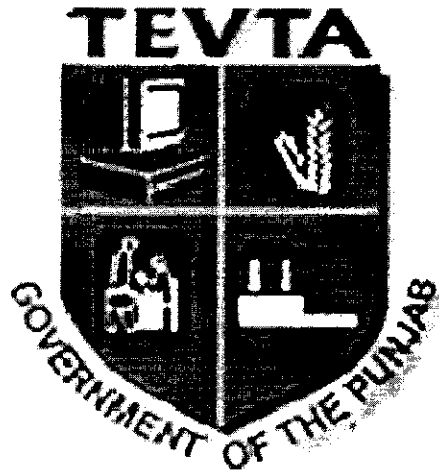
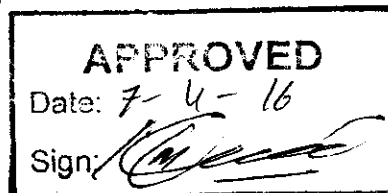


GOVERNMENT OF THE PUNJAB
**TECHNICAL EDUCATION & VOCATIONAL
TRAINING AUTHORITY**



CURRICULUM FOR
MACHINIST
(6 – Months Course)
Revised April 2016



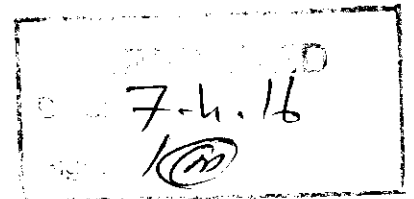
CURRICULUM SECTION
ACADEMICS DEPARTMENT
96-H, GULBERG-II, LAHORE
Ph # 042-99263055-9, 99263064
gm.acad@tevta.gop.pk, manager.cur@tevta.gop.pk

TRAINING OBJECTIVES

This course is meant to produce a workforce that is capable of conducting preliminary machine cutting operations mostly related to the conventional processes. This curriculum is revised / redesigned of one year duration consisting upon two semesters which is zeal of reaching to the modern automatic operations in the trainees becoming integral part of society. The trainees such produced would be quite capable of carrying out their tasks under supervision along with ethical values.

CURRICULUM SALIENTS

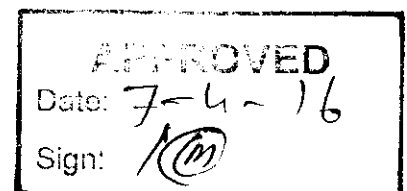
Entry-level	:	Middle
Duration of course	:	06 - Months
Total Training Hours	:	800 Contact Hours
Training Methodology	:	Practical 80%
	:	Theory 20%
Medium of Instruction	:	Urdu / English



SKILL COMPETENCY DETAILS

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

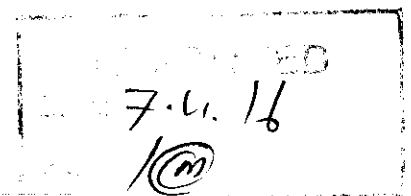
1. Explain to take the readings with the help of measuring tools.
2. Explain the name and identification of measuring and hand tools (Try square, Inside / outside Caliper, Letter and Number drills, Cutter, divider, Bench vice, Thickness gauge, Hammer, Steel rule, Scriber, Center punch, Chisels, Screw pitch gauge, v-block, Micrometer, Inside micrometer, Venire caliper, Bevel protector, Dial indicator, Height Gauge Digital Venire Caliper, Micrometer with mm/ inch reading etc.
3. Define the Lathe machine (Safety precautions, Specification of Lathe machine, Types of Lathe machines, Parts of Lathe machine, their functions and Accessories of Lathe).
4. Define the Milling Machine (Safety Precautions, Specifications of Milling Machine, Types of Milling Machines, Parts of Milling Machine & their functions, Types of Milling Cutters and their use, Dividing Head & its parts, Methods of Indexing, Daily and scheduled maintenance).
5. Describe the Shaper machine (Safety Precautions, specifications of Shaper, Parts of Shaper Machine and their functions, Nomenclature of cutting tools of Shaper, Difference between Shaper and Planner, Daily and Scheduled maintenance).
6. Explain the Drill machine (Safety Precautions, Kinds of drill machines, Specifications of drilling machine, Parts of drilling machine and their functions, Knowledge about number, Letter and fractional size drill, Daily and Scheduled maintenance).
7. Explain the Bench work (Safety Precautions, Hand tools, Concept of filing, polishing, chipping, Lay out, Tapping, Threading, and Reaming).



KNOWLEDGE PROFICIENCY DETAILS

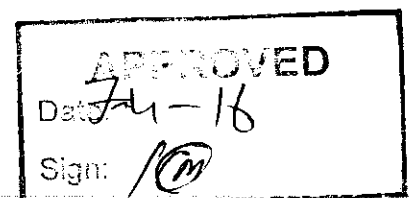
On successful completion of this course, the trainee should be able to;

1. Use measuring/hand tools accurately/effectively.
2. Make lathe machine jobs by performing following operations (Turning, taper turning, step turning, facing, drilling, center drilling, boring, reaming, knurling and threading).
3. Make Milling machine jobs by performing of following operations (Cutting of Spur-gears, Helical gears, Drills, Reamers, Racks and Slots on universal and vertical milling machines)
4. Make shaper machine jobs (Squaring, Cutting of v-block, Cutting of key-ways, and preparing dovetail joints).
5. Handle the jobs on drilling machine (Selection of number, letter and fractional size drills for drilling purposes on different kinds of drilling machines & making circular holes on tapping block).
6. Make bench jobs (Center gauge, ACME gauge, Inside/Outside caliper and other fitting jobs) etc.



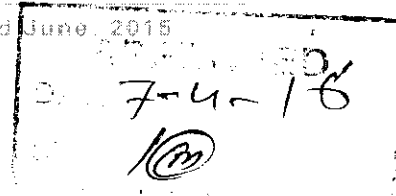
SCHEME OF STUDIES**Machinist
(6 – Months Course)**

Sr. No.	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Measuring	8	22	30
2.	Fitting (Bench Work)	7	154	161
3.	Tool Grinding	7	79	86
4.	Turning	10	155	165
5.	Milling	6	119	125
6.	Shaping	5	59	64
7.	Workshop Project / Maintenance	1	48	49
8.	I.T Fundamentals	8	32	40
9.	Functional English	16	64	80
Total		68	732	800



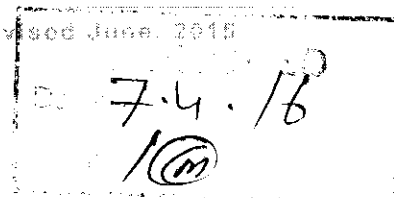
DETAIL OF COURSE CONTENTS**Machinist
(6 – Month Course)**

Sr. No	Detail of Topics	Theory Hours	Practical Hours
1.	Measuring		
1.1.	Basic Unit, Measuring System, Testing Instruments, Measuring Methods, testing	5	-
1.2.	Vernier Caliper (Kinds) and Use of Verneir Caliper	1	5
1.3.	Micro Meter (Kinds) and Use of Micrometer	1	5
1.4.	Use of Inside, Outside Caliper and Bevel Protector		5
1.5.	Gauges (Kinds) and Use of Gauges	1	2
1.6.	Use of different type of internal & external gauges	-	5
2.	Fitting (Benchwork)		
2.1.	Fitting (Benchwork)		
2.1.1.	Basic Mathematics	1	-
2.1.2.	Basic Units	1	-
2.1.3.	Basic Drawing	1	-
2.1.4.	Safety Precautions	1	-
2.1.5.	Hand Tools	1	-
2.1.6.	Concept of Filling, Drilling, Polishing, Chipping, Layout, Tapping, Threading, Sawing, Reaming	2	-
2.2.	Filling and Sawing Exercise	-	18
2.3.	Tri Square	-	18
2.4.	Fitting	-	18
2.5.	Drilling, Taping, Reaming	-	10
2.6.	Inside, Outside Caliper	-	30

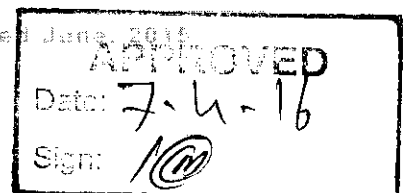


	2.7. Center Gauge	-	30
	2.8. Acme Gauge	-	30
3.	Tool Grinding		
	3.1. Introduction of Tool Grinder Machines	1	-
	3.2. Personal, Machine and Work Safety	1	-
	3.3. Kinds of Grinding wheels and Uses	1	-
	3.4. Testing and Mounting of Grinding wheel	1	-
	3.5. Cutting, Tools and their Angle materials	1	-
	3.6. Angles of Chisels, scribes, center punch	1	-
	3.7. Angles for chisels, scribes, and center punch	1	-
	3.8. Grinding of scribe and center punch	-	6
	3.9. Grinding of flat chisel and cross cut chisel	-	8
	3.10. Grinding of right hand roughing tool	-	10
	3.11. Grinding of left hand roughing tool	-	10
	3.12. Grinding of right hand turning tool	-	10
	3.13. Grinding of parting off tool	-	10
	3.14. Grinding of round nose polishing tool	-	10
	3.15. Grinding of twist drill	-	8
	3.16. Balancing / mounting of grinding wheel	-	2
	3.17. Re-adjustment of tool rest with minimum space	-	2
	3.18. Dressing of grinding wheel	-	3
4.	Turning		
	4.1. Introduction of Lathe Tools and their uses	1/2	-
	4.2. Basic material	1/2	-
	4.3. Safety precautions	1/2	-
	4.4. Specification of lathe	1/2	-
	4.5. Type of lathe	1/2	-
	4.6. Parts of lathe and their functions	1/2	-
	4.7. Accessories of lathe	1	-
	4.8. Maintenance of lathe machines	-	2
	4.9. Clamping of turning tool in tool post	-	2

	4.10. Facing and turning (measuring ?)	-	10
	4.11. Step Turning	-	12
	4.12. Gear Blank (Spur)	-	10
	4.13. Gear Blank (Halical) (2 Pieces)	-	12
	4.14. Step Boring	-	8
	4.15. Reaming	-	7
	4.16. Knurling	-	8
	4.17. Threading "V" Shape External	1	12
	4.18. Threading "V" Shape Internal	1	12
	4.19. Threading Acme Shape External	1	12
	4.20. Threading Acme Shape Internal	1	18
	4.21. Threading Square Shape External	1	12
	4.22. Threading Square Shape Internal	1	18
5.	Milling		
	5.1. Safety Precautions (milling Machine)	1	-
	5.2. Specification of Milling Machine	1	-
	5.3. Types Milling Machine	1	-
	5.4. Parts of Milling and their functions	1	-
	5.5. Milling Cutters	1	-
	5.6. Accessories of milling machines	1	-
	5.7. Plane milling (Square piece 16x16x160mm)	-	10
	5.8. Step Milling	-	10
	5.9. Straight Edge	-	10
	5.10. Spur Gear	-	20
	5.11. Halical Gear (2 Piece)	-	20
	5.12. Rack Cutting	-	18
	5.13. Twist Drill (2 flute)	-	12
	5.14. End Mill Cutter (4 flute)	-	19
6.	Shaping		
	6.1. Safety Precautions (shaper machine)	1	-
	6.2. Specifications of shaper	1	-

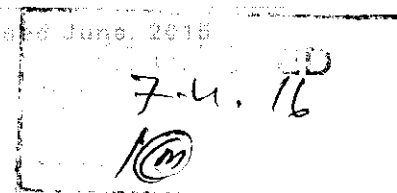


	6.3. Parts of shaper and their functions	1	-
	6.4. Nomenclature of cutting tools	1	-
	6.5. Difference between Shaper & Planner	1	-
	6.6. Squaring and Angular / Slotting Work Including	-	15
	6.7. V – Block	-	22
	6.8. Tapping Block	-	22
7.	Workshop Projects / Maintenance		
	7.1. Maintenance & Allotment of Projects	1	6
	7.2. Adjustable Spanner	-	21
	7.3. Depth Gauge	-	12
	7.4. Circular Die Holder	-	9
Total		47	633



LIST OF PRACTICALS

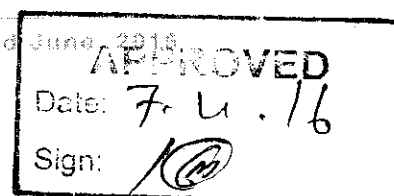
Sr. No	Detail of Exercises
1	Measuring Measuring Practice with measuring instruments on diff. models
2	Fitting (Bench work) 2.1 Filing of flat Surface 2.2 Filing of flat piece at right angle 2.3 Square Fitting 2.4 Drilling, Taping, and Reaming in flat piece 2.5 Inside, Outside Caliper 2.6 Center Gauge Making 2.7 Acme Gauge Making
3	3 Tool Grinding 3.1 Scriber 3.2 Chisel and cross cut chisel 3.3 Right hand roughing tool 3.4 Left hand roughing tool 3.5 Right hand side turning tool 3.6 Parting off tool 3.7 Round nose finishing tool 3.8 Twist drill 3.9 Mounting of grinding wheel 3.10 Adjustment of tool rest 3.11 Dressing of grinding wheel
4	4 Turning 4.1 Oiling of lathe machines 4.2 Clamping of turning tool in tool post 4.3 Facing and turning Exercise. 4.4 Step Turning Exercise.



	<p>4.5 Spur Gear Blank</p> <p>4.6 Helical Gear Blank (2 Pieces)</p> <p>4.7 Bush</p> <p>4.8 Reaming in Bush</p> <p>4.9 Center Punch</p> <p>4.10 T-Bolt</p> <p>4.11 Nut</p> <p>4.12 Screw with Acme Thread</p> <p>4.13 Nut with Acme Thread</p> <p>4.14 Screw with Square Thread</p> <p>4.15 Nut with Square Thread</p>
5	<p>5 Milling</p> <p>5.1 Milling of Square piece (16x16x160mm)</p> <p>5.2 Slide Rail</p> <p>5.3 Straight Edge</p> <p>5.4 Spur Gear</p> <p>5.5 Helical Gear (2 Piece)</p> <p>5.6 Rack Cutting</p> <p>5.7 Twist Drill (2 flute)</p> <p>5.8 End Mill Cutter (4 flute)</p>
6	<p>6 Shaping</p> <p>6.1 Square Block</p> <p>6.2 V – Block</p> <p>6.3 Tapping Block</p>
7	<p>7 Workshop Projects / Maintenance</p> <p>7.1 Adjustable Spanner</p> <p>7.2 Depth Gauge</p> <p>7.3 Circular Die Holder</p>

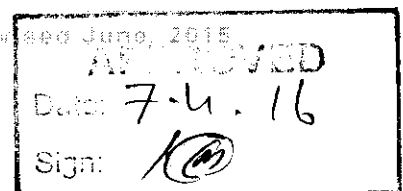
SCHEME OF STUDIES**I.T. Fundamentals**

S.No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Introduction to Computers	2	6	8
2.	Typing - Microsoft Word	4	14	18
3.	Internet & Electronic Mail	2	12	14
Total		8	32	40




DETAIL OF COURSE CONTENTS
I.T Fundamentals

S. No	Detail of Topics	Theory Hours	Practical Hours
1	<p>Introduction to Computers</p> <p>1.1 What is a computer- Definition, functions and general features?</p> <p>1.2 What is Hardware – 1.2.1 Computer parts and units 1.2.1.1 Input Unit - Keyboard, Mouse etc. 1.2.1.2 Central Processing Unit 1.2.1.3 Output Unit</p> <p>1.3 What is Software – 1.3.1 Electronic Parts of a Pc it is 1.3.1.1 Software and Its types 1.3.1.2 System Software, Application software and its functions</p> <p>1.4 Working with windows Operating System 1.4.1 How does windows desktops work? 1.4.2 Setting desktop, background and wall papers etc. 1.4.3 Viewing directories – List of files and folders different styles.</p> <p>1.5 What are the Icons, Shortcuts and other graphic, 1.5.1 How to see computer contents on different drives etc. 1.5.2</p>	2	6
2	<p>Typing and Word processing (MS Word)</p> <p>2.1 Proper way of typing correct and speedy - getting familiar with the keys</p> <p>2.2 Where to type in computer? How to save a file? How to get it back? Where to find your saved work?</p>	4	14




	2.3 Formatting in MS Word Bold, Italic, page setup, setting shades and colors.		
	2.4 Working with saved work, opening and moving files.		
	2.5 How to get it printed?		
3	Emailing and Internet Surfing	2	12
	3.1 How to go to Internet, what is required for an internet connection etc.		
	3.2 How to use email? How to search on web? Etc		
	3.3 How to make new email account, login and logout an email account etc.?		
	3.4 Downloading and uploading attachments etc.		
Total		8	32


APPROVED
 Date: 7-4-16
 Sign: 

LIST OF PRACTICALS
I.T Fundamentals

S. No.	Name of Practical
1.	Turn On/Off and setting of power supply
2.	Accessing The Desktop
3.	Using of Icons and Shortcuts
4.	Setting / customizing the desktop
5.	Viewing the contents of computer – Directory
6.	Setting the view of a folder
7.	Copying, Deleting and Moving Files in a folder
8.	Working with different Applications
9.	Opening MS Word for typing
10.	First lesson of Typing A S D F
11.	Second Lesson of typing J K L ;
12.	Third Lesson U I O P
13.	Fourth Lesson R E W Q
14.	Fifth Lesson N M , .
15.	Sixth Lesson V C X Z
16.	Seventh Lesson All letter using R index Finger
17.	Eighth Lesson All letter using L index Finger
18.	Formatting in MS Word Bold, Italic etc.
19.	Page Setting/ Page Layout
20.	Using Internet

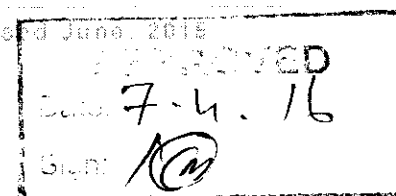
APPROVED
Date: 7.4.16
Sign: 

21.	Opening Email, making new account
22.	Sending Receiving Emails
23.	Downloading and uploading attachments etc.

APPROVED
Date: 7.6.16
Sign: 

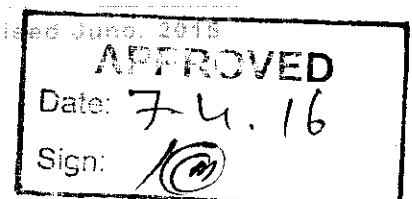
SCHEME OF STUDIES
Functional English

S.No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Use of past indefinite tense	2	6	8
2.	Use of 'was' 'were' ' questions and negatives	3	6	8
3.	Explaining a situations/ analysis	2	6	8
4.	Communication in writing	2	6	8
5.	Comprehension	1	6	7
6.	Application/ C.V.	1	6	7
7.	Dialogues	1	9	10
8.	Understand vocabulary	1	3	4
9.	Writing complaints/ answers to complaints	1	9	10
10.	Interviews	2	7	10
Total		16	64	80



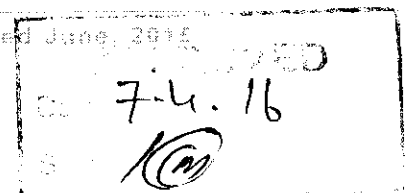
DETAIL OF COURSE CONTENTS
Functional English

S. No	Detail of Topics	Theory Hours	Practical Hours
1	Use of past indefinite tense 1.1 Describing past events	2	6
2	Use of 'was' 'were' ' questions and negatives	2	6
3	Explaining a situations/ analysis 3.1 Making a plan 3.2 Visiting factory area 3.3 Giving justifications	2	6
4	Communication in writing 4.1 Asking for list of stationery items 4.2 Submitting report of performance of team of technicians 4.3 Submitting joining report	2	6
5	Comprehension: practice sets	2	6
6	Job application/C.V.	1	6
7	Dialogues	1	9
8	Understand vocabulary	1	3
9	Writing complaints/ answers to complaints	1	9
10	Interviews	2	7
Total		16	64



LIST OF PRACTICALS
Functional English

S. No.	Practical
1.	Group discussion
2.	Interviews
3.	Role play



LIST OF LABS

Machinist

- Machine Shop
- Basic Fitting Shop

I.T Fundamentals

- Computer Lab

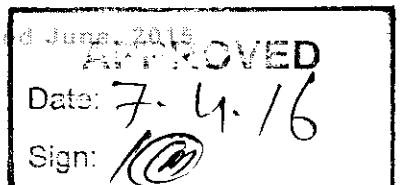
APPROVED
Date: 7.4.16
Sign: /@

LIST OF TOOLS / MACHINERY & EQUIPMENT

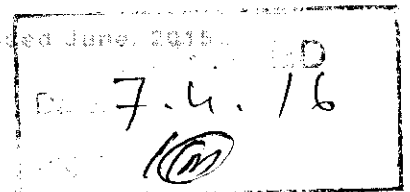
(For a class of 25 Students)

Name of Trade	Machinist
Duration of Course	6 – Month

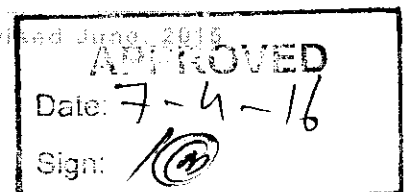
Sr. No	Nomenclature Of Equipment / Tool	Quantity
1.	Universal Milling Machine	10 Nos.
2.	Lathe Machine BL115 - 6'	06 Nos.
3.	Lathe Machine BL165 - 5'	10 Nos.
4.	Power Hacksaw	02 Nos.
5.	Shaper Machine 18"	08 Nos.
6.	Floor Drill ¾"	02 Nos.
7.	Bench Drill Machine	02 Nos.
8.	Surface Grinding Machine	02 Nos.
9.	Pedestal Ginning Machine	04 Nos.
10.	Bench Vice With Bench 4"	25 Nos.
11.	Steel Rule 300mm	25 Nos.
12.	Vernier Caliper 150 mm, 200mm	25 Nos.
13.	Vernier Height Gauge 300mm	02 Nos.
14.	"V" Block	04 Nos.
15.	Centre Punch 5"	25 Nos.
16.	Scriber	25 Nos.
17.	Divider 150 mm	25 Nos.
18.	Screw Driver Set 8"	06 Set



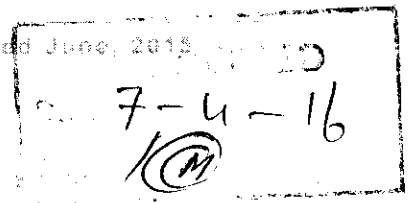
19.	Philip Screw Drive Set 6" – 8"	06 Set
20.	Tap Handle Set	04 Set
21.	Screw Pitch Gauge 60°	04 Set
22.	Screw Pitch Gauge 55°	04 Set
23.	Radius Gauge 1-7/ 7.5-14mm	04 Nos.
24.	Combination Set	04 Nos.
25.	Allen Key Set 10mm, 15mm	04 Nos. each
26.	Double Ended Open Spanner Set 10"	04 Set
27.	Ring Spanner Set 8"	04 Set
28.	Ball Peen Hammer 500 gm	25 Nos.
29.	Cross Peen Hammer 500 gm	25 Nos.
30.	Straight Peen Hammer 500 gm	06 Nos.
31.	Number Punch Set	04 Sets
32.	Letter Punch Set	04 Sets
33.	Flat File 300 × 1	25 Nos.
34.	Flat File 300 × 2	25 Nos.
35.	Flat File 250 × 2	25 Nos.
36.	Flat File 250 × 3	25 Nos.
37.	Flat File 150 × 1	25 Nos.
38.	Flat File 150 × 2	25 Nos.
39.	Half Round File 200 × 2	25 Nos.
40.	Half Round File 200 × 1	25 Nos.
41.	Round File 200 x 1	25 Nos.
42.	Round File 200 x 2	25 Nos.



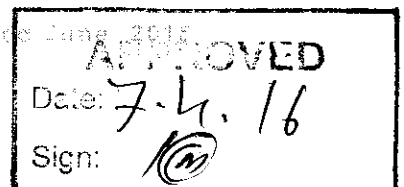
43.	Round File 150 x 2	25 Nos.
44.	Triangular File	25 Nos.
45.	Knife Edge File	25 Nos.
46.	Key File Set	25 Nos.
47.	File Brush	25 Nos.
48.	Flat Chisels	25 Nos.
49.	Cross Cut Chisels	25 Nos.
50.	Grooving Chisels	25 Nos.
51.	Hand Reamers 4",6",8",10", 11.7, 12 mm	06 Set
52.	Die M5, M6, M8, M10, M12	06 Set
53.	Die Handles	06 Set
54.	Drills 3.0, 3.8, 4, 4.2,4. 8,5.0,5.5,6.0,6.5,7.0,7.5,8.0,8.2,8.5,9. 0,9.5,10.0,10.2,10.5, 11.0,12mm	10 Set
55.	Drill Set 1 To 10 mm With Different 0.1 mm	06 Set
56.	Centre Drill, 2.5, 3.0 mm	12 Nos.
57.	H.S.S Tool Bit 8x8x160 mm	200 Nos.
58.	H.S.S Tool Bit 12x12x200 mm	200 Nos.
59.	H.S.S Tool Bit 16x16x200 mm	200 Nos.
60.	Morse taper Gauge Set Plugs+Rings MT1,MT2,MT3	03 Set
61.	Oil Cane	12 Nos.
62.	Tool Centre Gauges 55° and 60°	06 Nos.
63.	Hand Vice 6"	08 Nos.
64.	Adjustable Wrench 12"	06 Nos.
65.	Try Angle File 200×1	25 Nos.
66.	Try Angle File 200×2	25 Nos.



67.	Counter Sink 18×60° /12.5×60°	08 Set
68.	Counter Borer 4,6,10 mm	06 Set
69.	Twist Drill Grinding Gauge	06 Nos.
70.	Safety Goggle	25 Nos
71.	Diamond Dresser With Holder	04 Nos
72.	Acme Thread Gauge(Metric)	06 Nos.
73.	Drill Drift	06 Nos.
74.	Combination Pliers	06 Nos.
75.	Tool Box	25 Nos.
76.	Surface Plate	03 Nos.
77.	Plain Milling Cutter Φ 63 x 50 x 22	08 Nos.
78.	Plain Milling Cuter Φ 63 x 70 x 22 mm	08 Nos.
79.	Side And Face Cutter Φ 80 x 8 x 27 mm	08 Nos.
80.	Side And Face Cutter Φ 80 x 10 x 27 mm	08 Nos.
81.	Side And Face Cutter Φ 80 x 12 x 27 mm	08 Nos.
82.	Side And Face cutter Φ 80 x 14 x 27 mm	08 Nos.
83.	Side And Face Cutter Φ 80×18×27 mm	08 Nos.
84.	End Mill Cutter Φ 4 mm two liped	12 Nos.
85.	End Mill Cutter Φ 5 mm two liped	12 Nos.
86.	End Mill Cutter Φ 6 mm two liped	12 Nos.
87.	End Mill Cutter Φ 8 mm two liped	12 Nos.
88.	End Mill Cutter Φ 10 mm 4 liped	12 Nos.
89.	End Mill Cutter Φ 12 mm 4 liped	12 Nos.
90.	End Mill Cutter Φ 14 mm 4 liped	12 Nos.



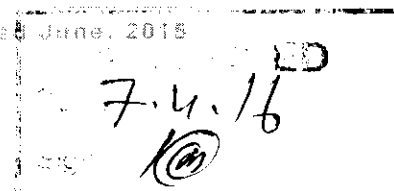
91.	End Mill Cutter Φ 16 mm 4 lipped	12 Nos.
92.	End Mill Cutter Φ 18 mm 4 lipped	12 Nos.
93.	Module Cutter 1.0 involute Gear milling Cutter	03 Nos.
94.	Module Cutter 1.5	03 Nos.
95.	Module Cutter 1.75	03 Nos.
96.	Module Cutter 2.00	03 Nos.
97.	Convex / Cutter R6 \times 80mm	03 Nos.
98.	Convex / Cutter R8 \times 80mm	03 Nos.
99.	Convex Cutter R12 \times 80mm	03 Nos.
100.	Micro Meter 0-25mm	04 Nos.
101.	Micro Meter 25-50mm	04 Nos.
102.	Micro Meter 50-100mm	04 Nos.
103.	Micro Meter 05 To 55 mm	04 Nos.
104.	Dial Vernier Caliper	04 Nos.
105.	Dial Indicator With Magnetic Stand	04 Nos.
106.	Digital Vernier Caliper 160mm	04 Nos.
107.	Digital Micro Meter 0-25 mm	04 Nos.
108.	Digital Micro Meter 25-50 mm	04 Nos.
109.	D-Type Bevel Protector	04 Nos.
110.	Universal Bevel Protector	04 Nos.
111.	Star Wheel dresser	04 Nos.
112.	Balancing Mandrel (Small & Big)	05 Nos.
113.	Grinding Wheel flange	05 Nos.
114.	Depth gauge 150mm	05 Nos.



115.	Plug gauge-16 H7	05 Nos.
116.	Plug gauge-22 H7	05 Nos.
117.	Adjustable (Right/ left) Tool Holder	05 Nos.

COMPUTER LAB

S. No.	Tools / Equipment	Quantity
1.	Desktop computer (Specifications as per notification issued by MIS Section, TEVTA)	26 (1 for each student & 1 for the teacher)
2.	Printer (Laser)	01
3.	Scanner	01
4.	Internet Connection (At least 1 MB speed)	01
5.	UPS 10 KVA	01
6.	Air Conditioner 1 ½ Ton	02
7.	Multimedia Projector	01

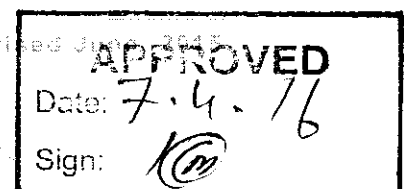


CONSUMABLE MATERIALS**Fitting (Bench work)**

Sr. #	Description	Ex. 1, 2 & 4	Ex. 3	Ex. 3	Ex. 5	Ex. 6	Length per trainee	Length for 25 trainees	Weight for 25 trainees
1	MS Ft 10x38mm	50 mm					50 mm	1250 mm	5 Kg.
2	MS Ft 6.4x38mm		100 mm				100mm	2.5m	5 Kg.
3	MS Ft 3.2x25mm			400 mm	60 mm	60 mm	520mm	10 m	7 Kg.

Tool Grinding

Sr. #	Description	Ex. 1	Ex. 2	Ex. 3,4	Ex. 5,6,7, 8,9	Ex. 10	Length per trainee	Length for 25 trainees	Weight for 25 trainees
1	MS Round Bar Dia 5mm	150 mm					150mm	4m	1 Kg.
2	MS Round Bar Dia 13mm		100 mm				100mm	2.5m	3 Kg.
3	MS Ft. 10x25mm			150 mm			300mm	7.5m	15 Kg.
4	MS Sq. 16x16mm				300mm		300mm	7.5m	15 Kg.
5	Twist Drill (Old) Dia. 12mm					1 for 5 trainees.			5 Nos.



Turning

Sr. #	Description	Ex. 3,4,10, 12,14	Ex. 5,6,7,8, 11,13,15	Ex. 9	Length per trainee	Length for 25 trainees	Weight for 25 trainees
1	MS Rd. Bar Dia. 25mm	450 mm					
2	MS Rd. Bar Dia. 50mm		150 Mm				
3	MS Rd. Bar Dia. 75mm		25 Mm				
4	MS Rd. Bar Dia. 13mm			100 mm			

Milling


Sr. #	Description	Ex. 1	Ex. 2	Ex. 3	Ex. 7	Ex. 8	Length per trainee	Length for 25 trainees	Weight for 25 trainees
1	MS Sq. 16x16mm	160 mm					160 mm	4m	8 Kg.
2	MS Ft. 16x50mm		75 mm				75 mm	2m	12 Kg.
3	MS Ft. 13x38mm			110 mm			110mm	3m	11 Kg.
4	MS Rd. Bar Dia. 22mm				160 mm		160 mm	4m	12 Kg.
	MS Rd. Bar Dia. 19mm					100 mm	100 mm	2.5m	6 Kg.

Shaping

Sr. #	Description	Ex. 1,2	Ex. 3	Length per trainee	Length for 25 trainees	Weight for 25 trainees
1	MS Sq. 38x38mm	75 mm		75 mm	2m	23 Kg.
2	MS Ft. 19x38mm		125 mm	125 mm	3.5m	20Kg.

Workshop Projects

Sr. #	Description	Ex. 1	Ex. 2	Ex. 3	Length per trainee	Length for 25 trainees	Weight for 25 trainees
1	MS Ft. 19x38mm	200 mm			200 Mm	5m	30 Kg.
2	MS Ft. 13x50mm		50 mm		50 mm	1.5m	8 Kg.
3	Steel Rule 2x25x300mm		1 NO.		1 No.	25 No.	25 No.
4	MS Ft. 19x50mm			125 mm	125 mm	3.5m	24 Kg.
	MS Rd. Bar Dia. 13mm			450 mm	450 mm	12m	15 Kg.

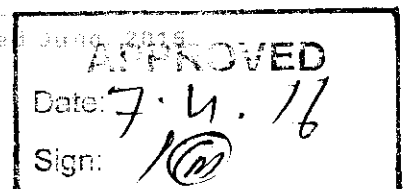
7.4.16


Functional English

S. No.	Item	Quantity
1.	Stationary	As per requirement
2.	Board Markers	As per requirement

I.T Fundamentals

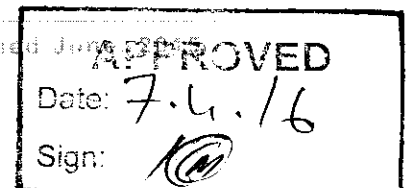
S. No.	Item	Quantity
1.	Printing Paper	As per requirement
2.	Printer Toner	As per requirement



EMPLOYABILITY OF PASS OUTS

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

1. Fertilizer Plants
2. Chemical Plants.
3. Pharmaceutical Industry
4. Cement Plants
5. Oil Refineries
6. Automobile Industry
7. Sugar Plants
8. Power Plants
9. Papers and Board Industry.
10. Packaging Industry
11. Private Repairing Workshop



MINIMUM QUALIFICATION OF TEACHERS

Machinist

- D.A.E (Mechanical) with 4 years relevant experience in govt. / semi govt. / Multinational and well reputed registered organization

OR

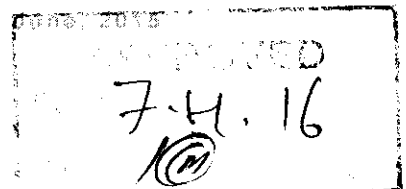
- Two years Proficiency certificate in Machinist with 6 years relevant experience in govt. / semi govt. / Multinational and well reputed registered organization

Functional English

- M.A (English)

I.T Fundamentals

- DAE CIT/ BCS from HEC recognized university

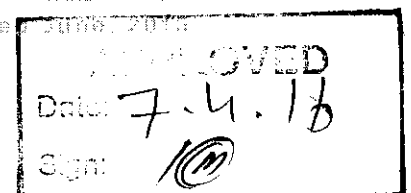


REFERENCE BOOKS**Practical Books**

Sr. No.	Title of the Book	T.T.P Series No.	Published By
1.	Trade Training – I	T.T.P Series – 24	Development Cell Lahore
2.	Trade Training – II Turner	T.T.P Series – 25	-
3.	Trade Training – II Machinist	T.T.P Series – 25	-
4.	Trainee Manual Machinist G – III	-	National Training Board Islamabad

Theory Books

Sr. No.	Title of the Book	T.T.P Series No.	Published By
1.	All about machine tools	T.T.P Series – 2	Translated by Aftab Ahmed TTC Mughalpura Lahore
2.	Technical Mathematics	T.T.P Series – 1	-
3.	Metals	T.T.P Series – 50a	-
4.	Basic Metal Work	T.T.P Series – 50	Translated by ➤ Aftab Ahmed ➤ A.G Minhas
5.	Technical Drawing – I	T.T.7	
6.	Technical Drawing – II	T.T.8	

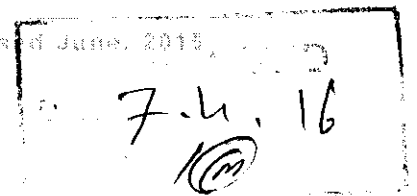


Functional English

1. High School English Grammar By Wren & Martin
2. Oxford English Grammar

I.T Fundamentals

1. Introduction to Computer by Peter Norton
2. 2007 Microsoft® Office System Step by Step by Joyce Cox, Steve Lambert and Curtis Frye
3. Internet and E-mail with Windows 7 by Studio Visual Steps



LIST OF TRADE RELATED JARGON

Measuring	پیمائش	Clamping	کلاز
Instruments	الات	Facing	کٹری صفائی کرنا
Gauges	معیاری پیمائش الات	Blank	خالی
Hand Tools	دستی اوزار	Gear Blank	سُراری کاٹنے سے پہلے کا جوہ
Filing	ریچ سے کام کرنا	Knurling	کھردرا
Drilling	سوراخ کرنا	Shape	شکل
Chipping	تپتی سے کٹائی کرنا	Internal	اندرونی
Layout	ٹاکر تیار کرنا	External	بیرونی
Tapping	اندرونی پوزٹی بنانا (موس)	Square	مربع
Threading	پھڑیاں بنانا	Specification	سائز
Sawing	ڈیسک سے کٹائی کرنا	Straightedge	سیدھا کنارہ
Reaming	سوراخ کی صفائی کرنا	Spur Gear	سیدھے دندانوں والی گھاری
Fitting	مختلف پٹوں کو جوڑنا	Helical gear	زاویائی دندانوں والی گھاری
Mounting	باندھنا	Shaper	رنداشین
Scribers	دھاتی ٹیگ پرنٹان لگانے والا آلہ	Projects	تخلی مشین
Center punch	سہا	Spanner	چابی
Grinding	رگڑائی	Oiling	تیل دینا
Parting off	دو حصوں میں تقسیم کرنا	Depth Gauge	گہرائی ماپنے والا آلہ
Twist Drill	ٹل ڈار برما	Trade	شعبہ
Balancing	متوازن	Screw Driver	پچھن
Re-adjustment	دوبارہ سیٹ کرنا	Allen Key	ایل شکل کی چابی
Dressing	ٹرننگ ڈسٹ ڈیزل کی درستگی کرنا	Drill Drift	برمانک لٹے والی چابی
Introduction	تعارف	Tool Box	اوزار رکھنے والا ڈبہ
Basic	بنیادی	Module Cutter	ٹی میڈ گھاری کاٹنے والا کٹر
Turning	خرا دانا	Trainee	تربیت حاصل کرنے والا
Function	مشق	Technical	فنی
Accessories	اوزامات	Drawing	لائو کی زبان
Maintenance	مرمت	Perform	عملی مظاہرہ

Curriculum Revision Committee

- | | |
|---|-----------------|
| 1. Muhammad Farooq,
Sr. Instructor,
GSPCT | Convener |
| 2. Muhammad Sarfraz,
Sr. Instructor
GCT Sargodha | Member |
| 3. Mr. Safdar Ali Shah,
Instructor,
GCT Sahiwal | Member |
| 4. Mr. Shafqat Ahmed,
Chief Trade Instructor,
GTTI 47-NB, Sargodha | Member |

