

PROSPECTUS



BS Textiles

affiliated with University of Karachi



SMA RIZVI TEXTILE INSTITUTE

A JOINT PROJECT OF TMA AND TDAP GOVT. OF PAKISTAN

VISION

To foster high quality education in textile and produce enlightened citizens with strong moral and ethical values that build a tolerant and pluralistic society rooted in the culture of Pakistan

MISSION

To provide skilled manpower to the textile industry

MESSAGE

Mr. Mushtaq Ali Cheema



I heartily congratulate SMA Rizvi Textile Institute on being granted affiliation from University of Karachi, prestigious university of Pakistan to start 4-years B.S. Programs in Textile (Weaving and Wet-Processing Technologies).

I do hope that the Institute will impart quality education on the state-of-the-art technology, thereby producing competent textile graduates required by Textile Industry of Pakistan.

Good luck!

Mushtaq Ali Cheema
Federal Minister for Textile Industry
Government of Pakistan

MESSAGE

Syed Masood Ali Rizvi



Professional education is an indispensable prerequisite for the success of any country. For Pakistan, textile education, in particular, weaving and wet-processing technologies are simply inescapable if we are to gain good international standing. In order to impart meaningful and pragmatic education to our children in textile, we need institutions of quality learning where standards should satisfy the international benchmarks.

SMA Rizvi Textile Institute was established exactly with this aim in mind. I am sure that the institute will live up to its reputation by remaining committed to its motto to prepare the students to become competent supervisors, managers and professionals of tomorrow.

Syed Masood Ali Rizvi
Founder Chairman and Patron-in-Chief
Towel Manufacturer's Association of Pakistan
Chairman, Board of Governors
SMA Rizvi Textile Institute

MESSAGE

Mr. Waqar Alam



Our programs of study are designed to meet the requirements of the textile industry and are continuously reviewed and updated to meet the changing demands. The faculty, comprising of highly qualified professionals, is dedicated to providing education that will enable the students to contribute to the development of the country and their individual careers. We have state of the art facilities, equipment and training aids and we are continuously engaged in further improving these facilities.

Mr. Waqar Alam
Director, Pearl Fabric Company
Chairman, Executive Committee
SMA Rizvi Textile Institute

MESSAGE

Dr. Abdul Jabbar



There is an ongoing technological advancement in almost every field of science. Textile sector in Pakistan has always been the area of great potential where we need to excel to cope with the rest of the world. To meet the challenge, we on one hand require skilled/trained manpower and on the other hand we must adopt all modern features that have recently been explored in the realm of textile field.

SMA Rizvi Textile Institute itself is a sincere effort to rectify the present lurking constraints and to bring about a revolutionary change in the current state of the textile education.

The recent induction of modern, state of the art equipment in weaving, dyeing and testing laboratories is certainly an encouraging indication. These machines are being used to train students and workers from the industrial sector. Foreseeing what will happen in near future in terms of accommodation of students, we have gone through the phase of expansion of building and other facilities.

This year is important in the history of the institute. We are going to move one step ahead. The institute has been granted affiliation for its B.S program with University of Karachi that has a high standard of education.

I am confident that the institute is leading towards achieving its goal to become a centre of excellence in future.

Dr. Abdul Jabbar
Principal

SMA Rizvi Textile Institute was established in 1993 with the aim of providing quality education in the field of textile (weaving and wet processing technologies). The unique blend of the curriculum and a highly qualified faculty enables the institute to provide a favorable environment for grooming its students. Its academic programs prepare the students to meet the challenges of business in textile industry. The institute provides a healthy and congenial environment for an extensive program of interaction of students with professionals from the industry.

The textile is by far the most important sector of Pakistan. It contributes 67% to export earning and 35% to labor force. Pakistan is facing a hard competition in textile exports. The sustainability of Pakistan's share in the world market largely depends upon the quality of manpower. Textile education must be targeted to provide quality human resource to the textile industry. The delivery time, reliability, consistency, right-first-time (RFT) and just-in-time production, brands and marketing, knowledge of environmental issues and most importantly, the cost effectiveness are the key factors to be addressed. All these objectives can possibly be achieved with the help of sufficiently qualified and trained technicians. Unfortunately our human resource productivity is not up to the mark as compared to our competitors.

Modern technology is being adopted by the textile industry and to cope with this modernization, the human resource will have to be equipped with the latest trends and knowledge. We at the SMA Rizvi Textile Institute are trying our best to fill this gap.

SMA Rizvi Textile Institute is a joint venture of Export Promotion Bureau (EPB), Government of Pakistan (now known as Trade Development Authority of Pakistan, TDAP) and Towel Manufacturer's Association (TMA) to address human resource issues. The institute has continuously improved its facilities and faculty to impart the best possible training to the students. It houses the state of the art machinery from all around the world. Presently we have the best available technical facilities in weaving, wet-processing and physical testing.

At the institute, a meaningful curriculum and training methodology is developed which will equip students with the subject knowledge and personal skills needed to succeed in a rapidly changing world. The time table of students is fairly full with lectures, tutorials and practical classes. There are ample opportunities for the students to test experimentally at lab, scale and bulk scale in pilot plant, the concepts introduced in the lectures. Library, computer learning and hands-on mill training are normal ingredients of our course structure.





We plan strategies for individual students, who may require special work plan, so that they can participate fully in the course structure. We maintain close links with textile industry by conducting courses in specialized fields of textile weaving and wet-processing technology to upgrade the technical skills of the technicians already working in the textile mills, so that they can respond to new technical opportunities and satisfy ever-demanding consumers.

Since a degree/diploma has never been an automatic passport to a job, we see the career development of our students as an integral part of our specialized courses, which are geared to the needs of business. As a result of this teaching and training technology, employment prospects for students are particularly good. The prospects/emoluments normally offered to our fresh DAE graduates are much higher than the ones offered to a medical or an engineering graduate. All our students who have completed their courses of studies, get immediately well placed in various textile mills and multinational companies. They are working with dedication in their respective areas of assignment and contributing to the economic growth rate of the country.

We would like to emphasize here, that our institute is also service oriented. We provide latest technical guidance to textile mills on optimization of processes

and on matters of technical nature to meet the requirement of overseas buyers on export quality.

This collaboration between TMA and TDAP (formerly EPB) in the field of education has given rise to synergies for producing quality graduates equipped with skills required for success in the job market - both in Pakistan and abroad. SMA Rizvi Textile Institute is among the fastest growing institutions offering a curriculum that is high in demand in the local and foreign market. It aims to add value to the mainstream business culture through graduates trained in true business ethics, spirit of innovation and drive for excellence.



Board of Governors

Mr. S. Masood Ali Rizvi
Chairman & Founder Member

Mr. Feroze Alam Lari
Vice Chairman & Founder Member
Afrase Textile Industries (Pvt.) Ltd.

Mr. Abdul Razak Teli
Founder Member
Nalabandi Industries Ltd.

Mr. Tahir Jahangir
Founder Member
Hala Enterprises

Mr. Azad A. Khan
Founder Member
International Textiles (Ltd.)

Mr. Waqar Alam
Founder Member
Pearl Fabric Company

Mr. S. Usman Ali
Founder Member
Silver Textile Factory

Mr. Nisar Ali Ahmed Bhagat
Founder Member
Musafa Industries

Mr. Zahid Maqbool
Founder Member
Sajid Textile Industries (Pvt.) Ltd.

Mr. Nasim Ahmed
Member
Shahi Textiles

Mr. Perwez Ahmed
Member
Feroze Textile Industries

Representative of TDAP
Member

Chairman TMA,
Ex-officio Member

Executive Committee

Mr. Waqar Alam
Chairman

Mr. Feroze Alam Lari
Member

Mr. S. Usman Ali
Member

Mr. Nasim Ahmed
Member

Mr. Nisar Ali Ahmed Bhagat
Member

Principal, SMA Rizvi Textile Institute
Ex-officio Member

Permanent

Dr. Abdul Jabbar
Principal
Professor, Textile Coloration
Ph.D. (Colour Chemistry & Dyeing), Leeds.
C. Col. ASDC (SDC, U.K.)
M. Phil. (Organic Chemistry) H.E.J., University of Karachi

Abdul Majid Qureshi
Assistant Professor, Textiles
B.Sc. Textile Technology
National Textile University, Faisalabad

Fawad Khalid
Senior Lecturer, Weaving
B.Sc. Textile Engg.
National Textile University, Faisalabad

Rafiq Riaz
Lecturer Physics
M. Sc. (Space Physics)
Ph.D. Space Physics (in process)
University of Karachi

Iqbal Ali Imam Zaidi
Lecturer Technical Drawing
B. Tech. (Pass), B. Tech. (Honours)

Saba Ahsan
Lecturer Textiles
B.Sc. Textile Engg.
National Textile University, Faisalabad

Beena Batool
Lecturer Textiles
B.E. Textiles
N.E.D. University of Engineering and Technology

Zahoor Ul Hasan Awan
Lecturer Textile Engineering
B.E. Mechanical
N.E.D. University of Engineering and Technology

Muhammad Navaid Alam
Lecturer Mathematics
M. Sc. (Applied Mathematics)
University of Karachi

Muhammad Asif Uddin Khan
Lecturer Textile Chemistry
M. Sc. Applied Chemistry
University of Karachi

Amir Masood
Lecturer Chemistry
M. Sc. (Chemistry)
University of Karachi

Visiting

Serena Yusuf
Lecturer CAD Designing,
B. A. University of Karachi
Diploma in Textile Designing (Weaving)
CAD/CAM Weaving Certificate from EAT (Germany)

Bushra Ramzan
Lecturer Islamiat/Pak. Studies
B. Com., M.A. Islamiat
University of Karachi

Muhammad Saleem Hamdani
Lecturer Dyeing/Printing
B. S. Textile Science
Textile Institute of Pakistan (TIP), Karachi

Mian Saqib Sohail
Lecturer Industrial Management
M. Sc. Textile Apparel & Technology Management
(North Carolina State University)
B. S. Textile Sciences
Textile Institute of Pakistan (TIP), Karachi

Hammad Baig
Lecturer Weaving
B.Sc. Textile Engineering
National Textile University, Faisalabad

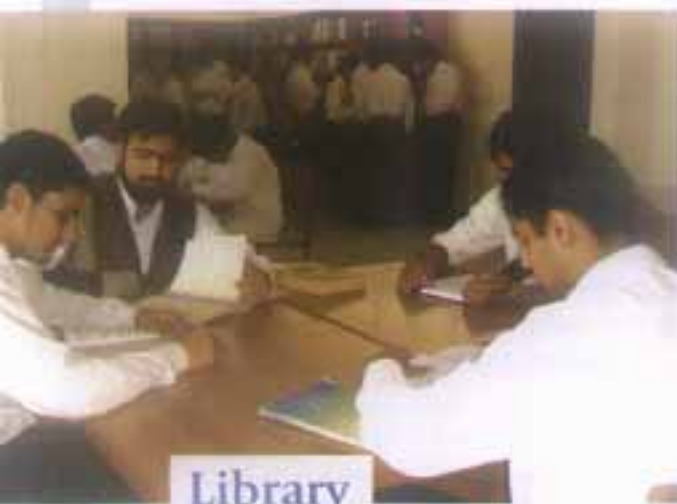
Azhar Rizvi
Lecturer English
M. A. English Language & Literature
TEFL (Applied Linguistics)
University of Sydney, Australia

The SMA Rizvi Textile Institute is fully equipped with modern educational facilities. It has large open space and lawns that help in creating a beautiful and peaceful environment for the students. The diversity of students at the SMA Rizvi Textile Institute provides a stimulating and a lively environment. The Institute offers spacious lecture rooms, a well-equipped computer lab., library in addition to the facilities of vide and spacious canteen and indoor games etc.

The institute is constructed on an area of 5556 sq. yards.

Data of Building

Total Built-up area	26, 026 sq. ft
Administration and teaching wing	16, 157 sq. ft x 3 floors
Pilot-Plant (Wet-Processing & Weaving)	9, 869 sq. ft
Auditorium with a capacity of 250 seats	



Library

The SMA Rizvi Textile Institute has a good collection of books. It houses thousands of books on different subjects which fall under the category of text books, reference books and light reading. Besides this, the institute's library subscribes to many national and international journals on textile to meet the academic requirements of students and faculty. It has direct online link with library which allows the students to access the database of both national and international textile industry. In addition, the library is going to subscribe different magazines on a variety of topics such as economics, communication, information technology, textile and business and other topics of general interest.

Transport Facility

The institute shall arrange transport from main Korangi road to the institute.

Recreational Facilities

Recreational facilities provided to the students of SMA Rizvi Textile Institute are based on the concept that a healthy mind requires a healthy body. Recreational and entertainment facilities have been incorporated into the institute environment. It offers indoor games e.g. table tennis, badminton etc. to the students, however, the students can also play cricket, hockey, football and volley ball using other grounds/stadiums which may be made available at the request of the students.





Other Facilities

- Spacious and well-designed classrooms with modern teaching facilities.
- Subsidized lunch for students

Extracurricular Activities

Students are encouraged to participate in extracurricular activities such as debates, project displays etc. Several student bodies like sports committee have been formed to encourage students to arrange and participate in such activities. This helps to build confidence and develop leadership and management skills in students.



Career Counseling

Many students require career counseling in order to fully exploit their talent. Our Student Resource Office is equipped with valuable information on a wide range of occupations, employers, overseas opportunities and future study options. This office also provides:

- Advice on how your options might affect your career choice
- Information and guidance on internship and placement
- Individual counseling and workshops on career choice, applications, interviews etc.
- Guidance on higher studies

Personal Counseling

Student life requires frequent adjustments to meet the demands for academic performance and achievement. Students who are facing personal problems or difficulties in coping with these demands may seek counseling through the Student Resource Office which is fully equipped to provide advice, guidance and support on all administrative issues, personal problems, examination stress etc.



Academic Counseling

Academic counseling is available to students through the assigned faculty members called "Program Coordinators". Students are encouraged to seek guidance on academic matters from their respective "Program Coordinators" as required from time to time. The academic counseling system has been developed to ensure that students get timely support on their academic curriculum throughout their program of study. The program coordinators schedule and coordinate all academic activities of the institute and serve as the backbone of academic operations.

Course Outlines

Course outline have been developed in a scientific manner with extensive consultation among the faculty, industry experts and prominent professionals. These are regularly reviewed keeping in view the demands of the industry and the latest trends and technologies.

Student Feedback

The management obtains feedback from the students about their courses each semester. The students rate the courses in terms of the quality of instruction, contents, extent of coverage, use of teaching aids etc. This is in accordance with the criteria set by Higher Education Commission (HEC). This information is combined with the evaluation of courses by peer faculty and departmental heads to obtain a consolidated view of faculty and teaching. These evaluations greatly help in the development of the faculty and the course contents.

IVBOBOLICH

Wet-Processing and Physical Testing Laboratory



Computer Color Match Prediction System (CCMPS) Spectrophotometer from Data Color USA

Used for color matching, color management, recipe prediction

Pyrotec 2000 series, Two Bath Infra-Red Dyeing, Roaches, UK

High temperature dyeing machine, 32 pots with injection caustic dosing, consistent with production department. Two bath machine, each bath can be programmed separately to be used as two machines.

Pin Frame Oven /Steamer, TFO/S Series (500mm width), Roaches, UK.

Curing, pad-thermosol (both continuous and discontinuous), pad-steam (both continuous and discontinuous) used for equalizing, curing, pigment, reactive, resin, silicone. Special finishing etc.

Padder BVP (500 mm width), Roaches, UK.

Continuous application of dyes,

pigments, finishes etc

Printing Table
Screen printing facility

Mini Thermo (350mm width), Roaches, UK.

Pigment printing, finishing, drying, discontinuous thermo fixation

CPS (Chemical Pad-Steam) Continuous Steamer, Roaches, UK.

Pad steam continuous dyeing (specially for VAT), pre-treatment with self generation of steam. Steam chamber can accommodate up to 4 meters of fabric.

Wascator FOM 71 CLS, Electrolux, Sweden
ASTM, B.S, ISO shrinkage performance of woven fabric

Whirlpool Washer, USA
Whirlpool Dryer, USA
AATCC shrinkage performance of fabric

Creda Tumble Dryer
5 Kg Tumble dryer

Washec-PA2, Roaches, UK.
ISO, AATCC washing fastness tester





Air Compressor, Atlas Kapco, Germany.

Boiler, Solarkaz, Pakistan

Elmandorf Tear Tester Roaches, UK.
For determining the tearing resistance of textile specimens.

Crease Recovery Tester, Roaches, UK.
Softner, cross-linker and other finishing application

Crock Meter, Roaches, UK.
Dyeing, printing, finishing application
(Rubbing fastness testing)

GSM Cutters, Roaches, UK

Spray Rating Tester, Roaches, UK
Water repellency

Tensile Tester, Testometric, UK
Fabric and yarn tensile testing, Tear testing, Zipper and buttons testing etc.

Verivide Light Cabnit CAG-60
Color matching box

Martindale Abrasion and Pilling Tester, Roaches, UK
Woven fabric, pilling and abrasion tester according to all international standards.

Two Perspirometers, Roaches, UK
Perspiration fastness testing

Two Hot Air Ovens, Memmert, Germany

Following Local made machines are also part of our wet-processing laboratory:

- HT dyeing Machine
- Atmospheric dyeing machine, DK type
- Two bowl Padder (for dyeing)
- Two bowl Padder (for finishing)
- Water baths for pot dyeing, China made
- ICI pilling tester
- Electronic weigh balance
- Hot plates

Pilot Plant:

- Boiler 600 Kg/Hr. at W.P 150psi
- Kier 50 Kg
- Winch 25 Kg
- Jigger 50 Kg
- Tumble Dryer 25 Kg
- Rope Washing Machine
- Hydro extractor
- Lab scale steamer
- Printing table/screens
- Two Bowl Padders



Computer Lab.

The computer lab, at the SMA Rizvi Textile Institute is equipped with over 60 state-of-the-art computers and other training aids. The lab and other office computers are connected to powerful servers through a Local Area Network. The network makes database information available to management as well as students, in accordance with their access rights.

The computing infrastructure consists of a campus LAN which connects the lab, to the administration networks and provides access to SMA Rizvi Textile Institute's management information systems with high power e-mail and web services, as well as network, database and other services fulfills instruction and administration needs.

Weaving Laboratory

Rewinder	12 drums
Pirn winder	25 spindles
Sectional warper	
Creel capacity	320 packages
Winding drum size	130"
Winding drum dia	1.6 meters
Drawing -in stand	
Card Punching machine	



Shuttle-Less Looms

DORNIER AIRJET TERRY LOOM

Model or Serial #	073609 course
Machine Type	LTNP 4/S
Normal Width	260 cm
Shedding Motion	Can be fitted with Staubli dobby type 2670 with electronic reading 20 frames
Beam Size	1000 mm Ground Beam, 1250 mm pile beam with electronic computer design.

SMIT RAPIER TERRY LOOM

Loom size	220cm
Type of Loom	SMIT G6300, Flexible Ribbon Rapiers
Beam Size	800mm Ground Beam, 800mm Pile Beam With electronic computer design.



VAMATEX RAPIER TERRY LOOM

Model	Leonardo Dyna-terry
Loom Size	190 cm
Machine Type	Flexible ribbon weaving with negative rapiers.
Shedding Motion	The machine can be fitted with finntextile RD 860S rotary dobby with electronics reading 20 frames.
Beam Type	800 mm Ground Beam, 1000 mm pile Beam with electronic computer design.



Power Looms

Plain Loom, size 80"
1x4 drop box with plain tappets

Terry Loom, size 76"
Auto cop change with cross-border dobby

Terry Loom, size 76"
with 1x4 drop box, 12 levers cross-border dobby.
With 900 hooks jacquard.

Bonas Electronic Jacquard

Type of Jacquard 1/1344 Bonas CSJ

- Double lifting arms provide smooth running at higher speeds.
- Robust build gives stability to lift heavier loads.
- Over 50 shedding positions give maximum flexibility.



CAD / CAM Design Studio

CAD/CAM system for weaving with EAT victor software from Germany (4 sets)

CAD/CAM system for printing with DGS Ramsette III software from Italy (2 sets)

CAD/CAM system for weaving and printing (NED Graphics), France 11 stations.

Scanner (Networked with weaving and printing CAD/CAM system)

Printer (Networked with weaving and printing CAD/CAM system)

Science Labs.

- Well equipped chemistry lab.
- Well equipped physics lab.

Workshops

Electrical and mechanical workshops and a well furnished drawing hall equipped with all necessary instruments.

Chemicals

A wide range of chemicals for:

- Fiber identification
- Pretreatment
- Dyeing and Printing
- Finishing & Others



The institute offers Four years programs in textiles affiliated with the University of Karachi.

Title of the Courses

B.S. in (Textile Weaving Technology)

B.S. in (Textile Wet-Processing Technology)

Duration of Courses	Four Years
Total Credit Hours	147 Hours in Textile Weaving 144 Hours in Textile Wet-Processing
Internships	4-8 weeks (Summer Session)

Entrance Requirement

E. Sc	(HSC) Pre Engineering 50% marks
DAE	1st Class in the Relevant field

Fee Structure

Prospectus and Admission Form	Rs. 300/-
Entry Test Fee	Rs. 300/-
Admission Fee	Rs. 3000/-
Semester Fee	Rs. 30,000/-
Examination Fee per year	As per University of Karachi rules
Library Deposit (Refundable)	Rs. 1000

Payment of Tuition Fee

The fee is payable on semester basis in advance through cash or pay order favoring "SMA Rizvi Textile Institute" Account # 1622 - 3 M.C.B, Korangi industrial Area Branch, Sector - 24, Korangi industrial Area, Karachi

Final Decision

In all affairs like selection of students, assessment of student's performance, financial assistance and disciplinary matters, the decision of the Institute shall be final.

Financial Assistance

Financial aid to the deserving applicants shall be granted in each year, based on their financial need and academic performance.

Textile Weaving Technology

FIRST YEAR

FIRST SEMESTER

S. No.	Course No.	Subject
1	TS 301	Islamic Studies (For Muslims)/Ethics (For Non-Muslims)
2	TS 302	Physics I
3	TS 303	General Chemistry I
4	TS 304	Mathematics I
5	TS 305	Computer Fundamentals & MS Office
6	TS 306	Technical Drawing

CREDIT HOURS

T	P	C
3	0	3
2	1	3
2	1	3
3	0	3
2	1	3
3	2	3
13	5	18

SECOND SEMESTER

S. No.	Course No.	Subject
1	TS 307	English
2	TS 308	Physics II
3	TS 309	General Chemistry II
4	TS 310	Mathematics II
5	TS 311	Computer Applications
6	TS 312	Workshop Practice

CREDIT HOURS

T	P	C
3	0	3
2	1	3
2	1	3
3	0	3
2	1	3
1	2	3
13	5	18

SECOND YEAR

THIRD SEMESTER

S. No.	Course No.	Subject
1	TS 401	Pakistan Studies
2	TS 402	Physics III
3	TS 403	General Chemistry III
4	TS 404	Mathematics III
5	TS 405	Textile Fibers I
6	TS 406	Yarn Manufacturing

CREDIT HOURS

T	P	C
3	0	3
2	1	3
2	1	3
3	0	3
2	1	3
2	1	3
14	4	18

FOURTH SEMESTER

S. No.	Course No.	Subject
1	TS 407	Urdu
2	TS 408	Mill Engineering
3	TS 409	Textile Fibers II
4	TS 410	Fabric Formation
5	TS 411	Polymer Science
6	TS 412	Introduction to Fabric Design & Structure

CREDIT HOURS

T	P	C
3	0	3
2	1	3
2	1	3
2	1	3
2	1	3
2	1	3
13	5	18

THIRD YEAR

FIFTH SEMESTER

S. No.	Course No.	Subject
1	TW 501	Textile Mechanics
2	TW 502	Textile Calculations I
3	TW 503	Electrical & Electronics Essentials to Textile I
4	TW 504	Introduction to Wet-Processing I
5	TW 505	Weaving Mechanism I
6	TW 506	Knitting Technology

CREDIT HOURS

T	P	C
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3	0	3
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3	0	3
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2	1	3
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2	1	3
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2	1	3
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2	1	3
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14	4	18
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SIXTH SEMESTER

S. No.	Course No.	Subject
1	TW 507	Textiles Calculations II
2	TW 508	Electrical & Electronics Essentials to Textiles II
3	TW 509	Preparatory Processes I
4	TW 510	Weaving Mechanism II
5	TW 511	Fabric Design & Structure I
6	TW 512	Introduction to Wet-Processing II

Hands on Mill Training: One Month

CREDIT HOURS

T	P	C
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3	0	3
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2	1	3
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2	1	3
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2	1	3
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2	1	3
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2	1	3
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13	5	18
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FOURTH YEAR

SEVENTH SEMESTER

S. No.	Course No.	Subject
1	TW 601	Introduction to Wet-Processing III
2	TW 602	Preparatory Process II
3	TW 603	Weaving Mechanism III
4	TW 604	Fabric Design & Structure II
5	TW 605	Textile Testing & Quality Control I
6	TW 606	CAD / CAM Designing

CREDIT HOURS

T	P	C
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2	1	3
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2	1	3
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2	1	3
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2	1	3
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2	1	3
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1	2	3
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11	7	18
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EIGHTH SEMESTER

S. No.	Course No.	Subject
1	TW 607	Project Work
2	TW 608	Weaving Mechanism IV
3	TW 609	Fabric Design & Structure III
4	TW 610	Textile Testing & Quality Control II
5	TW 611	Mill Management & Costing
6	TW 612	ISO 9000 & Environmental Management System

CREDIT HOURS

T	P	C
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3	0	3
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2	1	3
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2	1	3
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2	1	3
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3	0	3
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3	0	3
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15	6	21
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Textile Wet-Processing Technology

FIRST YEAR

FIRST SEMESTER

S. No.	Course No.	Subject
1	TS 301	Islamic Studies (For Muslims)/Ethics (For Non Muslims)
2	TS 302	Physics I
3	TS 303	General Chemistry I
4	TS 304	Mathematics I
5	TS 305	Computer Fundamentals & MS Office
6	TS 306	Technical Drawing

CREDIT HOURS

T	P	C
5	0	5
2	1	5
2	1	5
3	0	3
2	1	3
3	0	3

13	5	18
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SECOND SEMESTER

S. No.	Course No.	Subject
1	TS 307	English
2	TS 308	Physics II
3	TS 309	General Chemistry II
4	TS 310	Mathematics II
5	TS 311	Computer Applications
6	TS 312	Workshop Practice

CREDIT HOURS

T	P	C
2	0	3
2	1	3
2	1	3
3	0	3
2	1	3
1	2	3

13	5	18
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SECOND YEAR

THIRD SEMESTER

S. No.	Course No.	Subject
1	TS 401	Pakistan Studies
2	TS 402	Physics III
3	TS 403	General Chemistry III
4	TS 404	Elements of Statistics & Probability
5	TS 405	Textile Fibers I
6	TS 406	Yarn Manufacturing

CREDIT HOURS

T	P	C
3	0	3
2	1	3
2	1	3
3	0	3
2	1	3
2	1	3

14	4	18
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FOURTH SEMESTER

S. No.	Course No.	Subject
1	TS 407	Urdu
2	TS 408	Mill Engineering
3	TS 409	Textile Fibers II
4	TS 410	Fabric Formation
5	TS 411	Polymer Science
6	TS 412	Introduction to Fabric Design & Structure

CREDIT HOURS

T	P	C
3	0	3
3	1	3
2	1	3
2	1	3
2	1	3
2	1	3

13	5	18
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THIRD YEAR

FIFTH SEMESTER

S. No.	Course No.	Subject
1	WP 501	Textile Mechanics
2	WP 502	Knitting Technology
3	WP 503	Water & Surfactants
4	WP 504	Textile Machines I
5	WP 505	Pre-Treatment of Textiles I
6	WP 506	Textile Dyeing I

CREDIT HOURS

T	P	C
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1	0	1
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2	1	1
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2	1	1
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3	0	1
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2	1	1
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2	1	1
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14	4	18
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SIXTH SEMESTER

S. No.	Course No.	Subject
1	WP 507	Dyestuff Chemistry
2	WP 508	Pre-Treatment of Textiles II
3	WP 509	Textile Dyeing II
4	WP 510	Textile Machines II
5	WP 511	Quality Control & Textile Testing I
6	WP 512	Printing Technology I

CREDIT HOURS

T	P	C
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2	1	1
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2	1	1
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2	1	2
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3	0	1
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2	1	3
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2	1	1
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Hands on Mill Training One Month

13	5	18
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FOURTH YEAR

SEVENTH SEMESTER

S. No.	Course No.	Subject
1	WP 601	Textile Dyeing III
2	WP 602	Printing Technology II
3	WP 603	Quality Control & Textile Testing II
4	WP 604	Total Quality Management & Environmental Management System
5	WP 605	Computer Color Management System I
6	WP 606	CAD / CAM

CREDIT HOURS

T	P	C
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2	1	1
---	---	---

2	1	1
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2	1	1
---	---	---

1	0	1
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2	1	1
---	---	---

2	1	1
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13	5	18
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EIGHTH SEMESTER

S. No.	Course No.	Subject
1	WP 607	Printing Technology III
2	WP 608	Textile Finishing
3	WP 609	Computer Color Management System II
4	WP 610	Mill Management & Coating
5	WP 611	Project Work

CREDIT HOURS

T	P	C
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2	1	1
---	---	---

1	1	1
---	---	---

2	1	1
---	---	---

1	0	1
---	---	---

1	5	0
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12	6	18
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3: Practical Hour = 1 Credit Hour

1: Theory Hours = 1 Credit Hour

105 T: Theory Credit Hours

144 C: Total Credit Hours

Textile Weaving Technology

FIRST YEAR

FIRST SEMESTER

Islamic Studies

TS 301

The Holy Quran, Hadith & Sunnah of the Holy Prophet (PBUH), Prophethood, Hajj, Jihad, Zakat & prayer.

Ethics (for non Muslims)

TS 301

Meaning and scope of ethics, relation of ethics, history & development of morality. Moral theories, ethics and society. Moral teachings of major religions & Professional ethics.

Physics I

TS 302

Motion in one, two and three dimension, Vectors, Force Momentum, Newton's law of motion, Work and Energy. Rotational dynamics and Equilibrium of rigid bodies.

General Chemistry I

TS 303

Basic concepts of atomic structure, periodic table, periodicity, different types of bonding & molecular orbital theory. Various theories about acid and base, pH and pOH, redox reactions, factors influencing on reactions and concentration units.

Mathematics I

TS 304

Calculus, functions, limit, derivatives, integration

Computer Fundamentals & MS Office

TS 305

Computer concepts, Software, Hardware, Information systems, Introduction of Data Communication, Office Automation.

Technical Drawing

TS 306

Uses and application of technical drawing, drawing tools and accessories, alphabets of lines used in drawing & drawing lines technology.

SECOND SEMESTER

English

TS 307

Introduction, structure of a sentences and its types, English word formation rules, development of a paragraph, grammar & essays.

Physics II

TS 308

Electricity and Magnetism (Conductors & Insulators, Electric Potential, Gauss's law, Coulomb's law, Electric current, Resistivity & conductivity, Ohm's law, Capacitors & Dielectrics, Capacitors in series & parallel, Alternating current and voltage, Ampere's law, Power in AC circuits, Motors and generators). Sound (Types of waves, Power & Intensity of in wave motion, Principle of superposition, Stationary waves, Vibrations, Vibrating system and source of sound, Interference, Beats, Doppler effect).

General Chemistry II

TS 309

This course helps understanding physical properties of liquid, solid and solutions, kinetics of reactions, homogeneous & heterogeneous equilibrium, determination of absorbed and evolved heat energy during reaction and their thermo dynamical behavior. Electro chemical reactions, photochemical reactions and laws and terms involved in it.

Mathematics II

TS 310

Linear algebra, ordinary differential equation, complex numbers, geometry & trigonometry.

Computer Applications

TS 311

Basic programming skills, control structures, functions, implementation of basic data structures, introduction of C-language & other languages.

Workshop Practice

TS 312

Mechanical work & bench fitting, welding shop (gas welding), arc welding, wood work & electrical work.

SECOND YEAR

THIRD SEMESTER

Pakistan Studies

TS 401

Historical background, languages, constitution & economic progress of Pakistan.

Physics III

TS 402

Electric field, Magnetic field, Lines of induction, Electric flux, Magnetic flux, Motion of a charge particle in uniform electric-field & magnetic-field, Heat: Energy in transit, heat capacity and specific heat. Heat capacities of solids and ideal gas. First & Second law of thermodynamics, transfer of heat, heat engine, refrigerators, Carnot cycle and entropy.

General Chemistry III

TS 403

Allenes, alkenes, alkynes, alkyl halides, alcohols, ethers, aldehydes, ketones, thiols & thioethers. Carboxylic acids & their derivatives, fats, oils, soaps, detergents, amines, amino acids & aromatic concepts.

Elements of Statistics and Probability

TS 404

Introduction and definitions, classification of data & graphical representation, measures of central tendency, measures of dispersion, probability, methods of sampling and distribution. Simpler linear regression & co-efficient of correlation.

Textiles Fibers I

TS 405

Introduction, classification of textiles fibers, production, general features, characteristics, & uses of natural fibers, cellulosic fibers & protein fibers.

Yarn Manufacturing

TS 406

Ginning, blow room, carding, drawing, combing, roving, ring spinning, drafting system, open end spinning, yarn & its types.

FOURTH SEMESTER

URDU

TS 407

Urdu being our national language is part of the curriculum. The main components of this course are *narr, naam, ghazaliyat, qaasid, manazi* and *maniz*.

Mill Engineering

TS 408

Steam boilers, piping network, boiler accessories, boiler mountings, chemical treatment of water, steam load estimation & utilization. Heating, ventilation & air conditioning, mill utilities & services. Engineering materials, industrial pollution control, fuel economy & energy conservation.

Textiles Fibers II

TS 409

Production, general features, characteristics & uses of man-made fibers, regenerated fibers, modified cellulosic fibers, polyesters & fiber blends.

Fabric Formation

TS 410

Preparatory process, types of fabrics, pattern of interlacement of warp and weft in woven fabric. Loom, its motions & types.

Polymer Science

TS 411

Organic reaction principles necessary to understand the preparation, properties and chemistry of polymers. Synthesis, applications and behavior of common classes of polymers with emphasis on those materials used in the textile industry. The chemistry and structure of natural and man-made fibers.

Introduction To Fabric Design & Structure

TS 412

Terminology, presentation of weave with the use of colored papers, on graph paper, cross-sectional views of warp & weft, design draft & pegplan. Construction of elementary weave, design, draft, types of draft and lifting plan. Terry pile structure, terry weaves, terry ornamentation-stripe and check, dobby patterns, figured terry pile fabrics & mixed color effects.

THIRD YEAR

FIFTH SEMESTER

Textile Mechanics

TW 501

Measurements (History of measurement, Practical uses of measuring instruments, International system of units, Precision of measurements, Kinematics & Dynamics). Laws of motion (Basic Principles, Derivation of equation of motion, Gravity). Force, Work, Energy and Power, Friction and lubrication, Viscosity.

Textile Calculation I

TW 502

Diameter, yarn counting system, determination of yarn, weight and length speed and gearing calculations. Production calculation related to different machines and different calculation of sizing, efficiency calculation of different reeds and consumption of yarn.

Electrical & Electronics Essential To Textile I

TW 503

Introduction to semiconductor physics, Stages of semiconductor manufacturing, Wafer sizes, Intrinsic & Extrinsic semiconductors, Doping and Possible Dopants, Energy bands, Band analysis of metals, semiconductors and insulators. Introduction to Diodes, biasing techniques, uses of diodes, special purpose diodes i.e. Zener diode, Tunnel diode & Laser diode, LEDs & applications of special purpose diodes.

Introduction To Textile Wet Processing I

TW504

Pre-Treatment: singeing, desizing, scouring, mercerizing, bleaching and optical brightening, Dyeing, light & color, classification of dyestuffs, dyeing methods; exhaust, pad batch, pad steam & pad-thermosol pad-jig.

Weaving Mechanism I

TW 505

Design to develop the skills of understanding different types of looms. Their functions, their motions and their parts e.g. primary loom motions (shedding, picking and beating), secondary loom motions (let off, take up), Shedding motions and their types-dobbies, jacquard on projectiles, air jet and rapier looms. Selvedges - their types and different loom settings.

Knitting Technology

TW 506

Knitting and knit fabrics, weft knitting, knit, tuck and float loops, weft knit design, weft knitted fabric production, warp knitting, knitting elements, warp knit design & warp knit fabric production.

SIXTH SEMESTER

Textile Calculation II

TW 507

Yarn diameter, yarn counting system determination of yarn weight and length speed, Gearing calculations, production calculation related to different machines and different calculation of sizing efficiency, Calculation of different reeds and consumption of yarn.

Electrical & Electronics Essential To Textile II

TW 508

Introduction to Transistor, Transistor as voltage amplifier & switch, Biasing of BJTs, DC-Operating point and its significance, Introduction to Amplifier, Common emitter amplifier, common base amplifier, common collector amplifier, Operational Amplifier, Class-A, Class-B & Class-C.

Preparatory Process I

TW 509

Winding: its objectives, types of winding machines, Precision winding, drum winding, essentials of winding machine and their functions, Cone winding, Types of automatic machine, Detail of modern development with special feature and their check and control, Warping - its objectives, types of warping, types of machines their functions and parts, Modern developments and their impact on production and quality, Warp beam defects, Process quality parameter and their checks.

Weaving Mechanism II

TW 510

Review of the primary and secondary motions, Take up motion, let off motion stop motion, weft stop motion & warp protector motion.

Fabric Design And Structure I

TW 511

Understand the interlacement of warp and weft yarns to produce different fabric designs and their structures, To use the elements of designing in practical field.

Introduction To Textile Wet Processing II

TW 512

Classification of dyestuffs, dyeing methods; exhaust, pad batch, pad steam, pad thermosol and pad jig, Dyeing of cellulosic fibers with direct, reactive, vat, azoic and pigments, Dyeing of man made & their blends with cotton, nylon, viscose rayon & acrylic polyester, Color fastness, wash fastness, rubbing fastness & light fastness.

Hands on Mill Training

One Month

FOURTH YEAR

SEVENTH SEMESTER

Intro to Textile Wet Processing III TW 601

Preparations of gums, modified gums, alginates and synthetic thickeners. Printing of cotton, polyester, block, stencils & screens printing. Application of softeners. Dye retarding & filling agents.

Preparatory Process II TW 602

Sizing process, preparation of sizing mixing for different cotton fabric qualities & blended yarns. Manufacturing & planning of qualities of fabric starting from warping to sizing machine.

Weaving Mechanism III TW 603

Wefl replenishing motion; introduction, wefl replenishment on conventional and unconventional (Shuttle less) looms. Main drive, clutch and brake systems. Shedding motion on shuttle less looms - cam, dobby and electronics jacquard shedding motion. Wefl insertion system on shuttle less looms.

Fabric Design and Structure II TW 604

Pique weaves, double plain cloth, inter changing double cloth designs, velvet and velveteen fabrics. Double shuttle plush, plush fabrics, double face cut pile fabrics, chenille fabrics, corduroy & fancy chenille fabrics. Leno weaving & placing one design in the other design.

Textile Testing And Quality Control I TW 605

Use statistical techniques in the field of quality control & textile testing. Sampling, sampling plan, acceptable quality level & its application in sampling. Standards deviation, mean calculation & coefficient of variation. Determination of twist direction in single & double yarns, determination of count of single and double yarn by using warp reel & analytical weighing.

CAD/CAM Designing TW 606

Introduction of software and hardware. Scanning, selection of a design, editing or working process of the design, weave basic, jacquard parameters, jacquard machine information & machine format.

EIGHT SEMESTER

Project Work TW 607

Project is generally linked to industry. Designed to develop imagination and independence of mind.

Weaving Mechanism IV TW 608

Fabric formation techniques, selvedge formation, pick change work and terry pile formation systems on conventional and shuttle less loom. Terry -ler off motion on conventional and shuttle less looms, maintenance system and handling of installation work.

Fabric Design And Structure III TW 609

Decorative patterns, fancy weave, construction and developments of dobby & jacquard designs. Construction and development of dobby & jacquard terry designs. Terry pile structures & systems of terry cloth production. Bedford cord fabrics, extra warp & extra weft fabrics and elements of color. Textile Testing & Quality Control II
TW 610

Determination of single yarn strength, determination oflea strength, comparison of CRE, CRT & CRL tensile strength testing machines. Importance of tensile strength of yarns & determination of bursting strength. Quality control systems and standard testing procedures.

Mill Management & Costing TW 611

Fundamentals of management, functions of management, production, planning, & control. Quality assurance, productivity, inventory control, personal management, motivation, industrial accidents & costing.

ISO 9000 & Environmental Management System TW 612

Evolution of standardization, introduction of standard, national & international standards bodies. Working of ISO and PSI, understanding of first, second and third party systems. Methodology to conduct opening and closing meeting, handling of audits and auditors. Environmental management systems ISO 14000, law & code understanding.

Textile Wet-Processing Technology

* First four semesters are similar to weaving technology

THIRD YEAR

FIFTH SEMESTER

Textile Mechanics

WP 501

Measurements (History of measurement, Practical uses of measuring instruments, International system of units, Precision of measurements, Kinematics & Dynamics), Laws of motion (Basic Principles, Derivation of equation of motion, Gravity), Force, Work, Energy and Power, Friction and lubrication, Viscosity.

Knitting Technology

WP 502

Knitting and knit fabrics. Weft knitting, knit, tuck and float loops, weft knit design and weft knitted fabric production. Warp knitting, knitting elements, warp knit design and warp knit fabric production.

Water And Surfactants

WP 503

Water, water softening by various methods, water testing, detergents and wetting agents.

Textiles Machines I

WP 504

Ordinary kiers, high pressure kiers, pad-j-box, pad steam normal temperature, pad steam high temperature and pad batch. Rope washing machines, hydro extractors, cylinders, dryers, loop dryers & tumble dryers.

Pre-Treatment of Textiles I

WP505

Task and aim of pretreatment, the reaction mechanism, pre-treatment of natural fibers, wool, silk, linen & jute. Pre-treatment of man made fibers.

Textile Dyeing I

WP 506

Light & color, classification of dyestuffs, physical chemistry of dyeing & theory of dyeing. Migration, dye fiber bonds, rate of dyeing, dyeing methods, chemistry & properties of textile auxiliaries

SIXTH SEMESTER

Dyestuff Chemistry

WP 507

Color & chemical constitution, azo dyes, diphenyl methane & triphenyl methane dyes. Azine, oxazine, thiazine dyes, xanthene & acridine dyes. Anthraquinone dyes, indigoid & thioindigoid dyes, phthalocine dyes, monochlorotriazinyl & dichlorotriazinyl dyes. Chemistry and properties of following dyes: direct, reactive, vat dyes, solubilized vat dyes, sulphur dyes, reactive dyes, disperse dyes & pigments.

Pre-Treatment Of Textiles II

WP 508

Pre-treatment of cotton, process, bleaching, optical brightening and mercerizing. Pre-treatment of fiber blends

Textile Dyeing II

WP 509

Physical and chemical properties of acid dyes, basic dyes and disperse dyes. Theory of dyeing with disperse, basic, acid & reactive dyes. Dyeing techniques and dyeing of celluloses fibers.

Textiles Machines II

WP 510

Exhaust dyeing machines, semi-continuous machines, continuous machines, dryers, printing and stenter machines.

Quality Control & Textile

Testing I

WP 511

Introduction to quality, quality control & assurances. Textile testing, determination of relative humidity, color fastness properties of dyed & printed textile material.

Textile Printing I

WP 512

Introduction, beginnings of textile printing, printing procedures and printing methods. Fixation methods, thickening agents, printing of wool & silk.

Hands on Mill Training

One month

FOURTH YEAR

SEVENTH SEMESTER

Textile Dyeing III

WP 601

Dyeing of cotton and viscose rayon with sulphur dyes, azoic dyes & stabilized vat dyes. Dyeing of fiber blends and energy conservation process.

Textile Printing II

WP 602

Printing of fabric made from man-made fibers, secondary acetate rayon with disperse, acid & basic dyes and triacetate rayon with disperse dyes. Nylon with acid, reactive & disperse dyes. Acrylic fiber with basic, acid & disperse dyes. Polyester fiber with disperse dyes. Printing of cotton fabrics with pigments, types of pigments, binders & fastness properties

Quality Control &

Textile Testing II

WP 603

Fabric strength, tensile strength, bursting strength, dimensional stability, crease & wrinkle recovery. Abrasion resistance, flame retardancy, air permeability, water repellency, formaldehyde determination & classification of defects.

Total Quality Management &

Environmental

WP 604

Management System. Study of quality management system, working of ISO & PSI. Handling of audit & auditors, environmental management system ISO 14000, bod, cod green house effect, ozone layer & depletion of layer.

Computer Color Management

System I

WP 605

Fundamentals of colors, eye and color vision, color systems, color difference measurements & metamerism. Theories for color matching, computer aided color matching for textiles, color measurement instruments & preparation of data base for color matching system.

CAD/CAM

WP 606

Scanning of art work, editing, modification, reduction of colors, correction of design, shading process, color separation of design and 3d textured mapping.

EIGHTH SEMESTER

Textile Printing III

WP 607

Printing of cotton & viscose rayon, fixation of dyestuffs methods and printing styles. Various printing techniques and printing of fiber blends.

Textile Finishing

WP 608

Importance of textile finishing and types of finishing. Production of surface effects in fabrics and chemical finishing. Dimensional stabilization by mechanical and thermal methods. Crease resistant finishes. Creasing mechanism: chemistry, properties & reaction

mechanism of various rins.

Improvement of specific

functional properties.

Chemistry and properties of finishing agents

Computer Colour Management

System II

WP 609

Theories for colour matching. Computer aided colour matching for textiles. Colour measurement instruments.

Preparation of database for colour matching system. Correlations of spectrophotometer and colour communications.

Mill Management & Costing

WP 610

Fundamentals of management, functions of management, supervision, human relations, decision making, planning and forecasting. Industrial relations, budget & budgetary control, production planning & control, quality & productivity, inventory control, personal management, motivation, industrial accidents & costing.

Project work

WP 611

Project is generally industry linked. Designed to develop imagination and independence of mind for personal and career development.



For continuing professional development, the institute offers following program of courses, interactive workshops aimed at keeping professional and other highly skilled or unskilled employees up-to-date with technological changes at work.

Short Courses List

No	Course Title	Duration
01	A brief introduction to textiles	20 hrs
02	Weaving loom operators	70 hrs
03	Interactive workshop on weaving calculations, design and structure	72 hrs
04	In-process quality control in fabric forming processes	72 hrs
05	In-process quality control in towel manufacturing	40 hrs
06	Bonas 500 jacquard-operating instructions and training	8-10 days
07	Dornier loom-operating instructions and training	8-10 days
08	Vamatex loom-operating instructions and training	8-10 days
09	SMIT loom-operating instructions and training	8-10 days
10	Quality control in textile wet-processing	72 hrs
11	Computer Color Match Prediction System (DataColor)	20 hrs
12	CAD/CAM weave designing for jacquard and dobby	45 hrs



01. Nakohabandi Industries
02. Feroze Textiles
03. Afroze Textiles
04. Gul Ahmed Textiles
05. Al Karam Textiles
06. Al Abid Silk Mills
07. Liberty Textile Mills
08. Nina Industries
09. Younus Brothers Textiles
10. Sitara Textile Mills, Faisalabad
11. Clariant (Pak.) Ltd., Faisalabad
12. Hala Industries, Lahore
13. Friendship Textiles (Pvt.) Ltd.
14. Sohni Tex Industries
15. Textile fort
16. Naveena Industries
17. Hamsons
18. Bismillah Textiles, Faisalabad
19. J. M. S. Textile Mills (Pvt.) Ltd.
20. Meco Tex Textile Mills
21. Shabbir Textile Mills
22. Silver Textile Factory



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