation.

#### **TEXT BOOKS:**

1. Talukdar. M.K., Sriramulu. P.K., and Ajgaonkar. D.B., "Weaving: Machines, Mechanisms, Management", Mahajan Publishers, Ahmedabad, 1998, ISBN: 81-85401-16-0.
2. Booth. J.E., "Textile Mathematics Volume 3", The Textile Institute, Manchester, 1977, ISBN:090073924X.
3. Marks R., and Robinson. T.C., "Principles of Weaving", The Textile Institute, Manchester, 1989, ISBN: 0 900739 258.

SSLC, HSE, DIPLOMA, B.E/B.TECH, M.E/M.TECH, MBA, MCA

*Notes*

*Syllabus*

*Question Papers*

*Results and Many more...*

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[www.Binils.com](http://www.Binils.com)

**REFERENCES:**

1. SabitAdanur., "Handbook of Weaving", Technomic Publishing Co. Inc., 2001, ISBN: 1587160137 | ISBN-13: 9781587160134
2. Vangheluwe L., "Air- Jet Weft Insertion", Textile progress, Vol. 29, No. 4, Textile InstitutePublication, 1999, ISBN; 1870372255.
3. Valeriy V. Choogin., PalithaBandara., and Elena V. Chepelyuk., "Mechanisms of Flat WeavingTechnology", Wood Head Publishing, 2013, ISBN: 0857097806 | ISBN-13: 9780857097804
4. Prabir Kumar Banerjee., "Principles of Fabric Formation" CRC Press, 2014, ISBN: 1466554444 | ISBN-13: 9781466554443
5. Majumdar A., Das A., Alagirusamy R.,and Kothari V.K., " Process Control in Textile Manufacturing", wood Head publishing, 2012, ISBN: 0857090275 | ISBN-13: 9780857090270
6. "Weaving: The knowledge in Technology", Papers Presented at the Textile Institute Weaving Conference 1998, Textile Institute, ISBN: 1870372182 ISBN-13: 9781870372183.