

**REGULATIONS AND SYLLABUS
FOR
SUPERVISORY CERTIFICATE COURSE
IN
Mill side Maintenance of Jute Machinery**

**UNDER ISDS PROJECT
2014**

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**DEPARTMENT OF JUTE AND FIBRE TECHNOLOGY
INSTITUTE OF JUTE TECHNOLOGY
UNIVERSITY OF CALCUTTA
35, BALLYGUNGE CIRCULAR ROAD
KOLKATA – 700 019**

REGULATIONS AND SYLLABUS FOR ONE MONTH SUPERVISORY CERTIFICATE COURSE IN MILL SIDE MAINTENANCE OF JUTE MACHINERY, HAVING TOTAL 150 CONTACT HOURS IN 1 MONTH SUPERVISORY COURSE TO BE CONDUCTED AT MILLS OR IJT.

1. The Supervisory Certificate Course in **MILL SIDE MAINTENANCE OF JUTE MACHINERY**, for Jute Mills Supervisors shall be conducted in the Jute Mills or at the Department of Jute and Fibre Technology, Institute of Jute Technology, University of Calcutta. The duration of the course is one month and shall be held once in every three months.
2. The total number of seats for the said course is ordinarily 30. The candidates sponsored by the Jute Mills and jute related organisations will be preferred.
3. The Examination for the Certificate Course in **MILL SIDE MAINTENANCE OF JUTE MACHINERY**, for the Jute Mills Supervisors shall be held in Jute Mills or at the Department of Jute and Fibre Technology, Institute of Jute Technology, University of Calcutta after completion of the one month's course at such date as decided by the course coordinator in consultation with HOD & Project Leader, ISDS project to be approved in the meeting of the Departmental committee of Department of Jute and Fibre Technology, Institute of Jute Technology, University of Calcutta or by the Course Coordinating Committee of the Department of Jute and Fibre Technology, Institute of Jute Technology, University of Calcutta.
4. Any candidate possessing minimum secondary level school certificate (X pass) eligible for admission to this Supervisory Certificate Course. Candidate possessing senior level school certificate (XII pass) or Graduation preferably in Science and is actively engaged in the industry for a period of at least one year shall be preferred for admission to this Certificate Course.
5. Selection of the candidates will be done through an admission test and / or interview. However sponsored candidates will be exempted from admission test and interview. S.C/S.T/ OBC candidates will be preferred.
6. The candidates completing one month Supervisory Certificate course will be evaluated by oral examination for theoretical paper (one paper in each module) and by checking/evaluating practical knowledge on practical job work for practical paper (one paper per module) for awarding certificate after completion of one month Supervisory training Course. There will be no Pass/ Fail system in these courses, however there will be an evaluation system awarding Grade – A and Grade –B, where Grade A means excellent performance having 70% and above competency for the particular job and Grade B means 50% and above competency level. Candidates below 50% competency level need repeat training of one week to earn the higher level of competency to evaluate again.
7. A candidate shall be eligible to sit for the Examination provided he prosecutes regular course of study and attends at least 75% of the theoretical and practical classes separately held during the period of one month. It is essential that the practical and theoretical work should be combined in a progressive course of study that will lead the candidates naturally to their Examinations.
8. The candidate who will pass the examination of the Certificate Course shall be awarded a Certificate in the following format:

**DEPARTMENT OF JUTE AND FIBRE TECHNOLOGY
INSTITUTE OF JUTE TECHNOLOGY
UNIVERSITY OF CALCUTTA
35, Ballygunge Circular Road, Kolkata: 700019**

CERTIFICATE

*This is to certify that Shri / Smt _____
Daughter / Son of _____ has completed the
Supervisory Training on Mill Side Maintenance of Jute Machinery, Under
ISDS Project in the year _____ and obtained _____
Grade.*

Project Coordinators, ISDS Project

Head of the Department

The schedule of papers and distribution of marks in these one month duration Supervisory Certificate training courses on Mill Side Maintenance Of Jute Machinery will be as follows;–

Subject	Weightage
<u>Theoretical Papers</u>	
Paper - 1 Theoretical paper for each module as detailed in the syllabus	50%
Paper – 2 Practical paper for each module as detailed in the syllabus	50%

**Department of Jute and Fibre Technology,
Institute of Jute Technology, University of Calcutta**

**Syllabus for Vocational Supervisors' Training for Jute Sector to be Conducted by
Department of Jute and Fibre Technology, Institute of Jute Technology, University of
Calcutta, Under Integrated Skill Development Scheme Project (ISDS) Sponsored by
Ministry of Textiles, Government of India**

Module: S-6, Mill Side Maintenance of Jute Machinery

Total Contact Hours 150 (One month Training)

Theoretical Paper

Contact Hours: 75

General Maintenance

Introduction to maintenance, classification of maintenance, preventive maintenance, objects of maintenance, duties and functions of maintenance department, machines, machine elements, history card of machines, inspection check list, maintenance log book, lubrication schedule, lubrication, type of lubrication, common guideline of lubrication, causes of lubrication failure, engineering materials, classification of ferrous metals and their alloys, mechanical properties of metals, arc welding process, transmission of motion, belt drives, velocity ratio, problems, chain drive, gear drive, classification of gears, gear nomenclatures, simple and compound gear drive, problems, maintenance of belts, chains and gears. Bearings, classification of bearings, maintenance of bearings, hand tools and their application and maintenance.

Maintenance of -Softener, Spreader & Carding Machines

Flow chart of process sequence of jute processing and related machinery used for

Softening machine: Principles of mechanism of softener machine, important parts of softening machine, inspection check list of softening machine, preventive maintenance of softener machine, lubrication schedule of softening machine, safety devices.

Spreader machine: Principles of mechanism of Spreader machine, important parts of Spreader machine, inspection check list of Spreader machine, preventive maintenance of Spreader machine, lubrication schedule of Spreader machine, safety devices.

Carding machines : Different types of Carding machines, Principles of mechanism of Breaker Card and Finisher Card machine, important parts of Card and Finisher Card machine, inspection check list of Card and Finisher Card machine, preventive maintenance of Card and Finisher Card machine, lubrication schedule of Card and Finisher Card machine, safety devices. Mechanism and maintenance of Roll formers.

Maintenance of - Drawing & Spinning Machines

Drawing machines: Different types of Drawing machines, Principles of mechanism of Drawing machines, important parts of Drawing machines, inspection check list of Drawing machines, preventive maintenance of Drawing machines, lubrication schedule of Drawing machines, safety devices.

Spinning machine: Different types of spinning machines, Principles of mechanism of spinning machines, important parts of Spinning machines, inspection check list of Spinning machines, preventive maintenance of Spinning machines, lubrication schedule of Spinning machines, safety devices.

Electrical Maintenance

Introduction to Electrical Circuit. Elementary Idea of Basic Electrical Circuits and Electrical Machines. Electrical Wiring System related IE Rules Electrical Layout of a Mill. Basic Idea of Transformer, its use and its Maintenance Basic Idea of Electrical Machines used in Jute Industry, its starting Method & Control & related I.E. Rules Basic of Motor (3-Ph) and its Maintenance. Idea of Electrical Energy Saving Scheme used in Jute Industry. Design of illumination Scheme of a Jute Mill.

PRACTICAL(75 Hrs.)

Jute Machinery Maintenance Practical

Mill Side Machinery: Drives calculation, Gearing arrangement, maintenance of softener, spreader, carding, Spinning machine, Lubricating of vital points of said machines. Safety of said machines.

Factory Side Machinery: Drives calculation, Gearing arrangement, maintenance of Winding, Sizing, Beaming, Looms and Finishing Machines, Lubricating of vital points of said machines. Safety of said machines.

Practical study of house wiring system. Measurement of voltage and current in an electrical circuit. Practical study of motor and its maintenance..