

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 - I

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 19301	Free Hand Drawing	0	4	0	4	4	0	0	0	50	0	50	100
HU 19101	Communication Skill	2	2	0	4	4	60	20	20	25	0	25	150
LG 19202	Workshop Practice (Open Footwear-I)	0	6	0	6	6	0	00	0	50	0	50	100
LG19401	Material Technology	3	0	0	3	3	60	20	20	0	0	0	100
LG 19201	Anatomy Of Footwear	4	0	0	4	4	60	20	20	0	0	0	100
LG19302	Basic Leather Tanning	3	6	0	9	9	60	20	20	50	0	0	150
	Total	12	18	0	30	30	240	80	80	175	0	125	700
Student Centered Activity(SCA)					05								
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 (Sandwich Pattern)										
Course Code: LG 19301				Course Title: Free Hand Drawing						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
L	P	TU	Total	TH (2 Hrs.)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
00	04		04	-	-	-	50	--	50	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 is an introductory class which will expose the student to a number of traditional skills and ideas that have occupied artists throughout dawning skill. The class involves drawing from direct observation with an emphasis on volume, linear and free hand perspective, and other basic techniques and concepts. The student is expected to develop disciplined work habits, Technical Illustration as skills, creation, self-expression, personal style, understanding to visualize a required sketching.

Course Outcomes: Student should be able to

CO1	Understand the free hand drawing
CO2	Understand the technical, conceptual and life design skills
CO3	Communicate ideas and concepts through various drawing arts
CO4	Do application of illustration into an individual art
CO5	Apply illustration knowledge and skill for effective visual and creative drawing
CO6	Application of subjective free hand drawing

Unit No	Topics / Sub-topics
1	1. Introduction free hand drawing Types of Lines, Continuous thick straight curved line, Continuous thin freehand line, zigzags line, Dotted line, Chain line thin Course Outcome: CO1 Teaching Hours: 04 hrs. Marks: 08 (R- 0, U-0, A-0)
2	2. Introduction of free hand drawing tools Handling of drawing paper, Handling of various pencil, Permanent marker pen, Fine tip pen Watercolor and brush , Deigning paper ,Card board paper, designing pencil crystal colour, set square , protector, steel rule, eraser, etc.

	Course Outcome: CO2 Teaching Hours: 10 hrs. Marks: (R-0 , U-0 , A-0)
3	Geometrical Construction purpose of geometrical construction, guideline Division of a line segment into required number of equal parts proportional line, Perpendicular lines, Parallel lines , Bisection of an angle, Trisection of a right , straight angle, Congruent angle , Bisector of an arc , center of an arc, draw an arc of given radius s Regular polygons Course Outcome: CO3 Teaching Hours :12 hrs. Marks: (R- 0 , U-0 , A-0)
4	Visualized Drawing Observation of visualization, meaning of illustration and drawing, importance of shading creation of natural filling in visualization, variation in styling ,Colour combination, ideal drawing concept presentation free hand drawing Course Outcome: CO 04 Teaching Hours: 10 hrs. Marks: (R-0 , U-0 , A-0)
5	Creative drawing Imagination drawing ,Drawing from image, Colorful drawing, Functional drawing , Seasonable drawing Course Outcome: CO 05 Teaching Hours: 12 hrs. Marks: (R-0 , U-0 , A-0)
6	Application of free hand drawing Identification of subject, observation of subject, colour combination, shape , size, module, volume Course Outcome: Teaching Hours: 12 hrs. Marks: (R-0 , U-0 , A-0)

List of experiments: Total 06 experiments are compulsory

Sr. No.	Unit No	COs	Title of the Experiments	Hours
1	1	CO1	Drawing Tools Drawing paper, Graphite Pencils, Ebony pencil, Graphite stick Vine charcoal, Charcoal Pencil, Black permanent marker Fine tip pen, Watercolor and brush, Kneaded rubber erasers Deigning paper designing colour pencil, Card board paper set squares and protractor.	04
2	2	CO2	Introduction of Drawing List Size and Description, Types of Lines, purpose of description and general application of drawing, Continuous thick straight Continuous thin and curved line, straight with zigzags, Dashed / Dotted Chain line, thick line, ends of line	10
3	3	CO3	Geometrical Construction Division of a line segment into required number of equal parts proportional parts. Perpendicular lines., Parallel lines , Bisection of an angle, Trisection of a right , straight angle, Congruent angle Bisector of an arc, center of an arc, radius, Regular polygons square,	12
4	4	CO4	Visualized Free hand drawing (any five) Engineer's bench of various types and shapes, hammers, Items of everyday use such as fountain pen, ball pen, Geometrical	10

			instruments, pencils, rulers, metallic nut and bolt, pincers, pliers, table and chair,	
5	5	CO5	Creative drawing Imagination drawing Drawing from image Colorful drawing Functional drawing Seasonable drawing	12
6	6	CO6	Subjective Free hand drawing five each Open footwear Closed footwear Leather goods Apparel	12
Total				60

References/ Books:

Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Foundation of Art and design	The Lakhani book depot, Mumbai	ISBN13-1234567153871
2	Pencil drawing technique	David Lewis Published by Paper pack	ISBN 13-9780823039913
3	How To Draw	Amit offir Published by troubadour; 1 edition (6 January 2014)	ASIN: B00C7RPT2I

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=AAMOil8BRPo>
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 Vs PO and CO Vs PSO Mapping

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

Industry Consultation Committee:

Sr. No	Name	Designation	Institute/ Organization
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	Sonam Singh	Fashion Illustrator Professor	International Institute In Fashion Designing ,Mumbai
4	Abhishek Waghmare	Proprietor	Khetar India Footwear Industries, Taloja M.I.D.C Navi Mumbai
5	Pratiksha Suryawanshi	Designer	Sahyog Export Pvt.Ltd.

Coordinator,

Head of Department

Curriculum Development,

Department of Leather Goods and Footwear
TechnologyDepartment of Leather Goods and Footwear
Technology

I/C, Curriculum Development Cell

Principal

Programme : Diploma in CE/ME/IT/CO/IS/EE/EC/LG/LT (Sandwich Pattern)										
Course Code: HU19101				Course Title: Communication Skills						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
L	P	TU	Total	TH (2 Hrs. 30 Min.)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
02	02	-	04	60	20	20	25*	-	25	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 tests are to be conducted. First skill test at midterm and second skill test at the end of the term.

Rationale: Communication skills play a vital and decisive role in career development. In this age of globalization, competition is tough. Hence effective communication skills are important. The subject Communication Skills introduces basic concepts of communication. It also describes the verbal, non-verbal modes and techniques of oral & written communication.

In this context, it will help the engineering diploma students to select and apply the appropriate methods of communication in various situations and business communication. Students are also required basics of communication and use of different skills.

This course will guide and direct to develop a good personality and improve communication skills. It will enable the students to utilize the skills necessary to be a competent communicator.

Course Outcomes: Student should be able to

CO1	Apply proper communication technique to cope up with the challenges of the modern world.
CO2	Interpret feedback at various situations by using appropriate body language and avoid the barriers in effective communication.
CO3	Able to participate in Group Discussion and Acquire the practical knowledge of an interview.
CO4	Able to develop PowerPoint Presentation and Business correspondence.
CO5	Write letters, circulars, memos, notices, reports and communicate effectively in written communication.

Course Content Details:

Unit No	Topics / Sub-topics
1	Introduction to Communication 1.1 Elements of Communication 1.2 Communication Cycle 1.3 Types of communication 1.4 Definition and Types of Barriers- a) Mechanical b) Physical c) Language d) Psychological 1.5 How to overcome Barriers Course Outcome: CO1 Teaching Hours :6 hrs Marks: 14 (R- 2, U-4, A-8)
2	Non- verbal Communication 2.1 Meaning and Importance of Non-verbal Communication 2.2 Body Language 2.3 Aspects of Body Language 2.4 Graphic language Course Outcome: CO2 Teaching Hours :6 hrs Marks: 12 (R- 4, U-4, A-4)
3	Group Discussion And Interview Skills 3.1 Need and Importance of Group Discussion 3.2 Use of Knowledge and Logical sequence. 3.3 Types of Interview 3.4 Preparing for an Interview Course Outcome: CO3 Teaching Hours :6 hrs Marks: 10 (R-2, U-4, A-4)
4	Presentation Skills 4.1 Presentation Skills - Tips for effective presentation 4.2 Guidelines for developing PowerPoint presentation Course Outcome: CO4 Teaching Hours :4 hrs Marks: 08 (R- 2, U-2, A-4)
5	Business Correspondence 5.1 Office Drafting – a) Notice b) Circular c) Memo d) Email-writing. 5.2 Job Application with resume. 5.3 Business Letters – a) Enquiry b) Order c) Complaint 5.4 Report Writing – a) Fall in Production b) Accident Report Course Outcome: CO5 Teaching Hours: 8 hrs Marks: 16 (R- 4, U-4, A-8)

List of experiments: Any 10 experiments out of 15

Sr. No.	Unit No	COs	List of Experiments	Hours
1	1	CO1,CO4	Conversation between students on various situations.	02
2	3	CO2,CO4	Non- Verbal Communication.	02
3	3	CO3,CO4	Group Discussion	02
4	4	CO3,CO4	Mock Interview	02
5	5	CO4,CO5	Business Communication a) Advertisement, Tender, Diary writing. b) Job Application With Resume.	02
6	1	CO1	Communication Barriers	02
7	5	CO5	Business Letters – a) Enquiry b)Order c)Complaint	02
8	4	CO1,CO4	Speeches- a)Welcome Speech b)Farewell Speech c) Vote of Thanks	02
9	5	CO5	Report Writing – a) Fall in Production b) Accident Report	02
10	All	CO4	Showing Videos on different types of Communication.	02
11		CO1	*Articles	02
12		CO1	*Preposition and Conjunction	02
13		CO1	*Direct Indirect Speech	02
14		CO1	*Change the voice	02
15		CO1	*Vocabulary Building	02
			Total	30

Note: Experiments No.1 to 10 are compulsory. Remaining experiments are to be performed on availability of time.* These experiments will be performed during practical hours only.

References/ Books:

Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Communication Skills	Joyeeta Bhattacharya - Reliable Series	9780000176981, 0000176982
2	Communication Skills	Sanjay Kumar, PushpaLata- Oxford University Press	13: 978-0199488803
3	Successful presentation Skills	Andrew Brad bury- The Sunday Times	13: 9780749456627

E-References:

- 1) Website: www.mindtools.com/page8.html-99k
- 2) Website: www.inc.com/guides/growth/23032.html-4
- 3) Website: www.khake.com/page66htm/-72k
- 4) Website: www.BMConsultantIndia.Com
- 5) <https://www.vedantu.com/ncert-solutions/ncert-solutions-class-12-English>
- 6) MYCBSEGUIDE
- 7) Website: www.letstak.co.in
- 8) <https://learnenglishteens.britishcouncil.org/>

CO Vs PO and CO Vs PSO Mapping (Civil Engineering)

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

CO Vs PO and CO Vs PSO Mapping (Mechanical Engineering)

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

CO Vs PO and CO Vs PSO Mapping (Electronics Engineering)

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

CO Vs PO and CO Vs PSO Mapping (Electrical Engineering)

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

CO Vs PO and CO Vs PSO Mapping (Instrumentation Engineering)

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

CO Vs PO and CO Vs PSO Mapping (Computer Engineering)

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

COVs PO and CO Vs PSO Mapping (Information Technology)

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

CO Vs PO and CO Vs PSO Mapping (LG/LT Engineering)

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

Industry Consultation Committee:

Sr. No	Name	Designation	Institute/Organisation
1	Neelamkumar R. Sawant	State Head Technical Services for (Maharashtra and Goa)	JSW Cement Ltd. Mumbai Head Office
2	Ms Shilpa D. Khune	Corporate Consultant Trainer	Mahindra Pride Classroom
3	Mrs.S.S. Kulkarni	Lecturer in English	Government Polytechnic Pune
4	Mrs. K.S.Pawar	Lecturer in English	Government polytechnic Mumbai
5	Ms.N.N.Dhake	Lecturer in English	Government polytechnic Mumbai

Coordinator,

Head of Department

Curriculum Development,
Department of Science And Humanities

Department of Science And Humanities

I/C, Curriculum Development Cell

Principal



Programme : Diploma in Leather Goods & Footwear Technology (Sandwich Pattern)										
Course Code: LG 19201				Course Title: Anatomy of Footwear						
Compulsory / Optional:										
Teaching Scheme and Credits				Examination Scheme						
L	P	TU	Total	TH (2 Hrs)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
4	-	-	4	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 is classified under the Core technology. Course Describe the facts, Concepts, principles & techniques of footwear technology. This course is widely growing technology due to this subject. Students can know the Anatomical structure of human foot. They knowing the use of different hand tools which are utilize in Footwear Industries

Course Outcomes: Student should be able to

CO1	Explain the function with Anatomical Structure of human foot and their bone
CO2	Identify variation and common troubles in human foot.
CO3	Explain the various types of human open footwear and closed footwear
CO4	Explain the various types of human closed footwear
CO5	Sketch the designer components for various human open footwear
CO6	Construct and cost the various open footwear

Course Content Details:

Unit No	Topics / Sub-topics
1	1. Introduction of Anatomical structure of human foot and Function of Foot 1.1. Short bones, Long Bones, Function of Bones, Human Foot, 1.2. Tarsus, Meta –tarsus, Phalanges and Meta – phalanges 1.3. muscles and joints of foot 1.4. Arches of Foot, Inner, Outer Longitudinal Arches, Transverse Arch, Anterior Meta Tarsal Arch, Function of the Arches. Ligaments and Tendons Course Outcome: CO1 Teaching Hours : 10 hrs Marks: 08 (R- 02, U-02, A-04)

2	<p>2. Common Foot trouble</p> <p>2.1. Damage to the skin</p> <p>2.2. Trouble to Toes, Hallux valgus, Hallux rigidus, Hammer toe, Mallet toe, Abnormal foot</p> <p>2.3. Foot Alignment, Detention of minor Foot Alignment , Remedies for Foot alignment</p> <p>2.4. Weight bearing of Foot</p> <p>2.5. Change during Growth</p> <p>2.6. Propulsion</p> <p>Course Outcome: CO2 Teaching Hours : 10 hrs Marks: 10 (R-04 , U-02 , A-04)</p>
3	<p>3. Introduction of Footwear</p> <p>3.1. History of Footwear</p> <p>3.2. Types of Footwear, Open footwear , Males and female open footwear, Chappal , Sandal , Flip flop chappal</p> <p>Course Outcome: CO3 Teaching Hours :04 hrs Marks:08 (R-02 , U-04 , A-02)</p>
4	<p>4. Closed Footwear</p> <p>4.1. Male closed footwear, Monk shoe, Derby, Oxford, Casual, Boot, Jodhpuri, Brogue Shoe, Moccasin</p> <p>4.2. Female Footwear, Ballet Shoe, Peep Shoe , Gore Shoe, Court Shoe, Peep Toe Shoe</p> <p>4.3. Function of Footwear</p> <p>4.4. Difference between Shoe and boot</p> <p>Course Outcome: CO 04 Teaching Hours : 08 hrs Marks:10 (R-02 , U-04 , A-04)</p>
5	<p>5. Designing For Open Footwear</p> <p>5.1. Difference between Foot and Shoe</p> <p>5.2. Difference between Shoe and Last</p> <p>5.3. Selection for open and closed footwear last</p> <p>5.4. Masking And pattern making operation for open footwear</p> <p>5.5. Insole preparation for open footwear</p> <p>5.6. Inner and outer upper profile for open footwear</p> <p>5.7. Mean forme for open footwear,</p> <p>5.8. Standard forme for open footwear</p> <p>5.9. Designer standard for open footwear</p> <p>5.10. Component and position of upper on last</p> <p>5.11. Pattern for modular open footwear</p> <p>5.12. Customize Open footwear</p> <p>5.13. Material consumption for open footwear</p> <p>Course Outcome: CO 05 Teaching Hours :14 hrs Marks:12 (R-04 , U-04 , A-04)</p>
6	<p>6. Open Footwear Components Construction and costing</p> <p>6.1. Machines for making upper for open footwear</p> <p>6.2. Clicking Machine, Splitting Machine, Skiving Machine</p> <p>6.3. Flatbed Stitching Machine, Post Bed Stitching Machine,</p> <p>6.4. Insole preparation for open footwear</p>

	6.5. Cut edge Insole, Molded Insole, Insole for male and female sandal, Covering Insole, Stitch down Insole 6.6. Description of Upper Component of Open Footwear 6.7. Cut edge upper open footwear, Turn edge upper open footwear 6.8. Cushioned upper Fold edge open footwear 6.9. Designer upper for open footwear, Embroidery upper for open footwear, Ornamental upper for open footwear 6.10. Inspection for upper for open footwear 6.11. Costing calculation for open footwear Course Outcome: Teaching Hours : 14 hrs Marks: 12 (R-04 , U-04 , A-04)
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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	Introduction structure and Function of Foot	02	02	04	08
2	Common Foot Trouble	04	02	04	10
3	Introduction of Footwear	02	04	02	08
4	Closed Footwear	02	04	04	10
5	Designing For Open Footwear	04	04	04	12
6	Open Footwear Components Construction And Costing	04	04	04	12
Total		18	20	22	60

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)	ISBN-13: 978-1720070436

		Language: Italian	ISBN-10: 1720070431
4	Shoe Material Designing	Publication Date : 2018-3-12 Author : Wade Motawi	ISBN: 099870704X ISBN13: 9780998707044
5	Shoemaking and Creative Footwear Designs	Hardcover Publisher: Larsen and Keller Education, 2018	ISBN 10: 163549754X ISBN 13: 9781635497540
6	Crafting Handmade Shoes: Great-Looking Shoes, Sandals, Slippers & Boots	Publisher: Lark Books, 2001	ISBN 10: 1579901921 ISBN 13: 9781579901929

E-References:

1. 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
2. <https://www.step2sustainability.eu/docs/Unit2.pdf>
3. <https://www.youtube.com/watch?v=ZtVWyx2wxs>
4. <https://www.youtube.com/watch?v=zzwEPqYzXyI>
5. <https://www.youtube.com/watch?v=n3DxyeOz8Us>
6. <https://www.youtube.com/watch?v=hReuJLU03z4>

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	-	-	1	1	1
CO2	2	3	1	3	-	-	-	1	1	1
CO3	2	3	3	2	-	2	-	1	-	-
CO4	1	2	1	3	-	-	-	2	1	1
CO5	-	3	3	2	-	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	Akshay Shinde	Marketing Executive	Zahonero India , Delhi
4	Ambuj Yadav	Chief Executive	Era Enterprises, Vasai, Dist -Palghar
5	Harish Mishra	Production Manager	Sahyog Export Pvt. Ltd

Coordinator,

Curriculum Development,

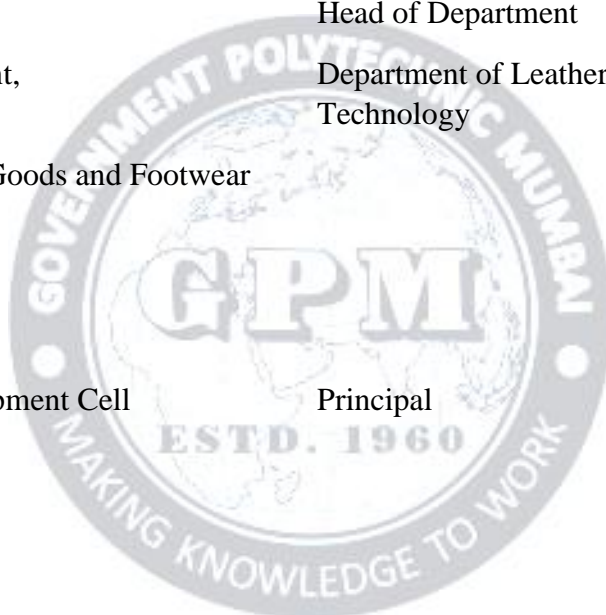
Department of Leather Goods and Footwear
Technology

I/C, Curriculum Development Cell

Head of Department

Department of Leather Goods and Footwear
Technology

Principal



Programme : Diploma in Leather Goods And Footwear Technology (Sandwich Pattern)										
Course Code: LG 19202				Course Title: Work Shop Practice Open Footwear–I						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
L	P	TU	Total	TH (2 Hrs)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
00	06	00	06	--	--	-	50		50	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 is classified under the Core technology. Course Describe the facts, Concepts, principles & techniques of open footwear technology. This course is widely growing technology due to this subject. Students can know the basic open footwear designing technique with experiments of open footwear fabrication, they get experience of handling and use of different designing hand tools which are utilize in Footwear Industries

Course Outcomes: Student should be able to

CO1	Imagine and variation of male and female human foot.
CO2	Visualize human open footwear Last
CO3	Explain the various types of human open footwear
CO4	Understand the various pattern and components of human open footwear
CO5	Sketch the designer components for various human open footwear
CO6	Construct the open footwear and make the costing the various open footwear

Unit No	Topics / Sub-topics
1	1. Introduction of Human foot 1.1. Imagination of human foot and variation of male and female open footwear 1.2. Variation of human open footwear 1.3. Differciate between male and female footwear Course Outcome: CO1 Teaching Hours: 04 hrs. Marks: 00 (R- 0, U-0, A-0)
2	2. Introduction of open footwear last 2.1. Last for male -chappal ,sandal, flip flop, 2.2. Last for Female- Chappal , gladiator, flat heel, large heel sandal Course Outcome: CO2 Teaching Hours : 04 hrs Marks: 00 (R-0 , U-0 , A-0)

3	3. Selection of Human open footwear 3.1. Types of Male footwear-chappal, sandal flip flop 3.2. Types of Female footwear-Ballet Shoe, Peep Shoe , Court Shoe, Peep Toe Shoe Course Outcome: CO3 Teaching Hours :04 hrs. Marks: (R- 0 , U-0 , A-0)
4	4. Introduction of importance of construction tools and machineries require for male and female 4.1. Cut edge construction, Folding construction, Turn edge construction 4.2. Machine-clicking machine, skiving machine, flat bed sewing machine ,post bed sewing machine Course Outcome: CO 04 Teaching Hours: 04 hrs. Marks: (R-0 , U-0 , A-0)
5	5. Sketch the designer components for various human open footwear 5.1. Preparation of designing pattern and component according to sketch and construction methods 5.2. Preparation of trial open footwear Course Outcome: CO 05 Teaching Hours: 20 hrs. Marks: (R-0 , U-0 , A-0)
6	6. Preparation of male and female open footwear 6.1. Selection of material, Lining, Accessories, Grinders, Reinforcement material 6.2. Selection of last, preparation of insole pattern and designer upper pattern 6.3. Flow chart of making upper and bottom from selected material and methods of construction, tools and machine 6.4. Making bill of material of the prepared open footwear 6.5. Make the costing of prepare footwear Course Outcome: Teaching Hours: 54 hrs. Marks: (R-0 , U-0 , A-0)

Note: All the 03 Experiments are compulsory.

Sr. No.	Unit No	COs	Title of the Experiments	Hours
1		CO1	Introduction of Human foot	02
2		CO1	Differentiate between male and female footwear	02
3		CO2	Select the variation in male and female foot and their modular last	04
4		CO3	Differentiate the variation in various for open footwear as, chappal and sandal. Flip-flop footwear for male and female footwear	04
5	1	CO4	Choose the male last for preparation of open footwear for construction ,tools and machine knowledge	04
6	1	CO5	Prepare the insole according to selected last and design the trial upper	06
7	1	CO5	Fit the different designer trial upper on the prepared Insole for male and female each (minimum 03 each)	14
8	1	CO6	Masking application for upper preparation for male open footwear	02

9	1	CO6	Select the Material, Reinforcement, Accessories, Grinders and make component for making natural footwear's upper and bottom	02
10	1	CO6	Prepare the component for male upper and bottom	02
11	1	CO6	Construct the upper with bottom and finish	06
12	1	CO6	Costing	06
13	2	CO6	Choose the female last for preparation of open footwear for turn edge open footwear	02
14	2	CO4	Masking application for insole preparation for female open footwear	02
15	2	CO5	Construct the upper with bottom and finish	08
16	2	CO6	Costing	06
17	3	CO6	Choose the female last for preparation of open footwear for turn edge open footwear	02
18	3	CO6	Masking application for insole preparation for female open footwear	02
19	3	CO6	Construct the upper with bottom and finish	08
20	3	CO6	Costing	06
TOTAL				90

References/ Books:

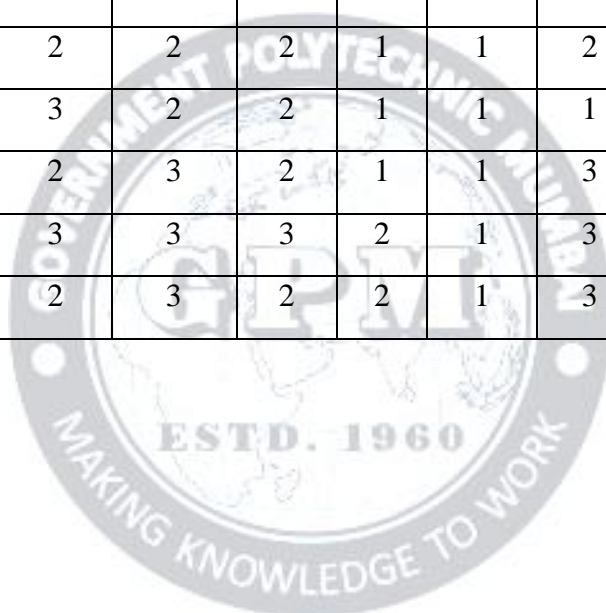
Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Handbook of Footwear Design and Manufacture	Publisher: Wood head Publishing Ltd (28 Aug. 2013)	ISBN10: 082479673X ISBN-13: 978-0824796730
2	Complete Book of Shoes	by Marta Morales (Author) Publisher: Firefly Books Ltd (12 Sept. 2013)	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

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https://www.youtube.com/watch?v=B232n_tFEII
<https://www.youtube.com/watch?v=iC0RoNws64Q>
<https://www.youtube.com/watch?v=M2hHzOdVMps>
<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	1	1	2	2	1
CO2	2	2	2	2	2	1	1	2	2	1
CO3	2	1	3	2	2	1	1	1	1	2
CO4	2	3	2	3	2	1	1	3	3	3
CO5	1	1	3	3	3	2	1	3	3	3
CO6	1	3	2	3	2	2	1	3	3	3



Industry Consultation Committee:

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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 Export Pvt. Ltd
5	Sonam Singh	Fashion Illustrator Professor	International Institute In Fashion Designing ,Mumbai

Coordinator,

Curriculum Development,

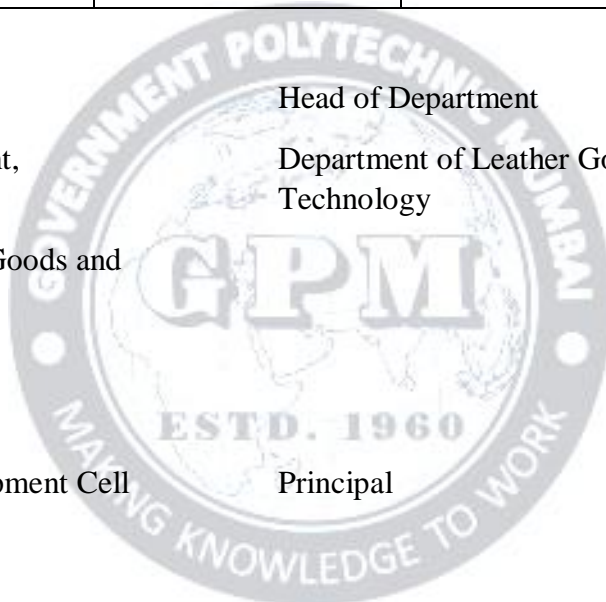
Department of Leather Goods and Footwear Technology

I/C, Curriculum Development Cell

Head of Department

Department of Leather Goods and Footwear Technology

Principal



Programme : Diploma in Leather Goods and footwear Department (Sandwich Pattern)										
Course Code: LG 19302				Course Title: Basic Leather Tanning						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
L	P	TU	Total	TH (2 Hrs.)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
3	06		09	60	20	20	50	--	00	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 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:

Basic leather tanning is introductory course of Leather Goods and Footwear Technology. It gives student an idea of histology of hide and skin, curing methods, grading of raw skins/hides application of beam house and tanning operation. It helps to understand the properties about natural and mineral tanning Methodology.

Course Outcomes: Student should be able to

CO1	Explain the history, histology component and evolution of leather from ancient era.
CO2	Explain basic knowledge of selection of raw hide and skin
CO3	Explain basic knowledge of defect of raw hide and skin
CO4	Explain the beam house operations with their importance, Tools and equipment
CO5	Explain the tanning operation as mineral tanning with their uses and properties
CO6	Explain the natural tanning operation as vegetable tanning with their uses and properties

Course Content Details:

Unit No	Topics / Sub-topics
1	1. Introduction & History of Leather Industry <ol style="list-style-type: none"> 1.1. List of origin in ancient era 1.2. Specify the role of vegetable tanning for leather making 1.3. Specify the use of dog dung and bird dung for softening the leather 1.4. Why untouchability was not created in Western region? 1.5. List the use of leather for daily use in ancient era. 1.6. List the use of leather for daily use in modern age. 1.7. Histology of raw hides & skin

	<p>1.8. Proteins Natures & type of Proteins 1.9. Components of Hides and skin</p> <p>Course Outcome: CO1 Teaching Hours : 6 hrs Marks: 10 (R- 04, U-04, A-02)</p>
2	<p>2. Selection and preservation of raw hide & skins 2.1. Selection according to weight., area, .thickness, 2.2. Definition of curing & preservation. Materials to be used for preservation. Principles & method of preservation & Advantages.</p> <p>Course Outcome: CO2 Teaching Hours : 04 Marks:08 (R-02 , U-04 , A-02)</p>
3	<p>3. Defects in raw hide and skin 3.1. Classification of Defects, Anti-mortem of Defects, Post-mortem Defects, Identification of Defects on raw stocks 3.2. Assortment of raw hides & skins 3.3. Green weight and Raw weight</p> <p>Course Outcome: CO3 Teaching Hours :03 Marks: 06 (R-02 , U- 04 , A-00)</p>
4	<p>4. Theory of Beam house Operation 4.1. Definition of soaking, Objects of soaking, Chemicals to be used for soaking, Methods of soaking 4.2. Definition of liming, Principles of liming, Objects of liming , Chemicals to be used in liming, Methods of liming, 4.3. Unhairing and Fleshing 4.4. True skin and Pelt weight 4.5. Definition of Deliming, Objects of Deliming, Chemical to be used in Deliming, 4.6. Scudding and washing 4.7. Definition of bating, Objects of bating, Chemicals to be used for bating, Ideal conditions of bating 4.8. Definition of picking, Objects of picking , Chemicals to be used for picking , Methods of picking</p> <p>Course Outcome: CO4 Teaching Hours :12 Marks: 12 (R-02 , U-04 , A-06)</p>
5	<p>5. MINERAL TANNAGE- 5.1. Chrome Tanning 5.2. Principles of chrome complex, method of chrome tanning, properties of chrome tanning 5.3. Basification 5.4. Boiling Test (Shrinkage temperature) 5.5. Alum tanning 5.6. Zirconium Tannage 5.7. Aldehyde Tannage</p> <p>Course Outcome: CO5 Teaching Hours :10 Marks:12 (R-02 , U-04 , A- 06)</p>
6	<p>6. Natural Tanning 6.1. Theory of Vegetable tanning</p>

	6.2. Natural sources Vegetable Tanning material, Source of vegetable tanning material Found in India. Classification of Vegetable tanning 6.3. Classification of Hydrometer, barko-meter, twaddle , Baume , Specific Gravity 6.4. Role of bleaching , Chemicals used for bleaching operation, 6.5. Application of vegetable oils on vegetable tanned leather, Stuffing 6.6. Oil Tanning, Properties of oil Tannage ,Use of oil tanned leather Course Outcome: CO6 Teaching Hours : 10 Marks: 12 (R-04 , U-04 , A-04)
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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	Introduction & History of Leather Industry	04	04	02	10
2	Selection and preservation of raw hide & skins	02	04	02	08
3	Defect in raw hide and skin	02	04	00	06
4	Theory of Beam house Operation	02	04	06	12
5	MINERAL TANNING	02	04	06	12
6	Natural Tanning	04	04	04	12
Total		16	24	20	60

List of experiments: Total 10 experiments compulsory

Sr. No.	Unit No	COs	Title of the Experiments	Hours
1	1	CO1 & CO2	Observation of raw hides & skins, opening of skins, Trimming and rounding of skin, wet salting of skin,	01
2	2	CO3	Study the various types of defects and observe the and use of Indicators and pH paper	02
3	3	CO3	Study of various hydro meter and find the specific gravity of different solutions with the use of hydro meter	01
4	4	CO4	Understand the Uses of various Hand tools and equipment's to be use in beam house and tanning operation for making leather	02
5	4&5	CO4 & CO5	Preparation chrome liquor and find out the reduction test	04
6	4&5	CO4 & CO5	Preparation of Chrome tanned leather from raw goat skin for upper	15
7	4&5	CO4 & CO5	Preparation of Chrome tanned leather from raw goat skin for garment	15
8	4&5	CO4 & CO5	Preparation of Chrome tanned leather from raw sheep skin for garment	15

9	4&5	CO4 & CO5	Preparation of Chrome tanned leather from raw ox skin for upper	15
10	4&6	CO4 & CO6	Preparation of vegetable tanned E.I. leather from raw goat skin semi chrome leather	20
			TOTAL	90

References/ Books:

Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Theory And Practice of Leather Manufacturing	K T Sarkar Published by <u>Author</u> in <u>Madras</u> . in 1995	ISBN 10 7901244321, 7901024321
2	Leather Technician's Handbook	J H Sharp house Leather Producers' Association (1 February 1972)	ISBN-10: 0950228508 ISBN-13: 978-950228501

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1. <https://www.youtube.com/watch?v=NTrjVv5-yI>
2. <https://www.youtube.com/watch?v=Cu6wGtT-lSo>
3. <https://www.youtube.com/watch?v=Fu0Eg0jxst0>
4. https://www.youtube.com/watch?v=lJnypKc2Y_M
5. <https://www.youtube.com/watch?v=XanRQJDgUxc>
6. <https://www.leather-dictionary.com/index.php/Leather>
7. <https://en.wikipedia.org/wiki/Leather>

CO Vs PO and CO Vs PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	1	3	2	1	1	1	1	1
CO2	1	1	-	-	2	1	1	1	-	-
CO3	2	2	-	1	-	1	1	1	-	-
CO4	1	3	3	3	2	1	1	3	3	3
CO5	1	3	3	3	2	2	1	3	3	3
CO6	1	3	3	3	2	2	1	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	Umesh Borole	Technician	Tytan Organic Pvt. Ltd
4	Sushil Patole	Technician	Viswat Chemical Pvt. Ltd , Belapur

Coordinator,

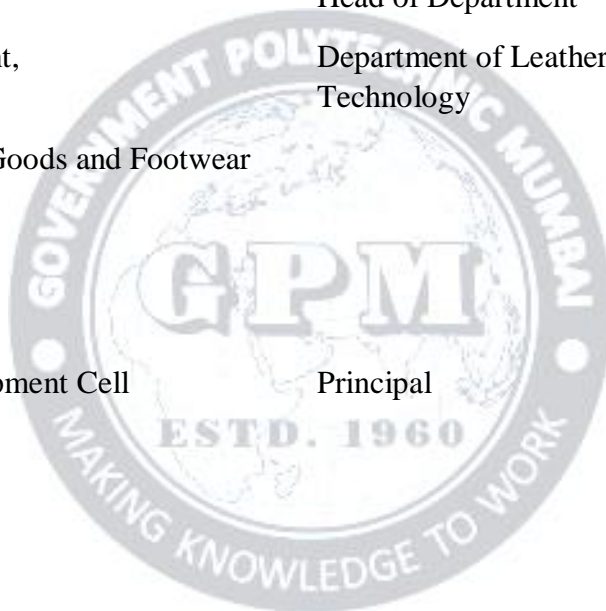
Head of Department

Curriculum Development,

Department of Leather Goods and Footwear
TechnologyDepartment of Leather Goods and Footwear
Technology

I/C, Curriculum Development Cell

Principal



Programme : Diploma in Leather Goods And Footwear Technology (Sandwich Pattern)										
Course Code: LG 19401				Course Title: Material Technology						
Compulsory / Optional: Compulsory										
Teaching Scheme and Credits				Examination Scheme						
L	P	TU	Total	TH (2 .30 Hrs.)	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
3	-	-	3	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 develops the knowledge of visible material, lining material Bottom material, Reinforcement, Adhesives, and accessories. This course develops the knowledge of bill of material for new product, advantage & disadvantages of material. Quality and properties of the material is very Emotion to the know the technicians. Technician performs his duties and writes influence and efficiency.

Course Outcomes: Student should be able to

CO1	Identify the quality of leather and non-leather to be used in leather articles
CO2	Examine and compare the quality of Lining leather and non-leather to be used in lining in leather articles
CO3	Select the appropriate re- enforcement material's quality require for the manufacturing of various leather articles
CO4	Examine and compare the various quality material for footwear, leather goods require for the manufacturing of various leather articles
CO5	Choose and explain the need of the various accessories for the development of the quality and fashion product in leather sector
CO6	Explain the advantages and disadvantages of various grinders and finishing for the closing and development of the quality product in leather sector

Course Content Details:

Unit No	Topics / Sub-topics
1	<p>1. Leather and Non- leather</p> <p>1.1. Introduction to various leather material use for making articles</p> <p>1.2. Properties of various leather for footwear and leather goods</p> <p>1.3. Selection of various leather for footwear and leather goods</p> <p>1.4. Non-Leather</p> <p>1.5. Introduction to various Non- leather material use for making articles</p> <p>1.6. Properties of various Non- leather for footwear , leather goods</p> <p>1.7. Classification of Non-Leather material</p> <p>1.8. Development of Non-Leather</p> <p>1.9. Fabric Coated Material</p> <p>1.10. Synthetic polymeric</p> <p>1.11. Fiber and fabric</p> <p>1.12. welt knitting , warp knitting</p> <p>1.13. Comparison of leather and non-leather</p> <p>Course Outcome: CO1 Teaching Hours : 8 hrs Marks: 10 (R- 04, U-04, A-02)</p>
2	<p>2. Lining</p> <p>2.1. Introduction to various Lining leather and Non-Leather material use for making articles.</p> <p>2.2. Properties of various Lining leather for footwear and leather goods Selection of various Lining leather for footwear and leather goods, Object of lining for leather articles. Types of Non –Leather Lining Material</p> <p>Course Outcome: CO2 Teaching Hours :06 hrs Marks: 08 (R-04 , U-04 , A-00)</p>
3	<p>3. Reinforcement Material</p> <p>3.1. Toe Puff & Stiffener , Leather, Leather Board, Thermo-plastic, Polythene , Steel Toe Cap, Rubber, Liquid painted on , Print –on, Heat Activated , , Thermoplastic, Material for Shank, Wooden, Fiber Board, Steel</p> <p>3.2. Re-enforcement Material for Leather goods, Drawing paper, Foam Sponge, Eva sheet, Crape Rubber, Plywood, Rope, Piping wire, Fiber sheet, , Metal sheet, Mill board , Straw Board</p> <p>Course Outcome: CO3 Teaching Hours :07 hrs Marks: 08 (R-04 , U-02 , A-02)</p>
4	<p>4. Footwear Bottoming Material</p> <p>4.1. Varieties of Insole, Leather Insole, Leather board, Cellulose Board, Backer Board, Bleached Board Strip, Blended Insole with Skeleton, Covered insole, Plastic Insole, Sandwich Insole, Steel plate for protective footwear</p>

	<p>4.2. Varieties of Bottom material for footwear-Sole Leather, Rubber, Plantation Crape, Resin Rubber, Poly Vinyl Chloride, Ethylene Vinyl Acetate, Polyurethane, Nitrile Rubber sole</p> <p>4.3. Varieties of Heels and material</p> <p>4.3.1. Plastic, Wooden, Rubber, Sole Leather, Leather, Fabric , Celluloid</p> <p>Course Outcome: CO4 Teaching Hours : 10hrs Marks: 12 (R-04, U-04 , A-04)</p>
5	<p>5. Types of accessories</p> <p>5.1. Fitting, Locks, Frame, Straps fitting, Ring, Belts and buckles, Roller buckles, Adjustable buckles, Watch straps buckles, Gussets fitting, Handle fitting, D-plate, Handles, Hooks, Key hooks, Dog hooks, Hinges, Clips, Fasteners, Rivets, Rivets-Buttons, Eyelets, Studs, Purse button, Zips , Ornaments</p> <p>Course Outcome: CO5 Teaching Hours :06hrs Marks: 10 (R-04 , U-02 , A-04)</p>
6	<p>6. Grinderries, finishing and packaging</p> <p>6.1. Adhesive</p> <p>6.1.1. Source of Adhesive, Natural Adhesive, Vegetable origin, Natural Rubber solution, Starch, Latex, Casine</p> <p>6.1.2. Animal origin, Glue</p> <p>6.1.3. Manmade Adhesive, PU Adhesive, Hot melt Adhesive, Wet and Dry Adhesive, Neoprene based Adhesive, Thermoplastic synthetic Resin, Thermosetting Synthetic Resin</p> <p>6.1.4. Key points for Good Quality Adhesive</p> <p>6.2. Thread</p> <p>6.2.1. Source of thread</p> <p>6.2.2. Natural thread , Cotton Thread, Woolen Thread, Silk Thread, Jute , Thread,</p> <p>6.2.3. Manmade thread, Polyester thread, Nylon thread</p> <p>6.2.4. Twisting of thread, Two ply Thread, Three ply Thread</p> <p>6.2.5. Various Numbers of thread and their uses</p> <p>6.2.6. Key points of good quality of various thread</p> <p>6.3. Zip and fastener</p> <p>6.3.1. Various material of zipper, Sizes of zipper and their uses</p> <p>6.3.2. Various material of fastener, Sizes of fastener and their uses</p> <p>6.4. Finishing and packing material</p> <p>6.4.1. Pigments, Sandal soap, Bee wax, Carnauba wax, Polishes</p> <p>6.4.2. Preservative, Silica gel</p> <p>6.4.3. Type of packaging material, Sizes of packaging material</p> <p>6.4.4. Precaution during packing</p> <p>6.4.5. Precaution during dispatching</p> <p>Course Outcome: CO6 Teaching Hours : 08hrs Marks: 12 (R-04 , U-04 , A-04)</p>

Suggested Specifications Table (Theory):

Unit No	Topic Title	Distribution of Theory Marks			
		R Level	U Level	A Level	Total Marks
1	Leather and Non- leather	04	04	02	10
2	Lining	04	04	00	08
3	Reinforcement	04	02	02	08
4	Bottom	04	04	04	12
5	Accessories	04	02	04	10
6	Grinderries, finishing and packaging	04	04	04	12
Total		24	20	16	60

References/ Books:

Sr. No.	Title	Author, Publisher, Edition and Year Of publication	ISBN
1	Complete Book of Shoes	by 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

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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	-	-	1	1	1
CO2	2	3	1	3	-	-	-	1	1	1
CO3	2	3	3	2	-	2	-	1	-	-
CO4	1	2	1	3	-	-	-	2	1	1
CO5	-	3	3	2	-	1	1	2	1	1
CO6	1	1	2	2	2	1	1	1	1	1

Industry Consultation Committee:

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