

Curriculum
For
Computer Aided Design (CAD)
Operator
Leather Sector
(Duration of Course Six Months)
Code: VF53S001

Introduction Template

Overall objective of course

To provide the basic skill in CAD operating software's and enables the students to meet the challenges in the Field of CAD and prepare skilled workforce on CAD operating for the garment sector. So that they can enter in Apparel Field with the level of competencies, well equipped with the job knowledge techniques and precision in performance.

Students learn to use the computer as a tool for production pattern making and other apparel industry applications. Include knowledge of hardware, software, and system programming of CAD, System help to produce production of patterns.

Emphasizing apparel industry applications, students learn to use the computer to grade patterns and prepare markers.

Specific objectives of the course

1. Basic information about computer
2. Provision of basic skills in CAD operating
3. Prepare students as per industrial requirement
4. Basic information about pattern making (manual)
5. Educate them with latest techniques
6. Maximum usage of CAD
7. Using CAD with professional kind
8. Importance of CAD operator in market
9. Knowledge about CAD accessories
10. Knowledge of different technology of CAD system available in the markets.
11. Compatibilities issues of CAD
12. Knowledge about computer handling.
13. Program installation
14. Hardware configurations
15. Troubleshooting the problems
16. Developing professionalism

Competencies gained after completion of course

After completion this course successful the trainee would be able to operate:

1. Operating CAD software
2. Installation of CAD software
3. Plugging and configuration of CAD parameters
4. Usage of modules
5. Performing digitizing of manual pattern
6. Performing alteration of digitized pattern
7. Perform grading as per requirement
8. Develop new pattern on CAD software
9. Developing design on pattern
10. Developing ready shape, i.e. cutting, and lining pattern as per requirement
11. Developing style and model
12. Performing marker
13. Controlling of material wastage
14. Costing and consumption
15. Developing export file on different formats
16. Importing CAD files in software data base
17. Developing backup of CAD database files
18. Handling plotting procedure
19. Maintaining of software and hardware
20. Adopt safety precautions during work

Job opportunities available immediately and in the future

After completion of this course the candidates can do the following areas/field:

1. Can work as CAD operator in industries
2. Start their own unit of CAD
3. Can teach in vocational institutes.
4. Opportunities to work abroad

Trainee entry level

Matric with Manual pattern making experience (Admission on Assessment Level)

Minimum qualification of trainer

Intermediate with 6 months certificate of CAD training with 3 year industrial experience in CAD operating.

Medium of Instruction

Urdu/English

Sequence of the modules

1. Digitization of Pattern
2. Modification / Industrialization of Base
3. Perform Grading on CAD
4. Design a Pattern on CAD System
5. Import / Export Pattern Files
6. Style/Model Creation
7. Perform Marker Making
8. Plotting the pattern
9. Calculation consumption costing
10. Maintain Record
11. Installation and maintenance of software/hardware
12. Communicate with Specific departments
13. Develop professionalism
14. Adopt safety precautions

Timeframe of Assessment

Duration of Course:	6 Months
Total Hours:	800 hrs.
Days Per Week:	06
Per Week Hours:	40hrs
Per Day Hours:	07 Hrs. (Friday 5 Hrs.)
Training Methodology:	Practical 80%
	Theory 20%

Overview about the program

Module Title and Aim	Learning Units	Theory ¹ Days/hours	Workplace Days/hours	Timeframe of modules
Module 1 Digitization of Pattern Aim Competency deals with the skill and knowledge of digitization of manual pattern and steps required to perform digitization	<ol style="list-style-type: none"> 1. Introduction of digitizer board. cursor 2. Placing pattern on digitizer 3. Performing Digitization method 	12	50	62
Module 2 Modification / Industrialization of Pattern Aim Competency deals with the skill and knowledge of preparation of pattern with notches, marks and size set	<ol style="list-style-type: none"> 1. Alignment of pattern/grain line 2. Add / remove point/marks/notch 3. Reshape straight lines/ curves lines 4. Extract internal contours 5. Make & Assign size set 	10	30	40
Module 3 Perform Grading on CAD Aim Competency deals with the skill and knowledge of grading procedure in CAD software and perform relevant issues of grading	<ol style="list-style-type: none"> 1. Interpret order sheet for grading 2. opening patterns to be graded 3. Assign rule 4. Even/uneven Grading Procedure 5. Applying grading 6. Confirmation of measurements 	25	90	115

<p>Module 4 Design a Pattern on CAD System</p> <p>Aim Competency deals with the skill and knowledge of making new pattern and apply design on base pattern and other parts of pattern on CAD software</p>	<ol style="list-style-type: none"> 1. Interpret order sheet for pattern development 2. Develop block according to specs 3. Develop different parts of the product as per specs 4. Apply design into the pattern 5. Develop ready pattern of final product 6. Develop cutting pattern/ lining pattern 7. Apply notches 	23	120	143
<p>Module 5 Import / Export Pattern Files</p> <p>Aim Competency deals with the skill and knowledge of Import and Export file of CAD database</p>	<ol style="list-style-type: none"> 1. Procedure to Import pattern files in different formats 2. Procedure to Export pattern files in different formats 	5	20	25
<p>Module6 Style/Model Creation</p> <p>Aim Competency deals with the skill and knowledge of style creation with different formats</p>	<ol style="list-style-type: none"> 1. Add pieces 2. Apply bundling 	5	30	35
<p>Module 7 Perform Marker Making</p> <p>Aim Competency deals with the skill and knowledge of marker making of pattern on various material</p>	<ol style="list-style-type: none"> 1. Interpret order sheet for marker 2. Making a cutting plan. 3. Insert fabric width in computer 4. Apply marker 5. Save file 6. Send file to plotter 7. Develop mini marker 	10	90	100
<p>Module 8 Plotting the pattern</p> <p>Aim Competency deals</p>	<ol style="list-style-type: none"> 1. Add attributes for Plotting 2. Plot Pieces / Grading Blocks / Markers 3. Send to print 	5	30	35

with the skill and knowledge of pattern plotting system				
Module 9 Calculation consumption costing Aim Competency deals with the skill and knowledge of calculation consumption of material for production	<ol style="list-style-type: none"> 1. Perform costing for sample/production development 2. Calculate amount of fabric to be consumed 	15	20	35
Module 10 Maintain Record Aim Competency deals with the skill and knowledge of maintaining record CAD database and keeping manual pattern	<ol style="list-style-type: none"> 1. Keep backup files of CAD 2. Keep record for additional file 3. Keep record of pattern (physical) 	10	25	35
Module 11 Installation and maintenance of software/hardware Aim Competency deals with the skill and knowledge of installation of CAD software	<ol style="list-style-type: none"> 1. Install CAD software 2. Maintains of hardware's 3. Trouble shoot problems 	10	55	65
Module 12 Communicate with Specific departments Aim Competency deals with the skill and knowledge of affective skill to communicate with	<ol style="list-style-type: none"> 1. Communicate with Pattern maker manual 2. Communicate with Cutting Department 3. Communicate with merchandiser 4. Communicate with Production Department 5. Communicate with R&D Department 6. Communicate with sampling department 	10	25	35

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<p>Module 13 Develop professionalism</p> <p>Aim Competency deals with the skill and knowledge of developing professional working attitude</p>	<ol style="list-style-type: none"> 1. Maintain good working environment 2. Be punctual 3. Consult with experts 4. Participate in Training 5. Cleanses 	10	35	45
<p>Module 14 Adopt safety precautions</p> <p>Aim Competency deals with the skill and knowledge about safety precautions while at working</p>	<ol style="list-style-type: none"> 1. Apply personal safety 2. Apply workplace safety 3. Apply Safety of accessories 	10	20	30

Curriculum Contents (Teaching and Learning Guide)

Module A: Digitization of Base Pattern

Objective of the Module: To be able to make Digitizing of the manual pattern.

Duration: Theory: 10 hours Practice: 30 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
A.1 Introduction of digitizer board.	<p>Understanding of: basic computer navigation</p> <p>About digitizer and other ports of the CAD</p> <p>Importance of module</p> <p>Able to: Operate digitizer board cursor and software</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Introduction about CAD software – Importance of CAD – Importance of digitizer – Select the required patterns for digitizing, review pattern piece, identify any key design features – How to recognize pattern pieces, and understand any information/notation display – Different pattern pieces used with in the product type – Joining procedure of digitizer with CAD. – Required accessories. – Safety of board <p>Ability to:</p> <ul style="list-style-type: none"> – Position individual pattern pieces on to digitizing board, input using the approved organizational method – Evaluate patterns to ensure that the shapes are correct, all notches are present and grain lines, nap and flip are applied – Create or utilize an existing sizing rule table – Input industry standard pattern notations including 	40	Digitizer, Computer, Pattern manual, Paper tape,	Class room/ Computer lab

		<ul style="list-style-type: none"> drill holes and notches – Communication of digitizer with CAD – Hardware configuration – Required components to run digitizer – Perform safety for digitizer – Apply fixing digitizer – Safely move digitizer 			
A.2 Placing pattern on digitizer	<p>Understanding: about pattern placing on the digitizer</p> <p>Usable area</p> <p>Ability to: Align pattern pieces as per sample</p> <p>Properly use the paper tape</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Available area for the digitization – Standing Position of worker and movement to use digitizer – Placing pattern on digitizer board with alignment – Straight lines of pattern <p>Ability to:</p> <ul style="list-style-type: none"> – Utilization maximum area of digitizer – Perform Placing pattern on digitizer with tape – Move pattern clock & anti clock wise – Make work environment comfortable for digitizing – Safely eject the pattern on digitizer 			
A.3 Performing Digitization method	<p>Understanding of Steps require to digitization</p> <p>Attributes to pattern</p> <p>Ability to Perform requirements of digitization step by step Saving procedure after completing digitizing</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Steps require starting digitization – Opening digitizer module on CAD – Labeling the digitized pattern piece correctly – Create or utilize an existing sizing rule table <p>Ability to:</p> <ul style="list-style-type: none"> – Carefully labelling and numbering to pattern – Apply Techniques to perform digitizing – Apply size set to pattern 			

		<ul style="list-style-type: none">- Apply soft and hard nodes- Apply design and pockets- Apply notches- Perform saving to digitized pattern procedure			
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Module B: Modification / Industrialization of Base Pattern

Objective of the Module: To enable the trainee to be able to modify and industrialize pattern for further steps.

Duration: Theory: 10 hours Practice: 30 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
B.1. Alignment of pattern/ grain line	<p>Understanding Alignment of pattern with grain lines</p> <p>Ability to Alignment of pattern/grain line</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Alignment pattern with Straight lines - Pattern grain lines - Relevant commands <p>Ability to:</p> <ul style="list-style-type: none"> - Gathering pattern as per sample - Perform grain line for fabric layout/cutting 	40	Computer With CAD software	Class room/ Computer lab
B.2 Add / remove point / marks / notch	<p>Understanding of Adding removing point / marks / notches</p> <p>Ability to Apply Adding removing point / marks / notches</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Pattern notches - Pattern marks <p>Ability to:</p> <ul style="list-style-type: none"> - Apply notches on the important points of the patterns - Remove applied notches - Add marks for pattern - Remove applied marks 			
B.3 Reshape straight lines/ curves lines	<p>Understanding of Reshape straight lines/ curves lines</p> <p>Ability to Apply reshape straight lines/ curves lines</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Lines and shapes - Relevant commands <p>Ability to:</p> <ul style="list-style-type: none"> - Smoothing pattern curve lines - Maintain curves line as per manual pattern - Maintain shapes of 			

		pattern after digitizing			
B.4. Extract internal contours	<p>Understanding of Extract internal contours</p> <p>Ability to Extract internal contours</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Pattern and design – Pattern design proportions – Relevant commands <p>Ability to:</p> <ul style="list-style-type: none"> – Perform Pattern placement after extracting design – Apply size set to each part of pattern – Apply pattern name panels wise 			
B.5. Make & Assign size set	<p>Understanding of Making and Assign size set</p> <p>Ability to Applying Making & Assigning size set</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Grading size range – Types of sizes – Pattern Base size <p>Ability to:</p> <ul style="list-style-type: none"> – Develop size set on CAD software – Execute size set into the pattern panel wise – Make size set with different kinds of labels. – Assign base size to pattern 			

Module C: Perform Grading on CAD

Objective of the Module: To enable the trainee to be able to make pattern Grading in CAD system.

Duration: Theory: 20 hours Practice: 65 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
C.1 Interpret order sheet for grading	<p>Understand to Grading sheet and sizing table</p> <p>Able to interpret sizing table for grading of the pattern</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Importance of order sheet requirements before start grading – Pattern wise difference in sizes – Understand grading related issues mentioned on order sheet – Pattern base size <p>Ability to:</p> <ul style="list-style-type: none"> – Understand grading sheet requirements – Perform technical points to be given in order sheet 	85	Computer With CAD software	Class room/ Computer lab
C.2 Opening patterns to be graded	<p>Understand of Require pattern Alignment of pattern</p> <p>Able to Open pattern with standard unit</p> <p>Maintain shapes before perform grading</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Required tools to open pattern files for grading – Pattern alignments <p>Ability to:</p> <ul style="list-style-type: none"> – Opening pattern file on stander units – Merging ready shape pattern for grading – Maintaining shapes before perform grading 			
C.3 Even/Uneven Grading procedure	<p>Understand Kinds of grading</p> <p>Able to</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Size ups and down – Variation in sizes 			

	Perform even and uneven grading procedure	<ul style="list-style-type: none"> – Even and uneven grading <p>Ability to:</p> <ul style="list-style-type: none"> – Perform grading with regular procedure – Perform grading with uneven sizes – Grade sleeve, collar and other parts of pattern 			
C.4 Apply Grading	<p>Understand to Require pattern for grading</p> <p>Types of grading</p> <p>Countries wise difference of size chart</p> <p>Able to Perform grading with different types</p> <p>Apply grading with required size rule</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Different techniques to grade pattern – Important Points to be graded – Grading concept – Countries wise difference in grading – Gather internal design before apply grading <p>Ability to:</p> <ul style="list-style-type: none"> – Apply grading difference to pattern according to size chart – Maintain shapes of master pattern before perform grading – Merging pattern as per sample – Design grading with proportions – Grade other panels of pattern – Grade pockets – Prepare grading chart 			
C.5 Check the size specs of graded pattern	<p>Understand Size chart Important points of pattern and checking measurements</p> <p>Able to Check measurements</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Size of master pattern – Size chart to apply on master pattern – Main points of checking measurements – Relevant commands 			

		Ability to: <ul style="list-style-type: none">- Check pattern Measurements according to the specs- Checking specs on the important points of pattern- Checking specs of pattern size by size- Checking specs of uneven grading			
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Module D: Design a Base Pattern on CAD System

Objective of the Module: To enable the trainee to be able to make new pattern as well as edit digitized pattern on CAD system.

Duration: Theory: 20 hours Practice: 65 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
D.1 Interpret order sheet for pattern development	<p>Understand Size chart and anatomy</p> <p>Able to Perform pattern according to customer size chart and sketch</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Utilizing vector based drawing programs or CAD/CAM system functions to create design sketches domain - Requirements of pattern given by customer - Design maintaining in shell pattern - Read specs instructions carefully <p>Ability to:</p> <ul style="list-style-type: none"> - Perform pattern according to order sheet 	85	Computer With CAD software Size chart	Class room/ Computer lab
D.2 Develop block according to specs	<p>Understand Develop pattern block according to specs</p> <p>Able to Perform techniques to develop pattern block according to specs</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Demonstrate a detailed knowledge and understanding of garment construction and pattern - Design and development techniques and processes - Specs Size chart - Body proportions - Require angles - Material required - Kind of material use in the sample development - Kinds of pattern to be made for one product - Pattern numbering and notches <p>Ability to:</p> <ul style="list-style-type: none"> - Developing front and back 			

		<p>pattern according to specs</p> <ul style="list-style-type: none"> – Ability to use proper commands – Require angle to be made for developing block – Ability to develop other parts of pattern without given specs – Pattern layout plan on material – Cutting procedure – Ability to cut material with different tools – Cutting pattern manually – Apply name and numbering – Apply notches on the important points of pattern 			
D.3 Develop different parts of the product as per style	<p>Understand Different parts of product as per style</p> <p>Able to Perform techniques commands to other parts of product as per style</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Other parts of pattern – Garments styling <p>Ability to:</p> <ul style="list-style-type: none"> – Develop pattern with different style and techniques – Handling required commands of CAD properly – Make front part – Make back part – Make sleeve – Make collar – Finishing of pattern – Completing pattern for final product 			
D.4 Apply design into the pattern	<p>Understand Available sketch requirements</p> <p>Fundamentals rule to create sketch according to customer</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – How to utilize the functionality of the design package to enhance the design concept – Design fundamentals – Different kinds of styles – Important points of design 			

	<p>requirement</p> <p>Able to Apply design in to base pattern with proportion</p> <p>Apply notches on the important points of pattern</p>	<ul style="list-style-type: none"> – Different types of pockets, collar etc. <p>Ability to:</p> <ul style="list-style-type: none"> – Applying design according to drawing sheet – Convert design with proper shapes – Apply notches after converting design in to pattern 			
D.5 Develop ready shape pattern of final product	<p>Understand Ready shape pattern according to requirement</p> <p>Able to Perform ready shape pattern according to product with using of proper commands</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Extracting design pieces – Cutting instruments – Need of ready shape pattern <p>Ability to:</p> <ul style="list-style-type: none"> – Perform ready shape pattern into shell pattern – Perform relevant commands – Selecting proper command – Prepare ready shape pattern for final product 			
D.6 Develop cutting pattern and lining pattern	<p>Understand variation of cutting margin on the different parts of panel</p> <p>Lining detail</p> <p>Able to Perform cutting allowance according to pattern panel</p> <p>Prepare lining according to style</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Importance of cutting pattern in industries – Variations of cutting margin on the different parts of pattern – Lining style – Kinds of lining – Material to be used <p>Ability to:</p> <ul style="list-style-type: none"> – Maintaining shapes after applying cutting margin – Handle cutting commands – Making different kind of lining use in the product 			

Module E: Import / Export Pattern Files

Objective of the Module: To enable the trainee to be able to create different types of CAD files for import and export process.

Duration: Theory: 5 hours Practice: 20 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
E.1 Procedure to Import pattern files in different formats	Understand Formats of CAD file Require module Able to import different formats in CAD database	Knowledge of: – Different kinds of CAD files formats – Internal database of CAD files – External CAD files – Importance of CAD file Ability to: – Perform import file in CAD data base with different formats – Perform import internal database of CAD files – Importing old backup file – Importing CAD file on stander measurements units – Opening imports file on CAD software	25	Computer With CAD software	Class room/ Computer lab
E.2 Procedure to Export pattern files in different formats	Understand Formats of CAD file Require module Able to Export different formats in CAD database	Knowledge of: – Relevant CAD formats – Required format for CAD – Stander measurement units for exporting – Required program Ability to: – Export internal data base files – Export CAD file on different format – Export CAD file with pattern attributes			

Module F: Style/Model Creation

Objective of the Module: To enable the trainee to be able to develop style for CAD files.

Duration: Theory: 5 xy hours Practice: 30 xy hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
F.1 Add pieces	<p>Understand Require type of style</p> <p>Require module for add pieces</p> <p>Able to Create style with added pieces</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Required style type - Relevant module - Required pattern pieces for style <p>Ability to:</p> <ul style="list-style-type: none"> - Make style with pieces wise - Add pieces with making window - Give style name - Give set name 	35	Computer With CAD software	Class room/ Computer lab
F.2 Apply bundling	<p>Understand Require type of style</p> <p>Require module for bundling</p> <p>Able to Create style with bundling</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Types of bundles - Requirement of bundles <p>Ability to:</p> <ul style="list-style-type: none"> - Prepare bundling for marker - Selection of pieces - Size range 			

Module G: Perform Marker Making

Objective of the Module: To enable the trainee to be able to perform marker making properly.

Duration: Theory: 10 hours Practice: 70 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
G.1 Define marker as per order sheet	<p>Understand Requirement of order sheet</p> <p>Able to Perform maker according to order sheet</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Production order sheet - Cutting consumption of different material - Size ratio - Types of bundling - Instruction given in order sheet <p>Ability to:</p> <ul style="list-style-type: none"> - Performing marker as per order sheet - Apply nap and flip 	80	Computer With CAD software	Class room/ Computer lab
G.2 Making a cutting plan	<p>Understand Require order to make cutting plan</p> <p>Able to Apply marker according to order sheet</p> <p>Apply nap/flip</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Manual cutting process - Adjustment of pattern on material - Types of material - Grain line of pattern - Nap/ flip variations - Spreading of fabric - Material width - Knowledge about material GSM - Line of stretch ability of material <p>Ability to:</p> <ul style="list-style-type: none"> - Perform marker as per requirement - Perform Costing and consumption - Prepare marker with flexibility for cutter - Controlling wastage - Sizes adjustment 			

G.3 Save file	<p>Understand Importance and procedure of saving file</p> <p>Able to Saving file in different formats</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Importance of keeping back up marker files – Usage of backup file – Saving paths – Relevant commands <p>Ability to:</p> <ul style="list-style-type: none"> – Save marker files – Save marker file in additional storage 			
G.4 Send file to plotter	<p>Understand Kinds of files for plotting</p> <p>Able to Sending different files for printing</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Next step after completing marker – Various plotter files <p>Ability to:</p> <ul style="list-style-type: none"> – Adding files in plotter program – To use different plotters files – Sending multiple files in plotter query 			
G.5 Develop mini marker	<p>Understand Need and usage of mini marker</p> <p>Able to Print mini marker in A4 size</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Importance of mini marker – Usage of mini marker – Developing techniques <p>Ability to:</p> <ul style="list-style-type: none"> – Use mini marker in production – Perform mini maker procedure – Print mini marker in A4 printer – Save previous mini marker 			

Module H: Plotting the pattern

Objective of the Module: To enable the trainee to be able to perform plotting of the patterns properly.

Duration: Theory: 5 hours Practice: 20 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
H.1 Add attributes to pattern for Plotting	<p>Understand Pattern numbering and other information</p> <p>Able to Apply attribute to pattern for printing</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Importance elements of pattern for printing - Comments of pattern - Definition of pattern - Importance of the unit <p>Ability to:</p> <ul style="list-style-type: none"> - Apply attributes for printing - Showing seam lines in printing - Give instruction to plotter for print other info of pattern 	25	Computer With CAD software	Class room/ Computer lab
H.2 Plot Pieces / Grading Blocks / Markers	<p>Understand Require plot types</p> <p>Able to Perform plotting with different types of printing options</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Need of different printing options - Grouping detail - Various plotting procedure - Types of existing plotter files - Plotter electricity <p>Ability to:</p> <ul style="list-style-type: none"> - Perform plotting with piece by piece - Plot pattern with marker - Plot different pattern in same time - Adding different pattern in plotter query in one time - Perform safety 			

		precautions			
H.3 Send to print	<p>Understand Require module to send pattern file for plotter printing</p> <p>Able to Use plotter options</p> <p>Selection of patterns for plotting</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Path of sending file for printing <p>Ability to:</p> <ul style="list-style-type: none"> – Perform plotting with internal cad files – Perform plotting with other relevant cad files – Handling control panel of plotter – Ability to solve plotter problems – Maintain safety of plotter 			

Module I: Calculation consumption costing

Objective of the Module: To enable the trainee to be able to calculate consumption costing accurately.

Duration: Theory: 15 hours Practice: 40 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
I.1 Perform costing for sample/ production development	<p>Understand Costing and consumption for sample and production</p> <p>Able to compute costing for production</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Material use on the sample - Available options for costing on CAD <p>Ability to:</p> <ul style="list-style-type: none"> - Maintain cost with relevant commands - Perform costing for sample - Perform costing for production 	55	Computer With CAD software	Class room/ Computer lab
I.2 Calculate amount of material to be consumed	<p>Understand Developed Sample Order sheet</p> <p>Able to Calculate material consumption and minimizing wastage</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Material spreading - Material consumed in one piece <p>Ability to:</p> <ul style="list-style-type: none"> - Calculate material consumption for one piece - Calculate wastage of material - Calculate amount of material to purchase for completing order 			

Module J: Maintain Record

Objective of the Module: To enable the trainee to be able to maintain record of the CAD files properly.

Duration: Theory: 10 hours Practice: 35 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
J.1 Keep backup files of CAD	<p>Understand Need and procedure of keeping backup files</p> <p>Able to Perform backup time to time</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Software database - Importance of keeping backup - Store backup file in CD or external memory - Files memory <p>Ability to:</p> <ul style="list-style-type: none"> - Taking backup of CAD files time to time - Keep backup files on safe storage 	35	Computer With CAD software	Class room/ Computer lab
J.2 Keep record for additional file	<p>Understand Need and procedure of keeping additional files</p> <p>Able to Keep record of additional file after completing the order</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Additional file usable in production - Importance of saving files <p>Ability to:</p> <ul style="list-style-type: none"> - Evaluate all pre-production and manufacturing data to develop the final product specification - Keeping record of size chart - Keeping record of job cords - Keeping record of customer emails about alterations - Maintain record of designs/sketches 			
J.3 Keep record of patterns	<p>Understand Need and procedure of keeping pattern</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Pattern saving and hanging 			

	<p>physically</p> <p>Able to Make identification on pattern before keeping record</p>	<ul style="list-style-type: none"> - Record of pattern on register - Save pattern on dry place - Saving paths - Keep pattern with names <p>Ability to:</p> <ul style="list-style-type: none"> - Save require pattern - Keeping pattern physically - Make identification on pattern before keeping record - Select right place to save patterns 			
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Module K: Installation and maintenance of software/hardware

Objective of the Module: To enable the trainee to be able to install and maintain software and hardware of the CAD system.

Duration: Theory: 10 hours Practice: 45 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
K.1 Install CAD software	<p>Understand Computer hard and software</p> <p>Computer programming</p> <p>Able to Install CAD software on computer</p> <p>Install relevant modules</p> <p>Apply parameter after completing installation</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Steps require to install CAD software – Requirement of software – Computer programing – Suitable operating systems <p>Ability to:</p> <ul style="list-style-type: none"> – Perform installation of Cad software step by step – Installation of required module – Make compatible with computer hardware – Gives parameters after installing new CAD software 	55	Computer With CAD software	Class room/ Computer lab
K.2 Maintains of hardware	<p>Understand Suitable temperature for CAD accessories</p> <p>Able to Maintain good environment for hardware</p> <p>Adopt safety for hardware</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Safety precautions – Suitable temperature for hardware – Hardware electricity precautions <p>Ability to:</p> <ul style="list-style-type: none"> – cover hardware while not working – adopt safety precautions – maintaining suitable temperature on room for accessories – cleaning hardware time to time 			

		<ul style="list-style-type: none"> – cleaning internal accessories 			
K.3 Trouble shoot problems	<p>Understand Common problems of CAD software</p> <p>Able to Diagnose and solving problems</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Diagnose problems – Common threats <p>Ability to:</p> <ul style="list-style-type: none"> – Perform problem solution after diagnose the problem 			

Module L: Communicate with relevant persons

Objective of the Module: To enable the trainee to be able to communicate with relevant persons effectively.

Duration: Theory: 10 hours Practice: 35 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
L.1 Communicate with Pattern maker manual	<p>Understand Effective communication skill to communicate with manual pattern maker</p> <p>Able to Adopting new techniques after exchanging views with manual pattern maker</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Importance of communication skills - Advantage of mind understanding with manual pattern maker - Exchange knowledge with pattern maker - Take information about performed pattern <p>Ability to:</p> <ul style="list-style-type: none"> - Good skill to communicate with other departments - Exchanging pattern developing views with manual dept. - Adopting new techniques after exchanging views - Gather all pattern pieces form manual dept. - Demonstrate effective communication skills and interaction with colleagues 	45	Computer With CAD software	Class room/ Computer lab
L.2 Communicate with Cutting Department	<p>Understand Effective communication skill to communicate with cutting department</p> <p>Able to Adopting new</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Importance of communication with cutting dept. - Manual cutting procedure <p>Ability to:</p>			

	cutting techniques after exchanging views with cutter	<ul style="list-style-type: none"> – Communicate with cutting department on unique fabric/uneven material – Exchanging views about cutting layout manually – Perform bench mark with cutter – share views about controlling wastage 			
L.3 Communicate with merchandiser	<p>Understand Effective communication skill to communicate with merchandiser</p> <p>Able to Communicate with merchandiser for preparation of sample</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Product developing instruction behalf of the Clint – Importance of merchandiser in factory <p>Ability to:</p> <ul style="list-style-type: none"> – Prepare technical answer with merchandiser – Prepare sample according to merchandiser instruction – Given approximate time for pattern development to merchandiser 			
L.4 Communicate with Production Department	<p>Understand Effective communication skill to communicate with production manager</p> <p>Able to Adopting new techniques after exchanging views with production manager</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Importance of production in time – Increase productivity <p>Ability to:</p> <ul style="list-style-type: none"> – Discuss sample before starting production – Solving pattern problems before starting production – Making pattern design easier for stitching – Planning and controlling production along with production manager 			

		<ul style="list-style-type: none"> - Enhancing productivity - Plan different kinds of processing systems 			
L.5 Communicate with R&D Department	<p>Understand Effective communication skill to communicate with R&D dept.</p> <p>Able to Upgrade skill through usage of R&D dept.</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Importance of R&D section - Upgrading skills in CAD software <p>Ability to:</p> <ul style="list-style-type: none"> - Upgrade Cad software using R&D section - Getting new technique 			

Module M: Develop professionalism

Objective of the Module: To enable the trainee to be able to develop professionalism and learn emerging trends in the field.

Duration: Theory: 10 hours Practice: 35 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
M.1 Maintain good working environment	<p>Understand suitable environment for work</p> <p>Able to Maintain suitable working environment</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Suitable working conditions - Keeping good environment of CAD accessories - Importance of temperature for CAD hardware - Required space <p>Ability to:</p> <ul style="list-style-type: none"> - Keeping suitable temperature of room - Maintaining Proper arrangement of light - Proper Placement of CAD accessories 	45	Computer With CAD software	Class room/ Computer lab
M.2 Punctuality	<p>Understand Importance of punctuality</p> <p>Able to Maintain punctuality in daily routine</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Importance of Punctuality - Advantage of Punctuality <p>Ability to:</p> <ul style="list-style-type: none"> - Plane and manage distance of workplace 			

M.3 Consult with experts	<p>Understand Importance of consultation with exports</p> <p>Able to Adopt expert advice</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Workplace and profession related vocabulary – Interpret and follow work process implementation – Receive information export and management <p>Ability to:</p> <ul style="list-style-type: none"> – Take guidance from experts / seniors – Usage of related technical vocabulary – Effective communication with exports 			
M.4 Participate in Training	<p>Understand Importance of upgrade skill through training</p> <p>Able to Take advance training</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> – Further training – Getting knowledge for further improvement through trainings – Importance of the skill test for future growth/career – Advantages of getting technical and professional trainings <p>Ability to:</p> <ul style="list-style-type: none"> – Participate in training actively and motivated – Find training paths – Keep in touch with trainers 			

Module N: Adopt safety precautions

Objective of the Module: To enable the trainee to be able to follow safety precautions during his/her work.

Duration: Theory: 10 hours Practice: 40 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
N.1 Apply personal safety	<p>Understand Importance of personal safety</p> <p>Able to Identify and adopt practical ways of protecting their personal safety while at work</p> <p>Identify situations where their personal safety may be at risk</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Basic legal requirements for health and safety at work - Situational Awareness - Plan and organize their work to minimize risks to their personal safety - Personal Protective Equipment - Identify and adopt practical ways of protecting their personal safety while at work - Improve physical environment or comfort. <p>Ability to:</p> <ul style="list-style-type: none"> - Avoid eye strain when using the computer - Assessing personal safety risks - how likely is something to happen - Identify situations where their personal safety may be at risk - Most effective methods of reducing personal safety risks 	50	Computer With CAD software	Class room/ Computer lab
N.2 Apply workplace safety	<p>Understand Importance of workplace safety</p> <p>Housekeeping</p> <p>Able to Apply the principles of occupational health and safety practices in a company</p>	<p>Knowledge of:</p> <ul style="list-style-type: none"> - Workplace Expectations - Employer Responsibilities - Incident Reporting - Housekeeping - Manual Handling - Emergency Procedures <p>Ability to:</p> <ul style="list-style-type: none"> - Apply the principles of occupational health and safety practices in a company - Recognize emergency situations 			

	<p>Clean and organize the work environment to avoid any hazardous incident</p>	<p>and understand correct response procedures (e.g., alert appropriate authority, apply basic first aid)</p> <ul style="list-style-type: none"> – Clean and organize the work environment to avoid any hazardous incident – Clean materials, tools and equipment after use 			
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Assessment Template

Module A: Digitization of Pattern

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
A.1 Introduction of digitizer board, cursor	10	30	Describe the importance of digitizer Illustrate the require accessories	Oral	At the end of module
A.2 Placing pattern on digitizer			Demonstrate the skill of placing pattern on board Explain and Identify a situation and object in which certain problem occurs while performing pattern placing List of tools and equipment and safety precautions of digitizer	Oral Practical Direct Observation Short Answer Questions	At the end of module
A.3 Performing Digitization method			Demonstrate the skill of step require to perform digitization Explain and Identify a situation and object in which certain problem occurs while performing digitizing Describe the procedure of digitization List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module

Module B: Modification / Industrialization of Pattern

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
B.1 Add / remove point/marks/ notch	10	30	Demonstrate the skill of adding and removing points and notches into the pattern List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module
B.2 Reshape straight lines/ curves lines			Demonstrate the skill of Reshaping line and smoothing covers of pattern Explain and Identify a situation and object in which certain problem occurs while reshaping lines and covers and List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module
B.3 Extract internal contours			Demonstrate the skill of extracting design panels in to the pattern Explain and Identify tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module
B.4 Make & Assign size set			Demonstrate the skill of making size set in software Illustrate the procedure to make size set through a diagram	Oral Practical Direct Observation Short Answer Questions Make a Diagram or illustration	At the end of module

Module C: Perform Grading on CAD

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
C.1 Interpret order sheet for grading	20	65	Describe the importance of order sheet before perform grading Explain and identify the material require for grading	Oral Practical Direct Observation Short Answer Questions	At the end of module
C.2 Opening patterns to be graded			Demonstrate the skill of opening pattern in CAD for grading Explain and Identify a situation and object in which certain problem occurs while attributes for opening pattern for grading and List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module
C.3 Even/uneven Grading Procedure			Demonstrate the skill of making even and un even grading procedure Explain and Identify a situation and object in which certain problem occurs while preforming even/uneven grading List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module
C.4 Applying grading			Demonstrate the skill of applying grading in CAD software Explain and Identify a situation and object in which certain problem occurs while perform grading List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module
C.5 Confirmation			Demonstrate the skill of Checking measurements after	Oral Practical	At the end

of measurements			<p>completing the grading</p> <p>Explain and Identify a situation and object in which certain problem occurs while checking specs according to size chart</p> <p>List of tools and equipment</p>	<p>Direct Observation</p> <p>Short Answer Questions</p>	of module
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Module D: Design a Pattern on CAD System

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
D.1 Interpret order sheet for pattern development	20	65	Illustrate the importance of interpreting size sheet before developing pattern	Oral Practical Direct Observation Short Answer Questions	At the end of module
D.2 Develop block according to specs			Demonstrate the skill of preparing pattern block according to specs Explain and Identify a situation and object in which certain problem occurs while developing pattern List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module
D.3 Develop different parts of the product as per specs			Demonstrate the skill of developing other parts of pattern Explain and Identify a situation and object in which certain problem occurs while making pattern parts List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
D.4 Apply design into the pattern			Demonstrate the skill of applying design in to the pattern Explain and Identify a situation and object in which certain problem occurs while converting design on pattern List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
D.5 Develop ready pattern of final product			Demonstrate the skill of developing ready shape pattern Explain and Identify a situation	Oral Practical Direct Observation	At the end of module

			and object in which certain problem occurs while developing ready shape pattern List of tools and equipment	Short Answer Questions	
D.6 Develop cutting pattern/ lining pattern			Demonstrate the skill of developing cutting pattern Explain and Identify a situation and object in which certain problem occurs while developing cutting pattern List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module

Module E: Import / Export Pattern Files

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
E.1 Procedure to Import pattern files in different formats	5	20	Demonstrate the skill of importing pattern files on CAD data base Explain and Identifying the different types of file formats List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
E.2 Procedure to Export pattern files in different formats			Demonstrate the skill of exporting pattern files on different formats Describe the different types of exporting file formats Explain and Identify a situation and object in which certain problem occurs while exporting files in different formats List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module

Module F: Style/Model Creation

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
F.1 Add pieces	5	30	Demonstrate the skill of adding pieces to creating style Explain and Identify a situation and object in which certain problem occurs while adding pieces on style List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
F.2 Apply bundling			Demonstrate the skill of applying bundling Explain and Identify a situation and object in which certain problem occurs while applying bundling List of tools and equipment or safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module

Module G: Perform Marker Making

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
G.1 Define marker as per order sheet	10	70	Explain marker procedure according to order sheet. List of tools and equipment	Oral Practical Direct Observation Short Answer Questions	At the end of module
G.2 Making a cutting plan			Demonstrate the skill of preparing cutting plan for cutter Explain and Identify a situation and object in which certain problem occurs while making cutting plan List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
G.3 Save file			Demonstrate the skill of saving marker files Describe the importance of saving files Explain and Identify a situation and object in which certain problem occurs while saving files List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
G.4 Send file to plotter			Demonstrate the skill of sending file to plotter for print Explain and Identify a situation and object in which certain problem occurs while sending file to Plotter List of tools and equipment or safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
G.5 Develop mini marker			Demonstrate the skill of preparing mini marker	Oral Practical	At the end of module

			<p>Describe the importance of muni marker</p> <p>Explain and Identify a situation and object in which certain problem occurs while developing mini marker</p> <p>List of tools and equipment's</p>	<p>Direct Observation</p> <p>Short Answer Questions</p>	
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Module H: Plotting the pattern

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
H.1 Add attributes for Plotting	5	20	Demonstrate the skill of adding attributes for Plotting Explain and Identify a situation and object in which certain problem occurs while giving attributes for Plotting List of tools and equipment or safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
H.2 Plot Pieces / Grading Blocks / Markers			Demonstrate the skill of plot single piece, plot grading block and plot markers Explain and Identify a situation and object in which certain problem occurs while plotting patterns List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
H.3 Send to print			Demonstrate the skill of sending pattern file for printing Explain and Identify a situation and object in which certain problem occurs while sending file to plotter List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module

Module I: Calculation consumption costing

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
I.1 Perform costing for sample/ production development	15	40	Demonstrate the skill of calculate costing for development Explain and Identify a situation and object in which certain problem occurs while calculating the cost for single piece and production List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module
I.2 Calculate amount of fabric to be consumed			Demonstrate the skill of calculating fabric consumption for production Explain and Identify a situation and object in which certain problem occurs while calculating consumption of fabric for production List of tools and equipment and safety precautions	Oral Practical Direct Observation Short Answer Questions	At the end of module

Module J: Maintain Record

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
J.1 Keep backup files of CAD	10	25	Describe the importance of keeping back up of CAD files	Oral Practical Direct Observation Short Answer Questions	At the end of module
			Demonstrate the skill of taking back up of CAD		
			Explain and Identify a situation and object in which certain problem occurs while keeping back up of CAD files		
J.2 Keep record for additional file			List of tools and equipment and safety precautions		
J.2 Keep record for additional file			Demonstrate the skill of keeping record of other CAD files	Oral Practical Direct Observation Short Answer Questions	At the end of module
		To describe the importance of keeping record of additional CAD file			
		List of tools and equipment and safety precautions			
J.3 Keep record of patterns			Describe the importance of keeping record of manual pattern	Oral Practical Direct Observation Short Answer Questions	At the end of module
		Explain and Identify a situation and object in which certain problem occurs while keeping record of manual patterns			
		List of tools and equipment or safety precautions			

Module K: Installation and maintenance of software/hardware

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
K.1 Install CAD software	10	45	Demonstrate the skill of installing CAD software	Oral Practical Direct Observation Short Answer Questions	At the end of module
			Describe the requirement of computer for installation		
			Explain and Identify a situation and object in which certain problem occurs while installing CAD software on computer		
K.2 Maintains of hardware			Explain safety precautions		
K.2 Maintains of hardware			Describe the importance of maintaining CAD hardware	Oral Practical Direct Observation Short Answer Questions	At the end of module
			Describe the suitable temperature for hardware		
			Explain safety precautions		
K.3 Trouble shoot problems			Describe certain problem occurs while working	Oral Practical Direct Observation Short Answer Questions	At the end of module
			Explain the common problems while working		

Module L: Communicate with others

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
L.1 Communicate with Pattern maker manual	10	35	Illustrate the importance of communication with manual pattern master Describe the need of communication with Pattern maker manual	Oral Practical Direct Observation Short Answer Questions	At the end of module
L.2 Communicate with Cutting Department			Illustrate the importance of communication with cutting department Describe the needs of communication with cutting department	Oral Practical Direct Observation Short Answer Questions	At the end of module
L.3 Communicate with merchandiser			Illustrate the importance of communication with merchandiser Describe the needs of communication with merchandiser	Oral Practical Direct Observation Short Answer Questions	At the end of module
L.4 Communicate with Production Department			Illustrate the importance of communication with production manager Describe the needs of communication with production department	Oral Practical Direct Observation Short Answer Questions	At the end of module
L.5 Communicate with R&D Department			Illustrate the importance of communication with R&D Department Describe the needs of communication with R&D Department	Oral Practical Direct Observation Short Answer Questions	At the end of module

Module M: Develop professionalism

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M.1 Maintain good working environment	10	35	Illustrate the importance of maintaining good environment for work Describe the needs of good environment	Oral Practical Direct Observation Short Answer Questions	At the end of module
M.2 Be punctual			Illustrate the importance of punctuality in daily routine	Oral Practical Direct Observation Short Answer Questions	At the end of module
M.3 Consult with experts			Illustrate the importance of Consulting problems with experts	Oral Practical Direct Observation Short Answer Questions	At the end of module
M.4 Participate in Training			Illustrate the importance of Get training Describe the needs of Participate in Training	Oral Short Answer Questions	At the end of module

Module N: Adopt safety precautions

Learning Units	Theory Days/hrs	Workplace Days/hrs	Recommended formative assessment	Recommended Methodology	Scheduled Dates
N.1 Apply personal safety	10	40	<p>Illustrate the skill of applying personal safety</p> <p>Describe the importance of personal safety while working</p> <p>List of tools and equipment and personal safety precautions</p>	<p>Oral</p> <p>Practical</p> <p>Direct Observation</p> <p>Short Answer Questions</p>	At the end of module
N.2 Apply workplace safety			<p>Illustrate the skill of applying workplace safety</p> <p>Describe the importance of workplace safety while working</p> <p>Identify tools and equipment and for workplace safety precautions</p>	<p>Oral</p> <p>Practical</p> <p>Direct Observation</p> <p>Short Answer Questions</p>	At the end of module
N.3 Apply Safety of accessories			<p>Illustrate the skill of applying safety for accessories</p> <p>Explain the importance of Apply Safety of accessories</p> <p>List of tools and equipment for safety of CAD accessories</p>	<p>Oral</p> <p>Practical</p> <p>Direct Observation</p> <p>Short Answer Questions</p>	At the end of module

Supportive notes

- Assessment context
- Critical aspects
- Assessment condition
- Resources required for assessment

List of Tools, Machinery & Equipment

Sr. No.	Name of Item/ Equipment / Tools
1.	Computers with accessories
2.	CAD/CAD complete with 25 dongles keys
3.	Shaper set
4.	Set scale
5.	Scale 1foot
6.	Scale 2 foot
7.	Measurement tape
8.	Printer A4 size
9.	Scissor

List of Consumable Supplies

Sr. No.	Name of Consumable Supplies
1.	Paper tape 1"
2.	Note book
3.	Paper rim A4
4.	Box board sheet