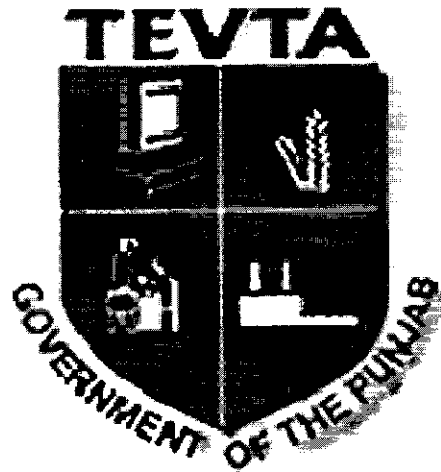


GOVERNMENT OF THE PUNJAB  
TECHNICAL EDUCATION & VOCATIONAL  
TRAINING AUTHORITY



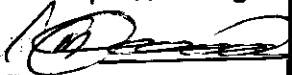
CURRICULUM FOR  
**Knitted Fabric Product Development Specialist**

(3 – Months Course)  
Evaluated November, 2015

CURRICULUM SECTION  
**ACADEMICS DEPARTMENT**

96-H, GULBERG-II, LAHORE  
Ph # 042-99263055-9, 99263064  
[gm.acad@tevta.gov.pk](mailto:gm.acad@tevta.gov.pk), [manager.cur@tevta.gov.pk](mailto:manager.cur@tevta.gov.pk)

19-11-2015



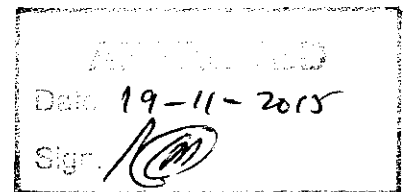
## TRAINING OBJECTIVES

This course is very important for value addition in textile sector. Trained workforce is rarely available in textile sector for this particular trade. The major reason for targeting this area is that it will create a pool in the textile sector and will be helpful to bring trickledown effect for new entrants. In order to reduce unemployment, the curriculum is designed to impart the technical knowledge and skills to those who are literate. Ultimately this would helpful in

- Alleviating poverty
- Generate skilled resource
- Source of income
- Addition in more revenue.

## CURRICULUM SALIENTS

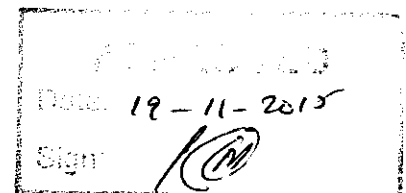
Name of course	:	Knitted Fabric Product Development Specialist
Entry Level	:	Matric
Duration of Course	:	3 – Months
Total Training Hrs	:	400 Hours
		40 Hours per week
		6 days per week
		7 Hours daily except Friday 5 Hours
Training Methodology:		Practical 80%
	:	Theory 20%
Medium of Instruction:		Urdu/English



**SKILL COMPETENCY DETAILS**

On successful completion of this course, the trainee should be able to:-

1. Fabric shade matching.
2. Fabrics feel detection.
3. Fabric/Fiber testing
  - a. Yarn Count testing
  - b. Width, GSM, Shrinkage, Skewness measurement
  - c. Fabric faults
4. Housekeeping of textile mill floor.
5. Planning of dyeing and finishing WIP (Work in Process)
6. Operation of knitting/dyeing/finishing machines.
7. Effective use of energy recourses to give maximum output
8. Diagnosis and rectification of finished fabric faults



**KNOWLEDGE PROFICIENCY DETAILS**

On successful completion of this course, the trainee should be able to:-

1. Know about different fibers and yarns (natural or synthetic).
2. Their properties and their end use.
3. How the yarn count ultimately effects the parameters of the end product.
4. Will be able to distinguish between different knitting structures.
5. Dyeing of knitted fabrics (according to their contents).
6. Enzyme process.
7. Finishing (both chemical and mechanical)
8. Chemical applications and their methods.
9. Quality control of fabric.
10. Fabric testing

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**CURRICULUM DELIVERY STRUCTURE**

	<b>Curriculum Delivery</b>	<b>Make Up Session</b>	<b>Revision</b>	<b>Final Test</b>	<b>Total</b>
<b>WEEK</b>	1-10	11	12	13	13
	10	1	1	1	

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**SCHEME OF STUDIES**  
**Knitted Fabric Product Development Specialist Course**  
**(3-Months)**

S.No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Fiber and Yarn	8	40	48
2.	Knitting	10	40	50
3.	Dyeing	12	80	92
4.	Finishing	12	40	52
5.	Testing	10	40	50
6.	Quality Control	8	40	48
7.	Packing	4	40	44
8.	Work Ethics	12	-	12
9.	Health & Safety	4	-	4
		80	20	100

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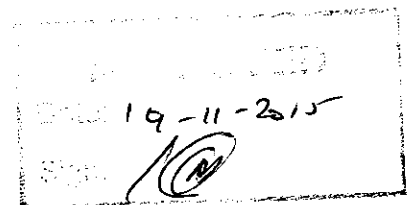
**Detail of Course Contents**  
**Knitted Fabric Product Development Specialist Course**  
**(3-Months)**

<b>1.</b>	<b>Fiber and Yarn</b> 1.1 What is fiber and yarn 1.2 Natural and synthetic fibers 1.3 Properties 1.4 Fiber detection 1.5 End use	<b>8</b>	<b>40</b>
<b>2.</b>	<b>Knitting</b> 2.1 Knitting Structures 2.2 Types of knitting 2.3 Knitting parameters 2.4 Fabric faults	<b>10</b>	<b>40</b>
<b>3.</b>	<b>Dyeing</b> 3.1 Dyeing Machines 3.2 De-oiling 3.3 Scouring 3.4 Bleaching 3.5 Dyeing 3.6 Enzyme 3.7 Soaping / Washing	<b>12</b>	<b>80</b>
<b>4.</b>	<b>Finishing</b> 4.1 Finishing Machines 4.2 Chemical Finishing 4.3 Mechanical Finishing	<b>12</b>	<b>04</b>
<b>5.</b>	<b>Testing</b> 5.1 Testing Machines 5.2 Fabric/ Garment testing 5.3 Fabric faults	<b>10</b>	<b>40</b>
<b>6.</b>	<b>Quality Control</b>	<b>8</b>	<b>40</b>
<b>7.</b>	<b>Packing</b>	<b>4</b>	<b>40</b>
<b>8.</b>	<b>Work Ethics</b>	<b>12</b>	
<b>9.</b>	<b>Health &amp; Safety</b>	<b>4</b>	
		<b>80</b>	<b>400</b>

Date: 19-11-2015  
Sign: 

**LIST OF PRACTICALS**

1. Fiber detection
2. Knitting Manufacturing
3. Knitting Faults Detection
4. De-oiling
5. Scouring
6. Bleaching
7. Dyeing
8. Enzyme Application
9. Soaping / Washing
10. Chemical Finishing
11. Mechanical Finishing Fabric/ Garment testing

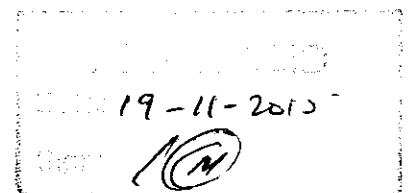




**LIST OF LABS**

**Knitted Fabric Product Development Specialist Course  
(3-Months)**

1. Fiber & Product Testing Lab
2. Dyeing & Finishing Lab.



**LIST OF TOOLS AND EQUIPMENT**  
**FOR CLASS OF 25**

Name of Trade	Knitted Fabric Product Development Specialist Course
Duration of Course	(3-Months)

No	Nomenclature of Equipments/Tools	Quantity
1	Knitting feeder machines	3
2	Knitting Striper machines	2
3	Thies dyeing machine	1
4	Slit	1
5	Stretch	1
6	Santa Dryer	1
7	Montfort's Stenter	1
8	Compactor	1
9	GSM cutter	2
10	Martindale pilling tester	1
11	Light Box	1
12	Crock meter	1
13	Weighing balances	2
14	Spectrophotometer	1
15	Dispenser	1
16	Bursting Strength tester	1
17	Laundry machines	1

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**LIST OF FURNITURE**

**FOR CLASS OF 25**

**Knitted Fabric Product Development Specialist Course  
(3-Months)**

S. No.	Name of Article	Quantity
1.	Working bench	12
2.	Wooden stool (for students)	30
3.	Chair for teacher	02
4.	White board (3 ½ x 5ft) with stand	01
5.	Steel Almirah (4 x 7 ft)	04
6.	Instructor table with 3 drawers	01

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**LIST OF CONSUMABLE MATERIALS**

**FOR CLASS OF 25**

**Knitted Fabric Product Development Specialist Course  
(3-Months)**

List of Consumable Materials

S.No.	Material	Quantity
1	Pretreatment chemicals	As per requirement
2	Detergent	As per requirement
3	Bleaching Agent Hydrogen Peroxide	As per requirement
4	Enzymes	As per requirement
5	Reactive and Disperse Dyes	As per requirement
6	Fixing agents	As per requirement
7	Softening Agents	As per requirement
8	CRMs for testing	As per requirement

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**MINIMUM QUALIFICATION OF INSTRUCTOR**

- Bachelor of Engineering in Textile with 4 years and 5 months experience in product development

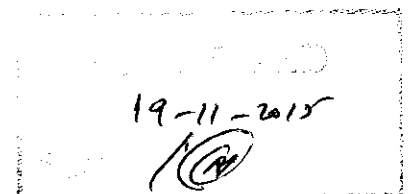
OR

- Three Years Textile fabric Production Diploma with 8 Years Experience

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**REFERENCE BOOKS**

1. Basic principles of Textile Coloration (Arthur D Broadbent)
2. Knitting (*Alberto M. Sacchi, President of the ACIMIT Foundation*)
3. Finishing (Pietro Bellini, Ferruccio Bonetti, Ester Franzetti, giuseppe Rosace, Sergio Vago)
4. Textile processing with enzymes (A. Cavaco-Paulo and G. M. Gübitz)
5. Knitting Technology: A comprehensive handbook and practical guide by David J. Spencer
6. Textile Design and Colour by Willian Watson



**EMPLOYABILITY OF PASS OUTS**

The pass outs of this course may find job / employment opportunities in the following areas / sectors: -

1. Product Development Specialist
2. Textile
3. Chemical Industry

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/CM

**Curriculum Evaluation Committee**

1. **Dr. Nabeel Amin,** **Convener**  
Associate Professor,  
School of Textile and Design,  
University of Management and Technology,  
C-II, Johar Town, Lahore-54770, Pakistan
2. **Mr. Kanwar Haider,** **Member**  
Assistant Professor, UMT  
D-5 Block A PTCL Flat,  
Faisal Town Lahore
3. **M. Attique Ur Rehman,** **Member**  
55-A, Z-Block Peoples Colony,  
Gujranwala.

19-11-2015  
[Signature]