

GOVERNMENT POLYTECHNIC MUMBAI

(Academically Autonomously Institute, Government of Maharashtra)

Teaching and Examination Scheme (P19)

With effect from AY 2019-20

Programme: Diploma in Leather Goods and Footwear Technology (Sandwich Pattern)Term / Semester – V

Course Code	Course Title	Teaching Hours/Contact Hours				Credits	Examination Scheme (Marks)						
		L	P	TU	Total		Theory			PR	OR	TW	Total
							TH	TS1	TS2				
LG 19313	Footwear Construction	3	6	-	9	9	60	20	20	50*	0	50	200
LG 19407	Quality Controlling In Leather Sector	4	0	-	4	4	60	20	20	-	-	-	100
LG 19501	Management In Leather Sector	4	0	-	4	4	60	20	20	-	-	-	100
LG 19502	Enterpenurship Development	2		2	4	4	-	-	-	-	-	50	50
LG 19408	Project And Seminar	0	8	-	8	8	-	-	-	50*	50	50	150
LG 19409	Advance Footwear Desinging	2	4	-	6	6	60	20	20	50*	-	50	200
	TOTAL	15	18	02	35	35	240	80	80	150	50	200	800
Student Centered Activity(SCA)					00								
Total Contact Hours					35								

Abbreviations: L- Theory Lecture, P-Practical, TU-Tutorial, TH- Theory Paper TS1 & TS2- Term Tests, PR-Practical, OR-Oral, TW: Term Work (progressive assessment)

* Indicates assessment by External Examiner else internal assessment, # indicates Self, on- line learning Mode, @ indicates on line examination

Note: Duration of Examination--TS1&TS2 -1 hour , TH- 2 hours, PR/OR – 3 hours per batch , SCA- Library - 1 hour, Sports- 2 hours, Creative Activity-2 hours

Coordinator,
Curriculum Development,
Department of Leather Technology

In-Charge
Curriculum Development Cell

Head of Departments
Department of Leather Technology

Principal

Programme : Diploma in Leather Goods And Footwear Technology										
Course Code: LG 19313				Course Title: FOOTWEAR CONSTRUCTION						
Compulsory / Optional:										
Teaching Scheme and Credits				Examination Scheme						
TH	PR	TU	Total	TH (2 Hrs 30 Min)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
03	06	-	09	60	20	20	50*	-	50	200

Abbreviations: L- Theory Lecture, P-Practical, TU-Tutorial, TH- Theory Paper TS1 & TS2- Term Tests, PR-Practical, OR-Oral, TW: Term Work (progressive assessment) , * Indicates assessment by External Examiner else internal practical skill test , # indicates Self, on- line learning Mode, @ indicates on line examination

Note: For Minimum passing marks under various heads, refer, examination rule AR26. Two practical skill test are to be conducted. First skill test at midterm and second skill test at the end of the term.

Rationale:

This course is classified under the applied technology. Course Describe the facts, Concepts, principles & techniques of open and closed Footwear .The student get an idea and identification of construction of various types of shoe This course is widely growing technology due to this subject. Students can know the footwear construction and finishing technique with experiments. They will get the experience of construction with use of different advance machine and hand tools which are always utilize in Footwear Industries.

Course Outcomes: Student should be able to

CO1	Introduce the various Construction
CO2	Understand the lasting technique flow chart sequence according to footwear Construction methodology
CO3	Know about technical assembling process of various Construction methodology for footwear production
CO4	Understand the advantages and disadvantages of footwear Construction
CO5	Handle Post assembling for footwear construction
CO6	Calculate Bill of material and costing of the footwear

Unit No	Topics / Sub-topics
1	1. Introduction of various construction- 1.1. Stuck on Construction 1.2. Cemented construction 1.3. Stich down construction 1.4. Handmade Welted Construction 1.5. Machine Welted Construction 1.6. Direct Injection Molding Process Construction 1.7. Direct Vulcanizing Process Construction

	Course Outcome: CO1 Teaching Hours :04 Marks:08 (R-04 , U-04, A- 00)
2	1. Flow chart of Lasting Technique- 1.1. Stuck on Construction 1.2. Cemented construction 1.3. Stich down construction 1.4. Handmade Welted Construction 1.5. Machine Welted Construction 1.6. Direct Injection Molding Process Construction 1.7. Direct Vulcanizing Process Construction Course Outcome: CO2 Teaching Hours :12 Marks:14 (R-02 , U-06, A- 06)
3	3. Assembling process- 3.1. Stuck on Construction 3.2. Cemented construction 3.3. Stich down construction 3.4. Handmade Welted Construction 3.5. Machine Welted Construction 3.6. Direct Injection Molding Process Construction 3.7. Direct Vulcanizing Process Construction Course Outcome: CO3 Teaching Hours :14 Marks:16 (R-02 , U-06 .A- 08)
4	4. Advantages and Dis-advantages of construction 4.1. Stuck on Construction 4.2. Cemented construction 4.3. Stich down construction 4.4. Handmade Welted Construction 4.5. Machine Welted Construction 4.6. Direct Injection Molding Process Construction 4.7. Direct Vulcanizing Process Construction Course Outcome: CO4 Teaching Hours :04 Marks:08 (R-04 , U-04 , A- 00)
5	5. Post assembling process and inspection 5.1. Finishing of Shoe 5.2. Technical check list points for inspection of finished closed footwear 5.3. Heel Finishing – Shape , Angle, Substance 5.4. Treeing department of Shoe room 5.5. Dressing- Spray Dressing, Antique Dressing , Suede Dressing 5.6. Checklist point and inspection of whole footwear 5.7. Packaging Course Outcome: CO5 Teaching Hours :06 Marks:08 (R-02 , U-04, A- 02)
6	6. Bill of material and costing 6.1. Bill of material -list of various material ,job work, labor work, technical expense, machine charges, overhead expense 6.2. Costing - Pre-assembling material Cost, Assembling material Cost, Post assembling material Cost, Finishing material Cost, Packaging material Cost, Provisional Cost, Variable cost Fixed Cost, Marginal cost 6.3. wastage Course Outcome: CO6 Teaching Hours :05 Marks:06 (R-02 , U-02, A- 02)

Suggested Specifications Table (Theory):

Unit No	Topic Title	Distribution of Theory Marks			
		R Level	U Level	A Level	Total Marks
1	Introduction of various Construction	04	04	00	08
2	Flow chart sequence according to footwear Construction methodology	02	06	06	14
3	Assembling process of various methodology of footwear Construction	02	06	08	16
4	Understand the advantages and disadvantages of footwear Construction	04	04	00	08
5	Post assembling for footwear construction	02	04	02	08
6	Calculate Bill of material and costing of the footwear	02	02	02	06
Total		16	26	18	60

List of experiments: Total 03

Sr. No.	Unit No	COs	Title of the Experiments	Hours
	1		Preparation of stuck on derby shoe with rubber sole from prepared upper	
1	1	CO1	Selection of design for making selected footwear	02
2	1	CO2	Selection of various tools ,equipment and machine required for upper and bottom construction	02
3	1	CO2	Make designer upper pattern with masking tape on the last	02
4	1	CO3	Finalize the method of construction methodology for selected construction	02
5	1	CO3	Cut the upper and bottom pattern	02
6	1	CO3	Prepare the trial pattern on paper with finding out the require area measurement of visible and non-visible material component	02
7	1	CO3	Make the sequence flow chart and various marking slot for notch and stitching mark	02
8	1	CO4	Find out the upper and bottoming material, lining material, reinforcement material , accessories and grinders	02
9	1	CO4	Cut all the upper and bottom components according to sample	02
10	1	CO4	Take the selected visible and non-visible material according to sample	02
11	1	CO5	Pre plan the assembling process	02
12	1	CO5	Assemble the upper and bottom component with each other to make the complete footwear	02

13	1	CO6	Inspection and physical testing	02
14	1	CO6	Finishing and packing of whole shoe	02
15	1	CO6	Bill of material and costing	02
				30
	2		Preparation of stuck on Oxford with PU sole from prepared upper	
1	1	CO1	Selection of design for making selected footwear	02
2	1	CO2	Selection of various tools ,equipment and machine required for upper and bottom construction	02
3	1	CO2	Make designer upper pattern with masking tape on the last	02
4	1	CO3	Finalize the method of construction methodology for selected construction	02
5	1	CO3	Cut the upper and bottom pattern	02
6	1	CO3	Prepare the trial pattern on paper with finding out the require area measurement of visible and non-visible material component	02
7	1	CO3	Make the sequence flow chart and various marking slot for notch and stitching mark	02
8	1	CO4	Find out the upper and bottoming material, lining material, reinforcement material , accessories and grinders	02
9	1	CO4	Cut all the upper and bottom components according to sample	02
10	1	CO4	Take the selected visible and non-visible material according to sample	02
11	1	CO5	Pre plan the assembling process	02
12	1	CO5	Assemble the upper and bottom component with each other to make the complete footwear	02
13	1	CO6	Inspection and physical testing	02
14	1	CO6	Finishing and packing of whole shoe	02
15	1	CO6	Bill of material and costing	02
				30
	3		Preparation of Slip on sole from prepared upper	
1	1	CO1	Selection of design for making selected footwear	02
2	1	CO2	Selection of various tools ,equipment and machine required for upper and bottom construction	02
3	1	CO2	Make designer upper pattern with masking tape on the last	02
4	1	CO3	Finalize the method of construction methodology for selected construction	02
5	1	CO3	Cut the upper and bottom pattern	02

6	1	CO3	Prepare the trial pattern on paper with finding out the require area measurement of visible and non-visible material component	02
7	1	CO3	Make the sequence flow chart and various marking slot for notch and stitching mark	02
8	1	CO4	Find out the upper and bottoming material, lining material, reinforcement material , accessories and grinders	02
9	1	CO4	Cut all the upper and bottom components according to sample	02
10	1	CO4	Take the selected visible and non-visible material according to sample	02
11	1	CO5	Pre plan the assembling process	02
12	1	CO5	Assemble the upper and bottom component with each other to make the complete footwear	02
13	1	CO6	Inspection and physical testing	02
14	1	CO6	Finishing and packing of whole shoe	02
15	1	CO6	Bill of material and costing	02
				30
TOTAL				90

Note: All the Experiments are compulsory.

References/ Books:

Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Handbook of Footwear Design and Manufacture	Publisher: Wood head Publishing Ltd (28 Aug. 2013)	ISBN10: 082479673X ISBN-13: 978-0824796730
2	Complete Book of Shoes	by Marta Morales (Author) Publisher: Firefly Books Ltd (12 Sept. 2013)	ISBN-10: 1770851240 ISBN-13: 978-1770851245
3	Shoe Design	Publisher: Independently published (September 17, 2018) Language: Italian	ISBN-13: 978-1720070436 ISBN-10: 1720070431
4	Fashionary Shoe Design: A Handbook for Footwear Designers	Hardcover – 6 Jan 2015	
5	Shoemaking and Creative Footwear Designs	Hardcover Publisher: Larsen and Keller Education, 2018	ISBN 10: 163549754X ISBN 13: 9781635497540
6	Compressive Footwear Technology	Somnath Ganguly, Published by Indian Leather Technologist association	ISBN 81-901423-0-5

E-References:

1. <https://www.seeandwear.com/blogs/fashion/top-10-shoe-brands-for-men-india>
2. <https://www.metroshoes.net/blog/2017/08/shoe-care-manual-formal-shoes/>
3. <https://www.youtube.com/watch?v=ROd1Acma64o>
4. <https://www.youtube.com/watch?v=EM-D4CQc5Ok>
5. https://www.youtube.com/watch?v=B232n_tFEII
6. <https://www.youtube.com/watch?v=iC0RoNws64Q>
7. <https://www.youtube.com/watch?v=M2hHzOdVMps>
8. <https://www.youtube.com/watch?v=BQTV-iUFAI0>

CO Vs PO and CO Vs PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	2	1	2	3	2	2	2	2
CO2	2	2	2	2	2	2	2	2	2	2
CO3	2	3	3	2	2	2	2	2	3	2
CO4	2	3	2	3	2	2	2	3	3	3
CO5	2	2	3	3	3	2	2	3	3	3
CO6	2	3	2	3	2	2	2	3	3	3

Industry Consultation Committee:

Sr. No	Name	Designation	Institute/Organisation
1	S.G. Darveshi	Lecturer	Leather Goods And Footwear Technology Dept. Government Polytechnic ,Mumbai
2	M.B. Pol	Head Of The Department.	Leather Technology Dept. Government Polytechnic ,Mumbai
3	Abhishek Waghmare	Proprietor	Khetar India Footwear Industries , Taloja M.I.D.C Navi Mumbai
4	Harish Mishra	Production Manager	Sahyog Fashion Export ,Vasai, Dist Palghar

Coordinator,

Curriculum Development,

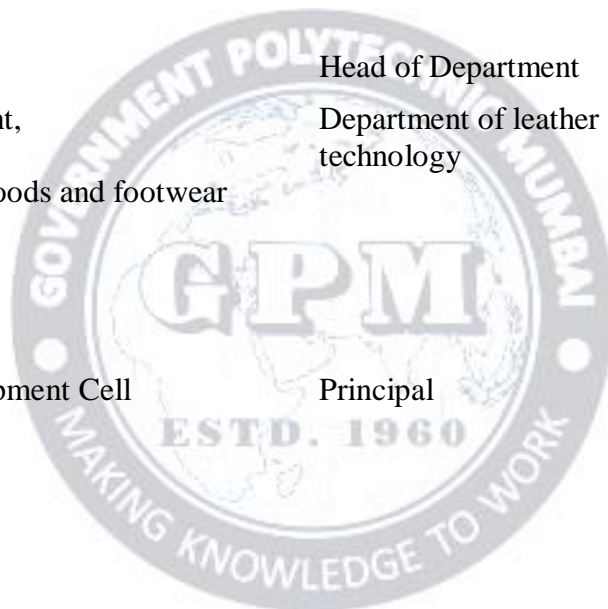
Department of leather goods and footwear technology

Head of Department

Department of leather goods and footwear technology

I/C, Curriculum Development Cell

Principal



Programme : Diploma in Leather Goods And Footwear Technology										
Course Code: LG 19407				Course Title: QUALITY CONTROLLING IN LEATHER SECTOR						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
TH	PR	TU	Total	TH (2 Hrs 30 Min)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
04	-	-	04	60	20	20	-	-	-	100

Abbreviations: L- Theory Lecture, P-Practical, TU-Tutorial, TH- Theory Paper TS1 & TS2- Term Tests, PR-Practical, OR-Oral, TW: Term Work (progressive assessment) , * Indicates assessment by External Examiner else internal practical skill test , # indicates Self, on- line learning Mode, @ indicates on line examination

Note: For Minimum passing marks under various heads, refer, examination rule AR 26. Two practical skill test are to be conducted. First skill test at midterm and second skill test at the end of the term

Rationale:

This course help to develop the knowledge various testing for visible material, lining material accessories. Bottoming material, reinforcement, grinderies. This course develops the application of various testing equipment and their use for particular testing .It also help to finalize the quality and properties of the material to be used in the future for the developing the various kind of footwear

Course Outcomes: Student should be able to

CO1	Explain the importance of testing for quality controlling and quality product for globally footwear development along with Study of ISI and ISO specification,
CO2	Explain the use of different Leather and Non-leather material and their testing equipment for footwear.
CO3	Explain the use of different types of Accessories material and their testing equipment for footwear
CO4	Explain the use of different Types of Reinforcement material and their testing equipment for footwear
CO5	Explain the use of different types of Grinderries material and their testing equipment for footwear
CO6	Explain the use of different types of Bottoming and material, with their testing equipment for footwear

Course Content Details:

Unit No	Topics / Sub-topics
1	1. Importance of footwear and Material testing 1.1. List of the Leather Testing Laboratory 1.2. Study of ISI and ISO specification, 1.3. Inspection and quality controlling of final product of various kind of footwear 1.4. List of leather Testing Equipment -Thickness gauges, Universal testing machine (Istron),Flexing Endurance, Colour fastness testing machine, Perspiration tester, Water resistance tester, Peeling tester, 1.5. List of bottom testing Equipment - Lastometer, Sole Adhesion Tester, Abrasion testing machine, Sole hardness, Oil resistance test, Heel Impact resistance tester, Heel fatigue testing equipment, 1.6. Thread testing Equipment -Tenacity and tensile tester Course Outcome: CO1 Teaching Hours : 14 hrs Marks: 14 (R- 04, U-06, A-04)
2	2. Testing of Leather Upper and lining Material 2.1. Physical Testing Equipment for Leather - Universal Strength/ Istron- Tensile Strength, Slit Tear Strength, Stitch Tear Strength, Lastometer, Wrinkle meter, Colour Fastness test-Wet and Dry rub fastness tester, Flexing test 2.2. Chemical Testing of Leather - Moisture Content, Shrinkage Test, Waterproof Test, Water repulsion test, Chrome content, Ash Content- Total ash and soluble ash content (Course Outcome: CO2 Teaching Hours :12 hrs Marks: 10 (R-02 , U-04 , A-04)
3	3 Testing of Leather Upper and lining Material 3.1 Coated Fabrics -Thread per inch of fabrics, Vamp Flexing, 3.2 Martindale Abrasion 3.3 Staining 3.4 Synthetic Coated Fabrics - Breaking Load, Breaking extension 3.5 Tensile strength 3.6 Load and Distention 3.7 Seam Strength 3.8 Adhesion of Coated film to the fabric Course Outcome: CO3 Teaching Hours :08 hrs Marks:08 (R-04 , U-04 , A-00)
4	4. Reinforcement Material 4.1.Toe puff and Stiffener, Tensile strength , elongation at break, Bond Strength, Shape retention/Hardness, Collapsing load 4.2.Shanks fatigue test 4.3.Reinforcement Tapes bonding test Course Outcome: CO4 Teaching Hours : 08 hrs Marks: 06 (R-02 , U-04 , A-00)
5	5. Grinders testing 5.1. Thread - Tenacity, Tightness 5.2. Fastener quality test -Laces, Zips (slide Fastener), Touch and Close Fastener, Buckle ,Eyelets , Fitting 5.3. Adhesive: Testing and Quality assessment -Solid Content, Viscosity, Drying Time, Tackiness, Shelf Time, Pot Life, Peel Strength, Strength of the joint in shear 5.4. Hot melt Adhesive - Sole Adhesion Tester - Bonding Test Course Outcome: CO5 Teaching Hours :08 hrs Marks: 10 (R-04 , U-04 , A-02)

6	6. Bottoming and finishing material test
	6.1. Insole Testing -Flexing Index, Split tear test, Water abrasion, Peeling load, Stiffness of the insole
	6.2. Soling Material
	6.3. Leather Sole testing - Abrasive Tester for sole leather, Apparent and Real Density, Bottom Flexing Test for leather sole
	6.4. Synthetic Sole testing - Hardness ,Speedometer(Bally), Oil resistance (PVC) , Testing of various soling Material, Abrasive of Non-leather Sole(PFI Abrasive Tester), Bottom Flexing Test for PU Sole
	6.5. Heel-Heel Fatigue Tester Heel Impact test, Strength of an attached heel
	6.6. Top-Piece
	6.7. Finish /Dressing on Shoe - Flex resistance, Water resistance, Wet rub Fastness, Snagging/Scuff resistance, Whole shoe flex testing ,Protective footwear testing
	Course Outcome: CO6 Teaching Hours : 10 hrs Marks: 12 (R-04 , U-04 , A-04)

Suggested Specifications Table (Theory):

Unit No	Topic Title	Distribution of Theory Marks			
		R Level	U Level	A Level	Total Marks
1	Importance of footwear and Material testing	04	06	04	14
2	Leather upper and Lining material test	02	04	04	10
3	Non- leather upper and Lining material test	04	04	00	08
4	Reinforcement	02	04	00	06
5	Accessories Grinders,	04	04	02	10
6	Bottoming Material and finishing test	04	04	04	12
Total		20	26	14	60

References/ Books:

Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Complete Book of Shoes	Marta Morales (Author) Publisher: Firefly Books Ltd (12 Sept. 2013)	ISBN-10: 1770851240 ISBN-13: 978-1770851245
2	Shoe Design	Publisher: Independently published (September 17, 2018) Language: Italian	ISBN-13: 978-1720070436 ISBN-10: 1720070431
3	Shoe Material Designing	Publication Date : 2018-3-12 Author : Wade Motawi	ISBN: 099870704X ISBN13: 9780998707044
4	Manual of shoe making	Clarks Ltd	
5	Product knowledge	Swayam siddha	

E-References:

1. <https://www.youtube.com/watch?v=EM-D4CQc5Ok>
2. https://www.google.com/search?q=footwear+material+manual&rlz=1C1CHBF_enIN793IN793&oq=footwear+material+manual&aqs=chrome..69i57j33.7805j0j8&sourceid=chrome&ie=UTF-8
3. <https://www.step2sustainability.eu/docs/Unit2.pdf>
4. <https://www.youtube.com/watch?v=ZtVWyx2wxs>

CO Vs PO and CO Vs PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	3	2	3	1	2	2	1	2	1
2CO2	2	3	1	3	2	1	1	1	3	1
CO3	2	3	3	2	3	2	2	1	2	2
CO4	1	2	1	3	2	2	2	2	1	1
CO5	1	3	3	2	1	1	1	2	1	1
CO6	1	1	2	2	2	1	1	1	1	1

Industry Consultation Committee:

Sr. No	Name	Designation	Institute/Organisation
1	S.G. Darveshi	Lecturer	Leather Goods And Footwear Technology Dept. Government Polytechnic ,Mumbai
2	M.B. Pol	Head Of The Department.	Leather Technology Dept. Government Polytechnic ,Mumbai
3	Abhishek Waghmare	Prop rieter	Khetar India Footwear Industries, Taloja M.I.D.C Navi Mumbai
4	Ambuj Yadav	Chief Executive	Era Enterprises, Vasai, Dist -Palghar
5	Akshay Shinde	Marketing Executive	Zahonero India , Delhi

Coordinator,

Curriculum Development,

Department of Leather Goods and Footwear
Technology

I/C, Curriculum Development Cell

Head of Department

Department of Leather Goods and Footwear
Technology

Principal



Programme : Diploma in Leather Goods and Technology										
Course Code : LG19502				Course Title: Entrepreneurship And Development						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
TH	PR	TU	Total	TH (2:30 Hrs)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
02	-	02	04	-	-	-	-	-	50	50

Abbreviations: L- Theory Lecture, P-Practical, TU-Tutorial, TH- Theory Paper TS1 & TS2- Term Tests, PR- Practical, OR-Oral, TW: Term Work (progressive assessment) , * Indicates assessment by External Examiner else internal practical skill test , # indicates Self, on- line learning Mode, @ indicates on line examination
 Note: For Minimum passing marks under various heads, refer, examination rule AR26. Two practical skill test are to be conducted. First skill test at mid-term and second skill test at the end of the term

Rationale:

Globalization, liberalization & privatization along with revolution in Information Technology, have thrown up new opportunities that are transforming lives of the masses. Talented and enterprising personalities are exploring such opportunities & translating opportunities into business ventures such as- BPO, Contract Manufacturing, Trading, Service sectors etc. The student community also needs to explore the emerging opportunities. It is therefore necessary to inculcate the entrepreneurial values during their educational tenure. This will help the younger generation in changing their attitude and take the challenging growth oriented tasks instead of waiting for white- collar jobs. The educational institutions should also demonstrate their uniqueness in the creation of enterprising personalities in their colleges. This subject will help in developing the awareness and interest in entrepreneurship and create employment for others.

Course Outcomes:

Student should be able to

CO1	Appreciate the concept of Entrepreneurship
CO2	Identify Business Idea and Opportunity in leather sector
CO3	Understand the Marketing Strategy for the development of project
CO4	Collect and use the information to prepare project report for business venture
CO5	Execute The Enterprise Management And Modern Trends for leather sector

Course Content Details:

Unit No	Topics / Sub-topics
1	1. INTRODUCTION 1.1. Characteristics of Entrepreneur. 1.2. Barriers to Entrepreneur. 1.3. Definition of Entrepreneur. 1.4. Functions of an Entrepreneur. 1.5. .Distinction between Entrepreneur, Manager and Entrapreneur 1.6. Women Entrepreneur-problems and developing trends. 1.7. Entrepreneurship-definition, need. Course Outcome: Teaching Hours : 04 Marks: (R- 00 , U-00 , A-00)

2	<p>2. FROM BUSINESS IDEA TO OPPORTUNITY</p> <p>2.1. Identifying trends, opportunities and ideas. 2.2. Creativity techniques for idea generation. 2.3. Evaluate business opportunities 2.4. Use of SWOT analysis.in leather sector</p> <p>Course Outcome:CO1 Teaching Hours : 04 Marks: 00 (R- 00 , U-00 , A-00)</p>
3	<p>MARKET ASSESSMENT AND PRODUCT FEASIBILITY IN LEATHER SECTOR</p> <p>2.5. .Marketing -Concept and Importance 2.6. Market Identification 2.7. Customer need assessment, 2.8. Leather and leather product Market Survey 2.9. Meaning and definition of product feasibility 2.10. .Technical, Market, Financial feasibility including break even analysis.</p> <p>Course Outcome: CO2 Teaching Hours : 06 Marks: 00 (R- 00 , U-00 , A-00)</p>
4	<p>3. SUPPORT SYSTEMS IN LEATHER SECTOR</p> <p>3.1. Information Sources - Govt. & Institutional Agencies 3.2. Support Systems- CLRI, STHALL,CFTI,FDDI,NIFT 3.3. Business Planning & Requirements for setting up an SSI. LST.CSR 3.4. Information related to project, procedures and formalities (Like MSFC, DIC, MSME, MCED, MSSIDC, MIDC, LEAD BANKS), 3.5. Statutory requirements and agencies.</p> <p>Course Outcome: CO4 Teaching Hours :06 Marks: 00 (R- 00 , U-00 , A-00)</p>
5	<p>4. PROJECT/BUSINESS PLAN</p> <p>4.1. Meaning and Importance 4.2. Concept of vision and mission 4.3. Components of project report/profile 4.4. Essential and modernized development of Entrepreneur in managing enterprise 4.5. E-Commerce: Concept and process 4.6. Global trends and opportunities. 4.7. Steps in starting small scale industry 4.8. Causes Of Sickness 4.9. Lacuna in growth of leather sector in India</p> <p>Course Outcome:CO4 Teaching Hours : 04 Marks: 00 (R- 00 , U-00 , A-00)</p>
	<p>5. ENTERPRISE MANAGEMENT AND MODERN TRENDS</p> <p>5.1. Essential roles of Entrepreneur in managing enterprise 5.2. E-Commerce: Concept and process 5.3. Global trends and opportunities. 5.4. Steps in starting small scale industry 5.5. Steps to generate finance and their queries</p> <p>1. Course Outcome: CO5Teaching Hours : 06 Marks: 00 (R- 00 , U-00 , A-00)</p>

Term Work

Term work consists of following interactive type assignments. Faculty acts as a facilitator in providing conducive, dynamic environment, exposing students to various aspects of entrepreneurship. Assignments are aimed at compelling the students to critically think and apply the concepts learnt, leading to better insight development.

List of Assignments: Total 10 Assignments ARE COMPUSLSORY

Sr. No.	Unit No	COs	Title of the Assignment	Hours
1	1	CO1	Assimilation Of Profile Of A Successful Entrepreneurs Every student will study the biography of a successful entrepreneur and make a write up of two pages, indicating milestone achievements. Summarize the important traits and share their understanding in the peer group	2
2	1	CO1	Assess yourself as an entrepreneur? Several skills and traits are essential in an entrepreneur, to achieve success. What is your potential in this regard? Assess yourself and reflect upon the findings. Faculty will provide you a suitable instrument.	2
3	1	CO1 - CO2	Brain Storm To Generate Business Ideas. Brain storming is a group creativity exercise designed to come out with a number of solutions to a problem. Follow the steps. <ul style="list-style-type: none"> ✓ State the problem (Ex. What business would you start if you are given Rs Lacs?) ✓ Select the participants ✓ Select a leader ✓ Set the stage Rules to be followed are, <ul style="list-style-type: none"> • Focus on quantity • Postpone criticism • Build on others ideas • Encourage crazy ideas • Work with a dead line 	3
4	2	CO2	Identify A Business Opportunity Suitable For You <ul style="list-style-type: none"> ✓ This activity will help you to identify opportunity that may be right for you. Once identified you will use this business idea to carry out the mini project, throughout the session. ✓ List your interests and hobbies. List the business ideas that relate to each interest. Use the following steps to end up with the opportunity. ✓ Make SWOT analysis of self, cross out those ideas that no longer seem suitable for you. 	3

			<ul style="list-style-type: none"> ✓ Assess your aptitude and identify those ideas that match with your aptitude ✓ Make a matrix of advantages and disadvantages of remaining ideas, find which one is of maximum advantage ✓ Use internet or library and find out at least one source of Information for each idea. ✓ Choose one of the business opportunities that suit your life Style requirements. ✓ Write vision and mission statement. Set personal financial and non- financial goals you hope to achieve in five years perspective. Be realistic and be sure to include specific activities for each plan. 	
5	2,3	CO2-CO3	Begin To Develop Your Business Plan <ul style="list-style-type: none"> ✓ Write a vision and mission statement for the business enterprise ✓ Describe one page report that fully describes your product or service and how it differs from what is currently available. ✓ List your short, medium and long term goals. What steps do you need to achieve each of these goals? Do you foresee any obstacles in attaining them? What are they? ✓ What are the economic, technological or growth trends in this industry? Is the location of your business is a critical factor in its success? Why or why not? 	3
6	2,3	CO2-CO3	Design A Market Strategy <ul style="list-style-type: none"> ✓ Identify the market for your business. Use the secondary data source that could help you assess demand for your product or service. ✓ Based on secondary data, develop a customer profile. Figure out which market segment of your industry you are targeting. be specific. Develop a questionnaire to conduct primary data research. ✓ Conduct a mock survey and analyze the results. ✓ Determine what course of action you will take? ✓ Determine who your competitor are, both direct and indirect. ✓ Analyze each competitor in terms of price, location, facility, strength and weakness. Determine strategy to deal with each competitor. ✓ Write down your strategies for maintaining customer loyalty, and describe why you think each one will work. 	3
7	4	CO4	Find Out Break Even Point For Your Business <ul style="list-style-type: none"> ✓ Perform a break even analysis for your business. How many units you are required to sell to break even? Is this a feasible number? 	3

			<ul style="list-style-type: none"> ✓ Why or Why not? Can you think of ways to lower the breakeven point? 	
8	5-6	CO4-C05	Feasibility Study Reports <ul style="list-style-type: none"> ✓ Make a feasibility study analysis of sample reports provided and discuss your observations in the class.(Group work each consisting 4 students) 	3
9	6	CO4	Interactive Session With An Entrepreneur <ul style="list-style-type: none"> ✓ In live conversation with an entrepreneur raise the issues of your interest pertaining to various aspects of entrepreneurship and make a report on it. 	2
10	1-6	CO1 - CO5	Mini Project Develop a mini project on a business opportunity incorporating Various aspects as per the standard format provided. This activity Should be carried out on continual basis, under the guidance of the concerned faculty. Components of Project Report: <ul style="list-style-type: none"> ✓ Project Summary (One page summary of entire project) ✓ Introduction (Promoters, Market Scope/ requirement) ✓ Project Concept & Product (Details of product) ✓ Promoters (Details of all Promoters-Qualifications, Experience, Financial strength) ✓ Manufacturing Process & Technology ✓ Plant & Machinery Required ✓ Location & Infrastructure required ✓ Manpower (Skilled, unskilled) ✓ Raw materials, Consumables & Utilities ✓ Working Capital Requirement (Assumptions, requirements) ✓ Market (Survey, Demand & Supply) ✓ Cost of Project, Source of Finance ✓ Projected Profitability & Break Even Analysis ✓ Conclusion. 	6
			Total	30

Note: Assignment No. 1 to 10 are compulsory and should map all units and Cos. Remaining experiments are to be performed as per importance of the topic.

References/ Books:

Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Entrepreneurship Development	Preferred by Colombo plan staf college for Technical education. Tata Mc Graw Hill Publishing co. Itd. New Delhi.	
2	A Manual on How to Prepare a Project Report	J.B.Patel , D.G.Allampally EDI STUDY MATERIAL Ahmadabad Website:-www.ediindia.org	
3	A Manual on Business Opportunity Identification & Selection	J.B.Patel, S.S.Modi EDI STUDY MATERIAL Ahmadabad Website:-www.ediindia.org	
4	National Directory of Entrepreneur Motivator & Resource Persons.	S.B.Sareen, H. Anil Kumar EDI STUDY MATERIAL Ahmadabad Website:-www.ediindia.org	
5	New Initiatives in entrepreneurship Education & Training	Gautam Jain Debmuni Gupta EDI STUDY MATERIAL Ahmadabad Website:-www.ediindia.org	
6	A Handbook of New Entrepreneurs	P.C.Jain EDI STUDY MATERIAL Ahmadabad Website:-www.ediindia.org	
7	Evaluation of Entrepreneurship Development Programme	D.N.Awasthi, Jose Sebastian EDI STUDY MATERIAL Ahmadabad Website:-www.ediindia.org	
8	The Seven Business Crisis & How to Beat Them.	V.G.Patel	
9	Entrepreneurship Development	Special Edition for MSBTE McGraw Hill Publication	
10	Entrepreneurship Development	TTTI, Bhopal/ Chandigarh	

E-BOOK-

<https://jobsplus.gov.mt/fileprovider.aspx?fileId=1237>

<http://orange.ngo/wp-content/uploads/2018/06/Entrepreneurs-Training-Manual.pdf>

<https://www.synnovatia.com/business-coaching-blog/bid/141123/7-Topics-Entrepreneurs-Want-to-Learn-About>

CO VsPO and CO Vs PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	3	1	1	3
CO2	1	1	1	1	1	3	3	1	1	3
CO3	1	1	1	1	1	3	3	1	1	3
CO4	1	1	1	1	1	3	3	1	1	3
CO5	1	1	1	1	1	3	3	1	1	3

Industry Consultation Committee:

Sr. No	Name	Designation	Institute/Organisation
1	M.C Balasubramaniam, IOFS	JT. General Manager	Ordnance Equipment Factory, GOI Kanpur 208001.
2	Ritesh Bharambe	Manager Sales	Jai Instruments & system Pvt Ltd
3	Shashikant Ganpat Darveshi	Lecture in leather goods & footwear mfg ;	Government Polytechnic Mumbai
4	Mahendra Bajirao Pol	Lecture in leather Technology	Government Polytechnic Mumbai

Coordinator,
Curriculum Development,
Department of _____

Head of Department
Department of _____

I/C, Curriculum Development Cell

Principal

Programme : Diploma in Leather Goods and Footwear Technology										
Course Code: LG 19408				Course Title: Project And Seminar						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
TH	PR	TU	Total	TH (2:30 Hrs)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
-	08	-	08	-	-	-	50	50*	50	150

Abbreviations: L- Theory Lecture, P-Practical, TU-Tutorial, TH- Theory Paper TS1 & TS2- Term Tests, PR- Practical, OR-Oral, TW: Term Work (progressive assessment) , * Indicates assessment by External Examiner else internal practical skill test , # indicates Self, on- line learning Mode, @ indicates on line examination
 Note: For Minimum passing marks under various heads, refer, examination rule AR26. Two practical skill test are to be conducted. First skill test at mid-term and second skill test at the end of the term

Rationale:

The basic objective of a project work should be to ignite the potential of students' creative ability by enabling them to develop something which has social relevance, aging, and it should provide a taste of real life problem that a diploma-holder may encounter as a professional. Project work is intended to provide opportunity for students to develop an understanding of correlation between different courses learnt in the entire diploma programme and to apply the knowledge gained in a way that enables them to develop & demonstrate higher order skills.

Course Outcomes: Student should be able to

CO1	Identify, analyze and define the problems.
CO2	Find different solutions to the problems and select most appropriate solution.
CO3	Acquire knowledge about recent trends in leather , footwear and leather goods
CO4	Manage conflicts and work effectively in a team or individual.
CO5	Design, develop manufacture the leather, footwear and. leather goods
CO6	Prepare effective documents .and acquire effective communication and presentation skills.

GENERAL GUIDELINES:

- 1) Project work is conceived as a group work through which the spirit of team building is expected to be developed. Students shall take a project in a group (group size is of 2-3 (students) in the beginning of fifth semester in consultation with project guide and the project must be completed by end of semester.
- 2) Students will be required to carry out their Project Works in groups under the supervision of faculties of their core discipline who will work as Project Guides. The respective project guide should regularly monitor the progress of project work.
- 3) The project work must be carried out either in institute (in-house project) or in industry (in case of industry sponsored project).
- 4) The project pre-synopsis/proposal (3-4 pages) must be submitted in the institute at the beginning of fifth semester. While submitting a project pre-synopsis/proposal care is to be taken that project will be completed within the available time of fifth semester..

- 5) Project title should be precise and clear.
- 6) Selection and approval of project topic:
 - I. Project topic should be related to real life or industrial applications.
 - II. Project topic must be designed and implemented by Leather/leather goods / footwear / chemical / mechanical concepts/techniques.
 - III. Interdisciplinary projects should be encouraged.
- 7) The project group is expected to complete following tasks
 - a. Selection of project topic
 - b. Literature survey
 - c. Planning and design of project
 - d. Identification/selection of required raw material and chemicals.
 - e. Develop leather with required quality
 - f. Develop finish product (footwear , leather goods & leather)
 - g. Testing and analysis of leather and finish product
- 8) The project group should maintain a logbook of activities. It should have entries related to the work done, problems faced, solution evolved etc., duly signed by project guide in every week.
- 9) At the end of 5th semester, seminar report must be prepared on project work done in fifth sem and must be submitted in the prescribed format only. No variation in the format will be accepted.
 - a. *“Format of seminar report”*
 - b. *Major Contents:*
 - c. Introduction
 - d. Literature survey
 - e. iii. Theory: 1) Planning and design 2) Methodology 3) Applications
- 10) Advantages and Disadvantages.
 - a. iv. Future scope
 - b. v. Conclusion
 - c. vi References.

(No. of copies of seminar report to be prepared = S+2, where S is no. of students in group)
- 11) The project group shall present the final project live and give presentation on it using overhead projector or power point presentation on LCD to the internal department Committee for assessment of the project for award of TW marks. Assessment will be done by an internal department committee (consisting of respective guide and two faculties) as per following prescribed format.
- 12) Assessment of the project and seminar for award of Oral marks (50 marks external and internal) and shall be based on seminar delivered. Term work Assessment will be done by an internal department committee (consisting of respective guide and two faculties) as per following prescribed format. The external examiner should be from the related area of the concerned project. He/She should have minimum of five years of experience at institute level or industry.

ASSESSMENT SHEET

Sr. No.	Enroll-ment No.	Name of Student	Assessment by Internal Examiner					Grand Total
			Topic Selection	Literat--ure Survey	Seminar Report Writing	Depth of Under-standing	Present--ation	
			10	10	10	10	10	50

TITLE OF PROJECT TOPIC: _____

NAME OF PROJECT GUIDE: _____

Course Content Details:**CO Vs PO and CO Vs PSO Mapping**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3
CO6	3	3	3	3	3	3	3	3	3	3

Industry Consultation Committee:

Sr. No	Name	Designation	Institute/Organisation
1	M.C Balasubramaniam, IOFS	JT.General Manager	Ordnance Equipment Factory,GOI Kanpur 208001.
2	Ritesh Bharambe	Manager Sales	Jai Instruments & system Pvt Ltd
3	Shashikant Ganpat Darveshi	Lecture in leather goods & footwear mfg ;	Government Polytechnic Mumbai
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Curriculum Development,
Department of _____

Head of Department
Department of _____

I/C, Curriculum Development Cell

Principal



Programme : Diploma in Leather Goods And Footwear Technology										
Course Code: LG 19409				Course Title: ADVANCE FOOTWEAR DESIGNING						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
TH	PR	TU	Total	TH (2 Hrs 30 Min)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
02	04	--	06	60	20	20	50	--	50	200

Abbreviations: L- Theory Lecture, P-Practical, TU-Tutorial, TH- Theory Paper TS1 & TS2- Term Tests, PR-Practical, OR-Oral, TW: Term Work (progressive assessment) , * Indicates assessment by External Examiner else internal practical skill test , # indicates Self, on- line learning Mode, @ indicates on line examination

Note: For Minimum passing marks under various heads, refer, examination rule AR 26. Two practical skill test are to be conducted. First skill test at midterm and second skill test at the end of the term

Rationale:

This is an application technology which will expose the student to a number of traditional skills and ideas with Technical Illustration as skills, creation, self-expression, personal style, understanding to visualization required for construction with various material for developing artificial designer footwear, He can operate the basic functional keys based in the education of the computerized footwear designing skill on CAD and CAM Software that have occupied technique throughout styling and practice in open and closed footwear along with the need of human being and their range building in footwear manufacturing sector

Course Outcomes: Student should be able to

CO1	Understand the application of Creative computer designing
CO2	Explain Computerized pre- Assembling process
CO3	Explain the Creative Range Design according to range building
CO4	Execute the advantage of CAD And CAM Software
CO5	Execute the function of digitizer and plotter
CO6	Illustrate fashion Brief Creative footwear according to range building

Unit No	Topics / Sub-topics
1	1. Creative computer designing- 1.1. Imagination drawing ,Drawing from image, Colorful drawing, Functional drawing , Seasonable drawing, shape Shading, Classification of Colour Primary Colour .Secondary Colour, Tertiary Colour 1.2. Types of Design- Decorative Designing, Designing Composition, Scale and Proportion of Design, Illusion of Designing Illusion of Designing- Pattern,Light,Reflection,Variation in Shades, Highlights and Shadows 1.3. Foundation of Projection -Isometric Projection, Orthographic or Multi view Projection, Dimensioning. And scaling of projection, Sectioning. Projection Course Outcome: CO1Teaching Hours :03 hrs Marks:08 (R- 04 , U-0 4 , A-0)

2	<p>3. Computerized pre- Assembling process</p> <p>3.1. Tools- Designing Tools, Pattern Cutting Tools , Fabrication Tools , Finishing Tools, Crafting tools</p> <p>3.2. Material and machine-Creativity in Selection of material, accessories and grinders for creative Designing article</p> <p>3.3. Pre assembling and Assembling Computerized process-Classification of basic Component of footwear, Sequence of computerized pattern making Pattern cutting for open footwear and closed footwear , On screen Visualization, Fashion Creation, assembling of components</p> <p>Course Outcome: CO 02 Teaching Hours :03hrs Marks:08 (R- 04, U-04 , A-00)</p>
3	<p>3. Creative Range Design and range building</p> <p>3.1. Creative Range Design- Copy Design, Fashion Segmentation, Analyze of Fashion, Fashion Brief, General Fashion Brief, Technical Brief, Flow chart of Range building, Colour Combination, Fitting psychology, Bill of material according to range building</p> <p>3.2. Range Building- Function of Range building, Range builder, Evaluation of Range building, Range building Activities, psychological Style variation according to economic status and age of human being</p> <p>Course Outcome: CO 03 Teaching Hours :04hrs Marks:10 (R- 02 , U-04, A-04)</p>
4	<p>5. Advantage of CAD AND CAM Software</p> <p>5.1. Advantages of CAD software - , Customized sample creation , Accurate fitting, Time saving management, Cost saving technique, Production status development, Accuracy on fieldwork, Scanning and saving ability, Import or export design ,technical data and document, Creation of Virtual sampling, Collection of copy designing</p> <p>5.2. Electronic method Creation- E- Sketching facility , E- Lasting ,E- molding for footwear , E- Colour combination and changes in Colour, E- Material Selection, E- Accessories Selection, E-Accurate Dimensional measurement, E- insole , E- upper ,E- bottom, E- footwear Preparation-Component Separation, E-Grading, E-Costing</p> <p>Course Outcome: CO 04 Teaching Hours :06 hrs Marks:12 (R- 04 , U-04, A-04)</p>
5	<p>5. Function of digitizer and plotter</p> <p>5.1. Digitization operation- Introduction of Digitizer, Uses of Digitizer, Types of Digitizing , Making Style Line with Digitizer, Making Different Pattern designer with scanner and Digitizer, Making Different allowance with Digitizer</p> <p>5.2. Plotter machine operation - Introduction of Plotter operation, Introduction of Plotter machine, Object of Plotter machine, Imparting Cut File , Cutting Compound, Sorting Of cut compound, Laser Pattern cutting</p> <p>5.3. Sequence flow chart for making E- footwear- scanning copy design ,import design, alteration ,create new design, e- patterning of upper and bottom, digitization, grading , separation of pattern, cut file , cutting pattern</p> <p>Course Outcome: CO 05 Teaching Hours :06 hrs Marks:10 (R- 02 , U-04 ,A-04)</p>
6	<p>6. Illustration for fashion Brief Creative range building footwear</p> <p>6.1. Range building for kids male and female</p> <p>6.2. Range building for male teenagers for open footwear</p> <p>6.3. Range building for female teenagers for open footwear</p> <p>6.4. Range building for male teenagers for closed footwear</p> <p>6.5. Range building for female teenagers for closed footwear</p> <p>6.6. Range building for male youth for open footwear</p> <p>6.7. Range building for female youth for open footwear</p>

	6.8. Range building for male youth for closed footwear 6.9. Range building for female youth for closed footwear 6.10. Range building for male mid age for open footwear 6.11. Range building for female mid age for open footwear 6.12. Range building for male mid age for closed footwear 6.13. Range building for female mid age for closed footwear 6.14. Range building for male senior citizen for open footwear 6.15. Range building for female senior citizen for open footwear 6.16. Range building for male senior citizen for closed footwear 6.17. Range building for female senior citizen for closed footwear Course Outcome:CO 06Teaching Hours :08hrs Marks:12 (R- 02 , U-04, A-06)
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Suggested Specifications Table (Theory):

Unit No	Topic Title	Distribution of Theory Marks			
		R Level	U Level	A Level	Total Marks
1	Creative computer designing	04	04	00	08
2	Computerized pre- Assembling process	04	04	00	08
3	Creative Range Design according to range building	02	04	04	10
4	Advantage of CAD And CAM Software	04	04	04	12
5	Function of digitizer and plotter	02	04	04	10
6	Illustration for fashion Brief Creative range building footwear	02	04	06	12
Total		18	24	18	60

List of experiments: Total 03experiments of various module

Sr. No.	Unit No	COs	Title of the Experiments	Hours
	1		Preparation of leather diabetic open footwear for male for senior citizen	
1	1	CO1	Selection of copy design for diabetic open for male and make creative design	02
2	1	CO2	Selection of tools require for pattern designing	02
3	1	CO3	Assortment of material leather ,lining reinforcement material selection accessories and grinders machineries as per the design	02
4	1	CO4	Select the require last and make pattern by masking on the last	02
5	1	CO4	Pre assembling process for making upper and lining components according to upper pattern	02
6	1	CO4	Pre assembling process for making covering insole and bottom components according to bottom pattern	02
7	1	CO5	Assemble the upper and lining components with each other in the sequence for closing article	02

8	1	CO5	Assemble the insole and bottom components with each other in the sequence for closing article	02
9	1	CO5	Assemble the upper and bottom components with each other in the sequence for closing article	02
10	1	CO6	Bill of material and costing	02
				20
			Preparation of creative female closed footwear for teenager	
1	2	CO1	Selection of copy design for creative female closed footwear and make creative design	02
2	2	CO2	Selection of tools require for pattern designing	02
3	2	CO3	Assortment of material leather ,lining reinforcement material selection accessories and grinders machineries as per the design	02
4	2	CO4	Select the require last and make pattern by masking on the last	02
5	2	CO4	Pre assembling process for making upper and lining components according to upper pattern	02
6	2	CO4	Pre assembling process for making covering insole and bottom components according to bottom pattern	02
7	2	CO5	Assemble the upper and lining components with each other in the sequence for closing article	02
8	2	CO5	Assemble the insole and bottom components with each other in the sequence for closing article	02
9	2	CO5	Assemble the upper and bottom components with each other in the sequence for closing article	02
10	2	CO6	Bill of material and costing	02
				20
	3		Preparation of creative female closed footwear for youth	
1	3	CO1	Selection of copy design for female closed footwear for youth and make creative design	02
2	3	CO2	Selection of tools require for pattern designing	02
3	3	CO3	Assortment of material leather ,lining reinforcement material selection accessories and grinders machineries as per the design	02
4	3	CO4	Select the require last and make pattern by masking on the last	02
5	3	CO4	Pre assembling process for making upper and lining components according to upper pattern	02
6	3	CO4	Pre assembling process for making covering insole and bottom components according to bottom pattern	02
7	3	CO5	Assemble the upper and lining components with each other in the sequence for closing article	02
8	3	CO5	Assemble the insole and bottom components with each other in the sequence for closing article	02
9	3	CO5	Assemble the upper and bottom components with each other in the sequence for closing article	02
10	3	CO6	Bill of material and costing	02

				20
			TOTAL	60

All the experiment are Compulsory
References/ Books:

Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Handbook of Footwear Design and Manufacture	Publisher: Wood head Publishing Ltd (28 Aug. 2013)	ISBN10: 082479673X ISBN-13: 978-0824796730
2	Complete Book of Shoes	by Marta Morales (Author) Publisher: Firefly Books Ltd (12 Sept. 2013)	ISBN-10: 1770851240 ISBN-13: 978-1770851245
3	Shoe Design	Publisher: Independently published (September 17, 2018) Language: Italian	ISBN-13: 978-1720070436 ISBN-10: 1720070431
4	Leatherwork For Beginners: Your Practical Guide to Leather crafting	Kindle Edition via Amazon	<i>ISBN-10:</i> 1542835712; <i>ISBN-13:</i> 978-1542835718;
5	Making Leather Handbags and Other Stylish Accessories	Publisher: Rockport Publishers Inc. (29 October 2004) Language: English	ISBN-10: 1592530761 ISBN-13: 978-1592530762

E-References:

1. https://en.wikibooks.org/wiki/Drafting/Freehand_Drawing
2. <https://www.freepik.com/free-photos-vectors/hand-drawing>
3. <https://www.quora.com/What-is-free-hand-drawing>
4. <https://www.youtube.com/watch?v=AAMOiI8BRPo>
5. <https://www.youtube.com/watch?v=l5WLMPCkpUA>
6. https://www.youtube.com/watch?v=yIQA_f47NNA
7. <https://www.youtube.com/watch?v=oPDYnpTvqVo>
8. <https://www.youtube.com/watch?v=s1k2ldxRNTI>
9. https://www.youtube.com/watch?v=g_Fce-fo0JA
10. <https://www.youtube.com/watch?v=M2hHzOdVMps>

CO VsPO and CO Vs PSOMapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2	3	2	2	2	2	2	2
CO2	2	2	2	2	2	2	1	2	2	2
CO3	2	1	3	2	2	3	2	2	2	2
CO4	2	3	2	3	2	1	3	3	3	3
CO5	2	2	3	3	3	2	3	3	3	3

CO6	2	3	2	3	2	2	2	3	3	3
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