Diploma in Leather Goods & Footwear Technology

V Semester

TEACHING AND EXAMINATION SCHEME

Sl. No.	Course Code	Course Name	Teaching Scheme					Examination Scheme						
			Instruction periods per week			Total Periods per semester	Credits	Continuous internal evaluation			Semester end examination			
			L	T	P			Mid sem. I	Mid sem. II	Internal evaluation	Max. Marks	Min. Marks	Total marks	Min. marks for passing including internals
1	18FW-501F	Industrial Management & Entrepreneurship	3	1	0	60	3	20	20	20	40	14	100	35
2	18FW -502C	Advanced Footwear Designing	3	1	0	60	3	20	20	20	40	14	100	35
3	18FW -503C	Sports and Specialty Footwear	3	1	0	60	3	20	20	20	40	14	100	35
4	18FW 504E	A-Estimating, Costing, Industrial promotion and Marketing. B-Leather Dyeing and Finishing.	3	1	0	60	3	20	20	20	40	14	100	35
5	18FW -505E	A-Machinery maintenance Engineering. B-Elementary Leather Technology.	3	1	0	60	3	20	20	20	40	14	100	35
6	18FW -506P	Advanced Foot wear Designing Lab practice	1	0	2	45	1.5	20	20	20	40	20	100	50
7	18FW -507P	Fabrication of Boots and Heavy Footwear Lab practice.	1	0	2	45	1.5	20	20	20	40	20	100	50
8	18FW -508P	Footwear Machinery Maintenance Engineering lab practice	1	0	2	45	1.5	20	20	20	40	20	100	50
9	18FW -509P	Programming in C lab Practice	1	0	2	45	1.5	20	20	20	40	20	100	50
10	18FW -510P	Project Work	1	0	2	45	1.5	20	20	20	40	20	100	50
		Skill up gradation	0	0	7	105	2.5	0	0	**Rubrics**				
		Total	17	6	19	630	25	200	200	200	400	170	1000	425
Activities: student performance is to be assessed through Rubrics														

INDUSTRIAL MANAGEMENT & ENTREPRENEURSHIP

Course Title	: **Industrial Management & Entrepreneurship**	Course Code Course Group Credits	: **18FW-501F** : **Foundation** : **3**
Semester	: **V**	Total Contact Periods	: **60 Periods**
Teaching Scheme in Periods (L:T:P)	: **45:15:0**	SEE (Semester End Examination)	: **40 Marks**
Methodology	**: Lecture + Tutorial**		
CIE (Continuous Internal Evaluation)	: **60 Marks**		

This course is common for DEEE, DCME,DECE and DEIE

Pre requisites

This course requires the basic knowledge of management and Entrepreneur skills.

Course Outcomes

CO1	To become aware of business and management concepts.
CO2	Analyze the various rules and regulations required for the planning of factory and its staff.
CO3	Analyse balance sheet and various budget issues.
CO4	Analyse the material required and its management economically.
CO5	Analyze the quality management and know the analysis procedure for quality.
CO6	Able to establish a small scale industry by knowing the entrepreneur skills.

Blue Print of Marks for SEE

<table>
<tr><td rowspan="2">Unit No</td><td rowspan="2">Unit Name</td><td rowspan="2">Periods</td><td colspan="4">Questions to be set for SEE</td></tr>
<tr><td colspan="2">R</td><td>U</td><td>A</td></tr>
<tr><td>1</td><td>Overview of Business, Management Process and Organization Management</td><td>8</td><td rowspan="6">Q4</td><td colspan="2" rowspan="2">Q1</td><td rowspan="2">Q9(a)</td><td rowspan="2">Q13(a)</td></tr>
<tr><td>2</td><td>Human resource Management</td><td>10</td></tr>
<tr><td>3</td><td>Finance Management</td><td>10</td><td colspan="2" rowspan="2">Q2</td><td rowspan="2">Q10(a)</td><td rowspan="2">Q14(a)</td></tr>
<tr><td>4</td><td>Material Management</td><td>10</td></tr>
<tr><td>5</td><td>Project Management</td><td>10</td><td rowspan="2">Q3</td><td>Q5,Q6</td><td>Q9(b), Q11(a), Q11(b)</td><td>Q13(b), Q15(a), Q15(b)</td></tr>
<tr><td>6</td><td>Entrepreneurship and Supporting Institutions</td><td>12</td><td>Q7,Q8</td><td>Q10(b), Q12(a), Q12(b)</td><td>Q14(b), Q16(a), Q16(b)</td></tr>
<tr><td colspan="2">Total</td><td>60</td><td colspan="2">8</td><td>8</td><td>8</td></tr>
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Course Content

Upon completion of the course the student should be able to

UNIT 1 - Overview of Business, Management Process and Organization Management

Duration 8 (L:6 T:2)

Business - types of business in various sectors- service, manufacturing & trade- Industrial sectors – Engineering, process, Textile, Chemical, Agro industries – Globalization and effect of globalization – advantages and Disadvantages- Intellectual Property Rights (I.P.R.)- Concept of management – levels of management – Scientific management – by FW Taylor – Principles of management- functions of

management – Administration – management, Organization – types of organization(line, line & staff, staff & project) – Departmentation – Classification (centralized, decentralized, Authority, Responsibility, and span of control – Forms of Ownership – Proprietorship – Partnership – Joint stock – Co-operative society and Government sectors.

UNIT 2 - Human resource Management **Duration 10 (L:7.5 T:2.5)**

Personal Management – Staffing – Introduction to HR planning – Recruitment procedures – Types of Trainings –Personal training – skill development training – Leaderships – types – Motivation – Maslow's theory – Causes of accidents – safety precautions – Indian Factory Act – Workmen's compensation Act – Industrial disputes Act- ESI Act.

UNIT 3 - Finance Management **Duration 10 (L:7.5 T:2.5)**

Introduction – Objectives of Financial Management – Types of capitals – sources of raising capital – Types of budgets – production budgets – labour budgets – Concept of Profit loss Account – Concept of balance sheet – proforma – types of taxes – brief concepts of – Income Tax, GST.

UNIT 4 - Material Management **Duration 10 (L:7.5 T:2.5)**

Inventory Management – objectives of Inventory Management – ABC Analysis – Economic order Quality – Purchasing – Objectives of purchasing – Functions – Procedures – Material Management.

UNIT 5 - Project Management **Duration 10 (L:7.5 T:2.5)**

Introduction – CPM & PERT – concept of Break event Analysis – quality system - Definition of Quality , concept of Quality , Quality policy, Quality control, Quality Circle, Quality Assurance, Introduction to TQM- Kaizen 5's and 6 sigma concepts, ISO 9000 series standards- Merits and drawbacks of ISO series standards.

UNIT 6- Entrepreneurship and Supporting Institutions **Duration 12 (L:9 T:3)**

Qualities of entrepreneurer-Manager- entrepreneurer and technical entrepreneurer-Advantages of being an entrepreneurer-Functions of entrepreneurer-Types of entrepreneurer and their meaning- Role of entrepreneurship in economy development-Barriers to entrepreneurship-Mention different types of industries-Definitions of small scale industry-Features of SSI-Mention the objectives of developing SSIs-Scope of SSI in terms of various activies-Meritis of SSIs-Explain the important steps involved in starting an SSI-Definition of startup company-start up development basis-state level and national levelsources of information-various central Government institutions and their funcrtions(like NSIC,SIDO,SISI and SSIB)- Telangana State industry policy-Demographic merits of Telanagana state to set up SSIs-Names of state level institutions and their functions(Like SSIDC,DIC,APIITCO)-Banks that support SSIs like SIDBI,APSFC-Thrust areas and core sector as per Telanaga state industry policy-Classification of the projects as per TSIP-Special assistance schemes for women and SC/ST entrepreneurers-Features of TS-IPASS.

Recommended Books

1. Industrial Engg&Management by Dr. O.P. Khanna - Dhanpath Rai & sons New Delhi
2. Business Administration &Management Dr. S.C. Saxena& W.H. Newman&E.Kirby Warren-SahityaBhavan Agra
3. The process of Management by Andrew R. McGill - Prentice Hall
4. Industrial Management by Rustom S. Davar - Khanna Publication
5. Total Quality Management, S Raja Ram, M Shivashankar
6. Industrial management and organizational behaviour, K.K.Ahuja

Suggested E-Learning references

1.http:jiem.org/index.php/jiem
2. https://dipp.gov.in
3. www.worldwidelearn.com/online-education-guide/business/industrial-management-major.html

Suggested Learning Outcomes

1.1 Define Business

1.2 State the Types of Business (Service, Manufacturing, Trade)

1.3 Explain about the various industrial sectors like engineering, process, textile, Agro based industries.

1.4 State the need for Globalization.

1.5 List the Advantages & Disadvantages of globalization w.r.t. India.

1.6 Explain the importance of Intellectual Property Rights (I.P.R.)

1.6 Define Management.

1.7 Explain the concept of management

1.8 Explain the Different Levels of management

1.9 Explain Administration & management

1.10 State the principles of Scientific management by F.W.Taylor

1.11 State the principles of Management by Henry Fayol (14 principles)

1.12 List the Functions of Management

i) Planning ii) Organizing iii) Directing iv) Controlling

1.13 Define Organization

1.14 List the Types of organization :a) Line b) Line & staff c) Functional d) Project

1.15 Explain the four types of organization.

1.16 Define departmentalization.

1.17 Explain the following types of departmentalizations

i) Centralized & Decentralized ii) Authority & Responsibility iii) Span of Control

1.18 Explain the Forms of ownership

i)Proprietorship ii) Partnership iii) Joint stock iv) Co-operative Society v)Govt. Sector

2.1 Define Personal Management.

2.2 Explain the functions of Personal Management

2.3 Define Staffing .

2.4 State the importance of HR Planning.

2.5 Explain the various Recruitment Procedures.

2.6 Explain the need for Training &Development .

2.7 State the various types of training procedures(Induction, Skill Enhancement etc)

2.8 State the different types of Leaderships.

2.9 Explain the Maslow's Theory of Motivation.

2.10 Explain the Causes of accident and the Safety precautions to be followed.

2.11 Explain the importance of various Acts – Indian Factory Act, ESI Act, Workmen Compensation Act, Industrial Dispute Act etc.

3.1 State the Objectives of Financial Management.

3.2 State the Functions of Financial Management.

3.3. State the necessity of Capital Generation & Management.

3.4 List the types of Capitals.

3.5 List the Sources of raising Capital.

3.6 Explain the Types of Budgets

i) Production Budget (including Variance Report) ii) Labour Budget.

3.7 Explain Profit& Loss Account (only concepts) .

3.8 Explain the proforma of Balance Sheet.

3.9 Explain GST and Income Tax .

4.1. Define Inventory Management (No Numerical).

4.2 State the objectives of Inventory Management.

4.3 Explain ABC Analysis.

4.4 State Economic Order Quantity.

4.5 Explain the Graphical Representation of Economic Order Quantity.

4.6 State the objectives of Purchasing.

4.7 State the functions of Purchase Department.

4.8 Explain the steps involved in Purchasing.

4.9 State the Modern Techniques of Material Management.

5.1 State the meaning of Project Management.

5.2 Explain the CPM& PERT Techniques of Project Management.

5.3 Distinguish between CPM & PERT techniques.

5.4 Identify the critical path and find the project duration using CPM & PERT techniques (solve problems on CPM and PERT).

5.5 Explain the concept of Break Even Analysis.

5.6 Define Quality.

5.7 State the concept of Quality.

5.8 Explain the various Quality Management systems.

5.9 Explain the importance of Quality policy, Quality control, Quality Circle.

5.10 State the principles of Quality Assurance.

5.10 State the concepts of TQM, Kaizen 5's and 6 sigma.

5.12 State the constituents of ISO 9000 series standards.

5.13 Merits and draw backs of ISO 9000 series standards.

6.1 Explain the concept of entrepreneurship.

6.2 Mention the qualities of entrepreneur.

6.3 Distinguish between manager-entrepreneur and technical entrepreneur.

6.4 Mention the advantages of being an entrepreneur.

6.5 List the functions of entrepreneur.

6.6 Mention the important types of entrepreneur and their meaning.

6.7 Explain the role of entrepreneurship in economic development.

6.8 Mention the barriers to entrepreneurship.

6.9 Mention different types of Industries.

6.10 Define Small scale industry.

6.11 List the features of SSI.

6.12 Mention the objectives of developing SSIs.

6.13 Explain the scope of SSI in terms of various activities.

6.14 List the merits of SSIs.

6.15 Explain the important steps involved in starting an SSI.

6.16 Define a start up company.

6.17 Explain various start up development phases

6.18 Name the state level and National level sources of information

6.19 Mention the various Central government institutions and their functions

(like NSIC , SIDO, SISI_SSIB)

6.20 Explain Telangana state industry policy.

6.21 Mention the demographic merits of Telangana state to set up SSIs.

6.22 Mention the names of State level institutions and their functions (like SSIDC, DIC, APITCO)

6.23 List the banks that support SSIs like SIDBI, APSFC.

6.24 List the thrust areas and Core sectors as per Telangana state industry policy.

6.25 Classify the projects as per TSIP.

6.26 Mention Special assistance schemes for women and SC/ST entrepreneurs.

6.27 Mention the features of TS-iPASS.

Suggested Student Activities

1.Student visits Library to refer to Management courses.
2.Student observes the solo and partnership business establishments near by and prepare a report about the activities.
3. Identify any one product, being manufactured in local industry, study the process they are following for manufacturing the product, submit handwritten report.
4. Visit a nearby industry, make a report on Plant layout, type of production, quality system is put in practice and quality tools they are using in work place.
5. Motivate student to take case study on plant maintenance of nearby industry, observe type of maintenance they undertake in their industry.
6. Each student should prepare a detailed project report on selected product.
7. Visit a local industry and list the safety precautions carried out there.
8. Meet a local Entrepreneur and prepare a report on his success story.
9.Quiz.
10.Group discussion.
11. Surprise test.

Execution Mode:
1. Maximum of 5 students in each batch should do any one of the following type activity or similar activity related to the course and before take up, get it approved from concerned Teacher.
2. Each batch should conduct different activity and no repeating should occur.
3. Submit a brief report on the activity done on 4-6 pages, A4 size hand written paper. Papers should be simple stapled or tagged. Avoid plastic based files for submitting of reports.
4. Activities can be carried off-class.
5. Assessment shall be made based on quality of activity/presentation/demonstration and report.

CO-PO Mapping Matrix

	Basic knowledge	Discipline Knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & sustainability	Ethics	Individual and Team work	Communication	Lifelong learning	Linked PO
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	
CO1	2	2								3	1,2
CO2	2	2			2	3	3			2	1,2,5,6,7
CO3	2	2							3	3	1,2,9
CO4	2	2			2		3			2	1,2,5,7
CO5	2	3			2					2	1,2,5,10
CO6	2	2	2				3			3	1,2,3,7,10

Internal Evaluation

Test	Units	Marks
Mid Sem 1	1 and 2	20
Mid Sem 2	3 and 4	20
Slip Test 1	1 and 2	5
Slip Test 2	3 and 4	5
Assignments	-	5
Seminars	-	5
	Total	60

QUESTION PAPER PATTERN FOR MID SEMESTER EXAMS

Sl.No	Description	Level	No of Questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering(R)	4	1	Nil	4 Marks
02	Part-B	Understanding(U)	4	3	2	6 Marks
03	Part-C	Application(A)	4	5	2	10 Marks
Total Marks						20 Marks

MID SEM-I EXAM

S.No	Unit No	R	U	A
1	Unit-I	1,2	5(a)	7(a)
			5(b)	7(b)
2	Unit-II	3,4	6(a)	8(a)
			6(b)	8(b)
Total Questions		4	4	4

MID SEM-II EXAM

S.No	Unit No	R	U	A
1	Unit-III	1,2	5(a)	7(a)
			5(b)	7(b)
2	Unit-IV	3,4	6(a)	8(a)
			6(b)	8(b)
Total Questions		4	4	4

The length of answer for each question framed in respect of Part-A, B&C shall not exceed ¼ of a page side, 1 page side and 2page sides respectively

QUESTION PAPER PATTERN FOR SEMESTER END EXAM

Sl.No	Description	Level	No of Questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering(R)	8	1	Nil	8 Marks
02	Part-B	Understanding(U)	8	3	4	12 Marks
03	Part-C	Application(A)	8	5	4	20 Marks
				Total Marks		40 Marks

Unit No	Questions to be set for SEE				
	R			U	A
I	Q4	Q1		Q9(a)	Q13(a)
II					
III		Q2		Q10(a)	Q14(a)
IV					
V		Q3	Q5,Q6	Q9(b), Q11(a), Q11(b)	Q13(b), Q15(a), Q15(b)
VI			Q7,Q8	Q10(b), Q12(a), Q12(b)	Q14(b), Q16(a), Q16(b)
Total Questions	8			8	8

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DIPLOMA IN ELECTRICAL & ELECTRONICS ENGG.
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INDUSTRIAL MANAGEMENT & ENTREPRENEURSHIP

MID SEM -I EXAM MODEL PAPER

TIME: 60 MIN **TOTAL MARKS: 20**

Important Note: Wherever any question has choice, marks will be allotted only to first attempted question. **No marks will be allotted for extra questions answered**

PART – A **Marks: 4Q X 1= 04**

Instructions: (1) Answer all questions
(2) Each question carries **One**marks.

1. Define business.
2. Define organization.
3. What are the different types of Leaderships?
4. Define personnel management.

PART - B **Marks: 2Q x 3 = 06**

Instructions: (1) Answer all questions
(2) Each question carries **Three** marks.

5.(a) State the need for Globalization .

OR

5.(b) Briefly explain Proprietor form of business ownership.

6.(a) Briefly explain the need for Training & Development .

OR

6.(b) What are the Causes of accident in an industry.

PART - C **Marks: 2Q x 5= 10**

Instructions: (1) Answer all questions
(2) Each question carries **Five** marks.

7.(a) State the principles of Scientific management by F.W.Taylor.

OR

7.(b) Explain the line and staff type of organisation.

8.(a) Explain the Maslow's Theory of Motivation.

OR

8.(b) Explain various features of Indian Factory Act.

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MID SEM -II EXAM MODEL PAPER

TIME: 60 MIN **TOTAL MARKS: 20**

Important Note: Wherever any question has choice, marks will be allotted only to first attempted question. **No marks will be allotted for extra questions answered**

PART – A **Marks: 4Q X 1= 04**

Instructions: (1) Answer all questions
(2) Each question carries **One**marks.

1. List the types of Capitals.
2. Mention any two objectives of financial management.
3. Define inventory management.
4. List any two objectives of purchasing.

PART - B **Marks: 2Q x 3 = 06**

Instructions: (1) Answer all questions
(2) Each question carries **Three** marks.

5. (a) What is the necessity of Capital Generation?

OR

5.(b) Briefly explain Profit & Loss Account .

6.(a) State the Modern Techniques of Material Management.

OR

6.(b) What are the steps involved in Purchasing?

PART - C **Marks: 2Q x 5= 10**

Instructions: (1) Answer all questions
(2) Each question carries **Five** marks.

7.(a) Explain about production budget.

OR

7.(b) Explain the proforma of balance sheet.

8.(a) Explain ABC analysis .

OR

8.(b) Explain the Graphical Representation of Economic Order Quantity.

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SEMESTER END EXAM MODEL PAPER

TIME: 2 HOURS **TOTAL MARKS: 40**

PART – A **Marks: 8Q X 1= 8**

Instructions: (1) Answer all questions
(2) Each question carries **one** marks.

1. Define Staffing.
2. List the types of Capitals.
3. State the concept of Quality.
4. List the functions of entrepreneur.
5. What is meant by Project Management?
6. What is meant by Quality Assurance?
7. Define Small scale industry.
8. Define a start up company.

PART - B **Marks: 4Qx3=12**

Instructions: (1) Answer any Four Questions
(2) Each question carries **Three**marks.

9.(a) Write salient features of partnership type of business ownership.

OR

9.(b) Explain briefly the importance of Quality policy .

10.(a) What is meant by GST?

OR

10.(b). Mention the barriers to entrepreneurship.

. 11.(a) What are the concepts of TQM?

OR

11.(b) Explain the importance of Quality control.

12.(a) Explain briefly the role of entrepreneurship in economic development.

OR

12.(b) Mention the features of TS-iPASS.

PART - C **Marks: 4Qx5=20**

Instructions: (1) Answer any Four Questions
(2) Each question carries **Five**marks

13.(a) Explain the principles of Management by Henry Fayol.

OR

13.(b) Explain the concept of Break Even Analysis .

14.(a) Explain the labour budget.

OR

14.(b) Explain the important steps involved in starting an SSI .

15.(a)Draw a network diagram and find out project duration for the following activities.

Activity	1-2	1-3	1-4	2-6	3-5	4-5	5-6	6-7
Duration in days	4	2	3	5	1	2	2	7

OR

15.(b) Explain the importance of quality circle .

16.(a) Explain briefly Telangana state industry policy .

OR

16.(b) What are the special assistance schemes provided for women entrepreneurs.

Course Title :	**ADVANCED FOOTWEAR DESIGNING**	Course Code	**18FW-502C**
Semester	**V**	Course Group	**Core**
Teaching Scheme in Periods(L:T:P)	**3:1:0**	Credits	**3**
Methodology	**Lecture + Assignments**	Total Contact Hours :	**60Pds**
CIE	**60 Marks**	SEE	**40 Marks**

ADVANCED FOOTWEAR DESIGNING

Rationale:
The objective of this course is to make student to design and develop patterns for Derby, oxford, slip on, Boot styles.

Pre requisites

Basic knowledge of Last, Mean forme, basic styles, sizing systems.

Course Outcomes

CO1	Designing and develop the patterns for Derby style.
CO2	Designing and develop the patterns for Oxford style.
CO3	Develop the Patterns for Bottom components. .
CO4	Designing and develop the patterns for Slip on style.
CO5	Designing and develop the patterns for Court shoe.
CO6	Designing and develop the patterns for Boot.

Course Contents.

UNIT 1

1. **Designing and pattern development of Derby style.**
   Development of Derby base, Upper shell, Upper pattern, Development of lining shell, Lining pattern for Toe cap Derby, Wing cap Derby, Toe cap Derby with facing and Foxing , Wing cap Derby with Facing and Counter, Derby with zimped edges.

UNIT2

Course Outcomes

Course Outcomes

2. **Designing and pattern development of Oxford style.**

Development of Oxford standard, Upper shell, Upper pattern, Development of lining shell, Lining pattern for Toe cap Oxford, Wing cap Oxford, Toe cap Oxford with facing and Foxing , Wing cap oxford with facing and Counter, oxford with zimped edges.

UNIT3

3. Designing and pattern development of Bottom components

Development of patterns for insole from the last, sole pattern development, Development of heel pattern, Development of toe puff and stiffener patterns, Development of runner pattern.

UNIT4

4. **Design and Pattern development of Slip on, pantafola & loafers.**

Development of Slip on standard, Upper shell, Upper patterns, Lining shell, Lining patterns, Slip on with half saddle, Full saddle, Bar.

UNIT5

5. Designing and pattern development of Court shoe style

Development of Court shoe standard, shell, Upper pattern development from the upper shell, Development of lining shell, Lining pattern development from the lining shell.

UNIT6

6. **Designing and pattern development of Boot style**

Development of Boot base, shell, Upper pattern development from the upper shell, Development of lining shell, Lining pattern development from the lining shell , Boot with Collar Upper shell, lining shell, Upper patterns, Lining patterns, Collar upper patterns, Collar lining patterns.

Specific Learning Outcomes

Upon completion of the course the student should be able to

1. Designing and pattern development of Derby style.

1.1 Explain how to develop derby base from the mean form.

1.2 Explain how to develop derby upper shell from the Derby base.

1.3 Explain how to develop patterns for various upper components of derby shoe from derby shell.

1.4 State different springs to be given to standard /shell.

1.5 Explain how to develop derby lining shell from the Derby Upper shell.

1.6 Explain how to develop patterns for various lining components of derby shoe from lining shell.

1.7 Explain how to develop Toe cap Derby Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

1.8 Explain how to develop Wing cap Derby Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

1.9 Explain how to develop Toe cap, Facing and Foxing Derby Upper shell, lining shell, Upper patterns, Lining Patterns from the given mean form.

1.10 Explain how to develop Wing cap, Facing and Counter Derby Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

1.11 Explain how to develop Wing cap , Facing and Counter Derby with zimped edges Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

2. Designing and pattern development of Oxford style

2.1 Explain how to develop Oxford standard from the mean form.

2.2 Explain how to develop Oxford upper shell.

2.3 Explain how to develop patterns for various upper components of Oxford shoe from Oxford Upper shell.

2.4 State different springs to be given to standard /shell.

2.5 Explain how to develop Oxford lining shell from the Oxford upper shell.

2.6 Explain how to develop patterns for various lining components of Oxford shoe from lining shell.

2.7 Explain how to develop Toe cap Oxford Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

2.8 Explain how to develop Wing cap Oxford Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

2.9 Explain how to develop Toe cap, Facing, Foxing Oxford Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

2.10 Explain how to develop Wing cap , Facing, Counter Oxford Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

2.11 Explain how to develop Wing cap, Facing, Counter Oxford with zimped edges Upper shell, Lining shell, Upper patterns, Lining Patterns from the given mean form.

3. Designing and pattern development of Bottom components

3.1 Explain how to develop patterns for the insole from the given last.

3.2 Explain how to develop patterns for the sole.

3.3 Explain how to develop patterns for the Heel.

3.4 Explain how to develop patterns for the Toe puff.

3.5 Explain how to develop patterns for stiffener.

3.6 Explain how to develop patterns for Runner.

3.7 Explain how to develop patters for the mid sole.

4. Design and Pattern development of Slip on, pantafola & loafers.

4.1 Develop Slip on standard from the mean form.

4.2 Develop Slip on with half Saddle Upper Shell from the mean form.

4.3 Develop Slip on with half Saddle Upper Patterns from the Upper Shell.

4.4 Develop Slip on with half Saddle Lining shell from the Upper shell.

4.5 Develop Slip on with half Saddle Lining patterns from the Lining shell.

4.6 Develop Slip on with full Saddle Upper Shell from the mean form.

4.7 Develop Slip on with full Saddle Upper Patterns from the Upper Shell.

4.8 Develop Slip on with full Saddle Lining shell from the Upper shell.

4.9 Develop Slip on with full Saddle Lining patterns from the Lining shell.

4.10 Develop Slip on with bar Upper Shell from the mean form.

4.11 Develop Slip on with bar Upper Patterns from the Upper Shell.

4.12 Develop Slip on with bar Lining shell from the Upper shell.

4.13 Develop Slip on with bar Lining patterns from the Lining shell.

4.14 Develop Slip on with Decorative half Saddle Upper Shell from the mean form.

4.15 Develop Slip on with Decorative half Saddle Upper Patterns from the Upper Shell.

4.16 Develop Slip on with Decorative half Saddle Lining shell from the Upper shell.

4.17 Develop Slip on with Decorative half Saddle Lining patterns from the Lining shell.

5. Designing and pattern development of Court shoe

5.1 Develop Court shoe standard from the mean form.

5.2 Develop Court shoe Upper shell from the court shoe standard.

5.3 Develop patterns for various upper components of Court shoe from Court shoe upper shell.

5.4 State different springs to be given to standard /shell.

5.5 Develop Court shoe lining shell.

5.6 Develop patterns for various lining components from lining shell.

5.7 Develop Toe cap Court shoe Upper shell from the court shoe standard.

5.8 Develop Toe cap court shoe upper patterns from Court shoe upper shell.

5.9 Develop Toe cap court shoe lining shell from the upper shell.

5.10 Develop Toe cap court shoe lining patterns for various lining components from lining shell.

5.11 Develop Wing cap Court shoe Upper shell from the court shoe standard.

5.12 Develop Wing cap court shoe upper patterns from Court shoe upper shell.

5.13 Develop Wing cap court shoe lining shell from the upper shell.

5.14 Develop Wing cap court shoe lining patterns for various lining components from lining shell.

5.15 Develop Court shoe with counter Upper shell from the court shoe standard.

5.16 Develop Court shoe with counter upper patterns from Court shoe upper shell.

5.17 Develop Court shoe with counter lining shell from the upper shell.

5.18 Develop Court shoe with counter lining patterns for various lining components from lining shell.

6. Designing and pattern development of Boot style

6.1 Explain how to develop Boot upper base from the mean form.

6.2 Explain how to develop Boot upper shell from boot upper base.

6.3 Explain how to develop patterns for various upper components of Boot from Boot shell.

6.4 State different springs to be given to standard /shell.

6.5 Explain how to develop Boot lining shell from the boot upper shell.

6.6 Explain how to develop patterns for various lining components from lining shell.

6.7 Explain how to develop Boot with Collar upper shell from boot upper base.

6.8 Explain how to develop patterns for various upper components of Boot from Boot shell.

6.9 Explain how to develop Collar upper, Collar foam patterns from boot upper shell.

6.10 Explain how to develop Boot with Collar lining shell from the boot with collar upper shell.

6.11 Explain how to develop patterns for various lining components from lining shell.

6.12 Explain how to develop Collar lining pattern from the lining shell.

Suggested Student Activities

Each student should do any one of the following type activity or any other similar activity related to the course and before conducting, get it approved from concerned Teacher and HOD.

ACTIVITIES

1. Collect samples, sketches as an example for various footwear styles.
2. Survey of Fashion magazines for new footwear styles.
3. Survey of new footwear styles in Net.
4. Showing the new designs to peers and take their opinion.

Reference Books

1. Lectures notes on Footwear Designing –IqbalHussain
2. Manual of shoe making - Clarks.
3. Text book of Footwear manufacture - H.J.Thronton.
4. Introduction to the modern Footwear Technology - B. Venkatappaiah.
5. Shoe designing-CLRI.
6. Shoe designing –ARS-ITALY.
7. Shoe designing –Pattric

Suggested E-Learning references

http://icanmakeshoes.com>shoemaking.
2. **www.simpleshoemaking.com**
3. http://shoemakingcoursesonline.com

CO PO Mapping Matrix

Course outcomes		CL	Linked PO	Teaching periods
CO1	Designing and develop the patterns for Derby style.	**R/U/A**	**3,4,10**	**8**
CO2	Designing and develop the patterns for Oxford style.	**R/U/A**	**3,4,10**	**8**
CO3	Develop the Patterns for Bottom components.	**R/U/A**	**3,4,10**	**8**

	.			
CO4	Designing and develop the patterns for Slip on style.	**R/U/A**	**3,4,10**	**12**
CO5	Designing and develop the patterns for Court shoe.	**R/U/A**	**3,4,10**	**12**
C06	Designing and develop the patterns for Boot.	**R/U/A**	**3,4,10**	**12**

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
			5, 6			
6	VI		7,8	10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

BOARD DIPLOMA EXAMINATIONS (C-18)
MID SEM-I , FEBRUARY -2019
FIFTH SEMESTER EXAMINATION

Subject Name : Advanced Footwear Designing.

Subject Code : 18FW-502C

[Time Duration : 1 Hour] [Total marks :20]

PART-A

Answer ALL Questions and each question carries 01 marks **4 x 1= 4 marks**

1. Write the formulae for the back height of the shoe.
2. Draw the neat sketch of Derby Upper base.
3. Explain how to develop Oxford standard from the mean form.
4. Draw the upper shell of Oxford with Toe cap Facing and Foxing.

PART-B

Answer any TWO Questions s and each question carries 03 marks **2 x 3 = 6 marks**

5. a) Explain how to develop Derby Upper shell from the Derby base.

(OR)

b) Explain how to develop Derby Quarter pattern from the Derby Upper shell.

6. a) Explain how to develop Oxford lining shell from the Oxford Upper shell.

(OR)

b) Explain how to develop Oxford Vamp lining patterns from Oxford Lining shell.

PART-C

Answer any TWO Questions and each question carries 05 marks **2 x 5= 10 marks**

7. a) Develop Toe cap Derby design and explain how to develop Toecap Derby upper shell and upper patterns from the Derby base.

(OR)

b) Explain how to develop Derby lining shell and lining patterns from the Derby Upper shell.

8. a) Develop Wing cap oxford design and explain how to develop upper shell and upper pattern from the oxford standard.

(OR)

b) Develop plain Oxford design and explain how to develop Upper shell and Upper patterns from the Oxford standard.

BOARD DIPLOMA EXAMINATIONS (C-18)
MID SEM-II, FEBRUARY -2019
FIFTH SEMESTER EXAMINATION

Subject Name : Advanced Footwear Designing.

Subject Code : 18FW-502C

[Time Duration : 1 Hour] [Total marks :20]

PART-A

Answer ALL Questions and each question carries 01 marks **4 x 1= 4 marks**

1. Explain how to develop Toe puff pattern from the Upper shell.
2. Explain how to develop Counter Stiffener pattern from the Upper shell.
3. Explain how to develop Standard for the Slip on shoe.
4. Draw the neat sketch of Slip on with Buckle and bar Upper shell.

PART-B

Answer any TWO Questions s and each question carries 03 marks **2 x 3 = 6 marks**

5. a) Explain how to develop Runner patterns from the Insole pattern.

(OR)

b) Explain how to develop Midsole pattern from the Insole pattern.

6. a) Explain how to develop Slip on with full saddle upper shell from the slip on Standard.

(OR)

b) Explain how to develop Apron pattern from the slip on with full saddle upper shell.

PART-C

Answer any TWO Questions and each question carries 05 marks **2 x 5= 10 marks**

7. a) With scotch tape explain how you will develop insole pattern for the last.

(OR)

b) Explain how to develop Sole and Heel pattern from the Insole pattern.

8. a) Develop Slip on with half saddle design and explain how to develop Slip on with half saddle upper shell and upper patterns from the slip on standard.

(OR)

b) Explain how to develop Slip on with half saddle lining shell and lining patterns from the Upper shell.

C18-FW-502C

BOARD DIPLOMA EXAMINATION, (C-18)

Leather goods & Footwear Technology branch– V SEMESTER EXAMINATION

Advanced Footwear Designing

Time : 2 Hours] [Total Marks: 40

PART-A

08X01=08

Instructions : 1. Answer **ALL** questions.

2. Each question carries **ONE** mark.

1. Explain how to develop derby base from the mean from.
2. Draw the neat sketch of Slip on with full saddle upper shell.
3. Write the back height formulae for the Boot of different sizes.
4. Draw the neat sketch of Toe cap derby Upper shell.
5. Explain how to develop Court shoe standard from the Mean form.
6. Draw the neat sketch of Wing cap court shoe Upper shell.
7. Draw the neat sketch of Boot with Collar upper shell.
8. Explain how to develop Boot collar pattern from the Boot with Collar Upper shell.

PART-B

04X03=12

Instructions : 1. Answer any **FOUR** questions.

2. Each question carries **THREE** marks.

9. (a) Explain how to develop Derby lining shell from the Derby upper shell.

(or)

9. (b) Explain how to develop Court shoe standard from the mean form.

10. (a) Explain how to Develop Apron pattern from the Slip on with half saddle Upper shell.

(or)

10. (b) Explain how to develop Boot with Collar lining shell from the Boot with Collar Upper Shell.

11. (a) Explain how to develop Toe cap Court shoe Lining shell from the Toe cap court shoe Upper shell.

(or)

11. (b) Explain how to Toe cap Court shoe lining patterns from the Lining shell.

12. (a) Explain how to develop Boot Upper base from the mean form.

(or)

12. (b)Explain how to develop Boot Upper shell from the Boot Upper base.

PART-C

04X5=20

Instructions : 1. Answer any **FOUR** questions.

2. Each question carries **FIVE** marks.

13. (a) Develop wing cap Derby style and explain how to develop upper shell, upper patterns from the derby base.

(or)

13. (b) Develop Court shoe style and explain how to develop Upper shell, Upper patterns from the court shoe standard.

14. (a) Develop slip on with buckle and bar style and explain how to develop its upper shell and upper patterns from the slip on standard.

(or)

14. (b) Develop Boot design and explain how to develop upper base, Upper shell , Upper patterns from the mean form.

15. (a) Explain how to develop court shoe with counter upper shell from the meanform.

(or)

15. (b) Explain how to develop court shoe with counter Upper patterns from the Court shoe with counter upper shell

16. (a) Explain how to develop Boot with collar upper shell from the Boot base.

(or)

16. (b) Explain how to develop Boot with collar upper patterns from the boot with collar upper shell.

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18FW- 503C, SPORTS AND SPECIALTY FOOTWEAR

Course Title :	**SPORTS AND SPECIALTY FOOTWEAR**	Course Code	**18FW- 503C**
Semester	**V**	Course Group	**Core**
Teaching Scheme in Periods(L:T:P)	**3:1:0**	Credits	**3**
Methodology	**Lecture + Assignments**	Total Contact Hours :	**60Pds**
CIE	**60 Marks**	SEE	**40 Marks**

Legend: R; Remember, U: Understand A: Application An: Analyze

Rationale:
The objective of this course is to make student to understand fabrication procedure, material requirements, design requirement of industrial safety shoe, sports shoe, and orthopedic footwear.

Pre requisites

Basic knowledge of fabrication procedure footwear.

Course Outcomes

CO1	Explain the specifications of Industrial safety shoe.
CO2	Explain material requirement, Fitting requirement of Sports shoes.
CO3	Design Sports shoe.
CO4	Infer the Gait and weight bearing of person by Sole and Heel wear analysis.
CO5	Explain the modifications required for Orthopedic footwear.
CO6	Explain the fabrication procedure of Specialty Footwear.

COURSE CONTENT

UNIT 1

1.0 Industrial safety shoe.

Specifications of Leather safety boot, shoes, Protective steel toe cap, Industrial and safety Rubber knee boot, Measurement of Impact value, Leather safety boot and shoe for miners, Safety rubber canvas boot for miners.

UNIT 2

2.0 Requirement of Sports shoes

Upper, Sole materials of Sports shoe, Influence of footwear fitting on athlete, Lacing systems, Specific category of fittings, running shoes, Wear pattern in sports shoes, running spikes, Tennis shoes, Soccer shoes, Gymnastic shoes.

UNIT 3

3.0 Sports shoe design

Design of Jogging shoe, Running shoe, Football shoe, Gymnastic shoe, Running spikes, Tennis shoe.

UNIT 4

4.0 Troubles of Feet, Toes.

Damages to skin, Troubles of the toe, Troubles of the arches, Design for different kind of foot problems, Pre checking analysis.

UNIT 5

5.0 Footwear Modifications for Orthopaedic Footwear.

Internal, External, Inserted modifications, Extra depth shoes, Fibre glassing, Built up for short limbs, Chilterns footwear modifications, Casting the foot for Custom shoes.

UNIT 6

6.0 Fabrication of Specialty Footwear.

Fabrication of Running shoe, Football shoe, gymnastic, Industrial safety footwear, Safety rubber canvas boot for miners, Orthopaedic footwear.

Specific Learning Outcomes

Upon completion of the course the student should be able to

1.0 Industrial Safety Shoes

1.1 Define safety shoes.
1.2 Name different activities in which safety footwear may be used.
1.3 Draw the sketch of leather safety boot and identify the parts.
1.4 State the thickness, material requirement of various upper components.
1.5 State the thickness, material requirement of various bottom components.
1.6 Explain the specifications of leather safety boot.
1.7 Draw the sketch of leather safety shoe and identify the parts.
1.8 Explain the specifications of leather safety shoe.
1.9 Explain the use of Steel toe cap.
1.10 Describe thickness requirement of steel toe cap.
1.11 Write the specifications of Steel toe cap to be used in safety footwear.
1.12 Determine the impact value of the steel toe cap.
1.13 Draw the sketch of Industrial and safety rubber knee boot and identify the parts.
1.14 Categories Industrial and safety rubber knee boot.
1.15 State the thickness, material requirement of various upper components.
1.16 State the thickness, material requirement of various bottom components.
1.17 Explain the specifications of Industrial and safety rubber knee boot.
1.18 Draw the sketch of leather safety boot for miners and identify the parts.
1.19 State the thickness, material requirement of various upper components.
1.20 State the thickness, material requirement of various bottom components.
1.21 Explain the specifications of leather safety boot for miners.
1.22 Draw the sketch of leather safety shoe for miners and identify the parts.
1.23 State the thickness, material requirement of various upper components.
1.24 State the thickness, material requirement of various bottom components.
1.25 Explain the specifications of leather safety shoe for miners.
1.26 Draw the sketch of Safety rubber canvas boot for miners and identify the parts.
1.27 State the thickness, material requirement of various upper components.
1.28 State the thickness, material requirement of various bottom components.
1.29 Explain the specifications of safety rubber canvas boot for miners.
1.30 Explain the specifications of Sole and Heel rubber to be used in Safety Rubber canvas boot for miners.

2.0 Requirement of Sports Shoes.

2.1 Define anatomical last.
2.2 Define combination last.
2.3 List different type of leathers used in sports shoe manufacturing.
2.4 Explain following synthetic upper materials used in sports shoe manufacturing.
   a. Rubber uppers.
   b. Flow moulded uppers.
   c. Slush and dip moulded uppers.
   d. P.V.C injection moulding.

e. Soft nylons.
f. Mesh nylons.
g. P.V.C coated fabrics.
h. Poromerics.

2.5 Explain following Sole materials used in sports shoe manufacturing.
a. Micro cellular rubber (M.C.R)
b. Ethyl Vinyl Acetate (E.V.A)
c. Poly Urethane (P.U)
d. Poly Vinyl chloride.
e. Nylons.
f. Carbon fibre plate soles

2.6 Distinguish following lacing systems.
a. Variable width lacing.
b. Additional heel stabilizing lacing.
c. Double vamp lacing.
d. Criss cross lacing.

2.7 Define Computerized micro pacer shoe.
2.8 List different benefits of shoe that fit well.
2.9 Explain the fitting requirements of
a. Skates.
b. Hockey skates.
c. Court shoes.
d. Track shoe.
e. Hiking and mountaineering

2.10 Distinguish Slow, Middle, fast running.
2.11 State the features required in a running shoe used for long distance running on hard road surfaces.
2.12 Explain fitting requirement of football, tennis, running spikes.

2.13 Draw the sketches of following footwear.
a. jogging shoes.
b. Running shoes.
c. Football shoes.
d. Gymnastic shoes.
e. Running spikes.
f. Tennis shoe.

2.14 Explain upper, bottom component requirement of following footwear.
a. jogging shoes.

b. Running shoes.

c. Football shoes.

d. Gymnastic shoes.

e. Running spikes.

f. Tennis shoe.

3.0 Sports shoe design

3.1 Design of Jogging shoe.

3.2 Design of Running shoes.

3.3 Design Football shoes.

3.4 Design Gymnastic shoes.

3.5 Design Running spikes.

3.6 Design Tennis shoes.

4.0 **Troubles of Feet, Toes.**

4.1 List different type of damages to the skin.

4.2 State reasons for different type of skin damages.

4.3 Suggest precautionary measures to prevent skin damages.

4.4 List different troubles of the toe.

4.5 State the reasons for following troubles of the toe.

a. Hallux Valgus.
b. Hallux rigidus.
c. Hammer toe.
d. Clawed toe.
e. Mallet toe.

4.6 Suggest precautionary measures to prevent toe troubles.

4.7 Explain the reasons for following troubles of Arches.

a. Meta tarsalgia.
b. Pes planus.
c. Pes Cavus.

4.8 Distinguish following type of footwear.

a. Occasional shoe.

b. Conventional shoe.

c. Functional shoe.

d. Prescription shoe.

4.9 Describe following orthopaedic footwear.

a. Adult surgical boot.

b. Surgical boot with posterior opening.

c. Post surgical shoe.

d. Amboot.

e. Extra depth shoe.

4.10 Infer the gait of a person by sole, heel, upper, lining, counter, insole wear analysis.

5.0 Footwear modifications for Orthopaedic Footwear.

5.1 Distinguish internal, external, inserted modifications.

5.2 Describe following inserted modifications.

a. Thomas heel.
b. Inserted sole wedge.
c. Heel and sole wedges.
d. Flared heels.
e. External sole wedge.
f. Lateral sole wedge.

5.3 Describe the following internal modifications.

a. Metatarsal padding.
b. Longitudinal arch padding.

5.4 Describe the following external modifications.

a. Denver bar.
b. Mayo crescent bar.
c. Thomas bar.
d. Rocker bar.

5.5 Explain the fabrication process of extra depth shoe.

5.6 Explain how to fibre glass the shoe for extra reinforcement in specific areas of Orthopaedic footwear.

5.7 List the fabrication of Heel with Such material.

5.8 List different materials used in Built up for short limbs.

5.9 Explain the fabrication procedure of Built up for short limbs.

5.10 Describe the footwear modifications required for child with following abnormalities.

a. Bow legs.

b. Knock knees.

c. The Talipesequinovarus foot.

5.11 Explain the application of following Splints in children’s footwear modification

a. The Friedman Counter Splint.

b. Twister Cables.

5.12 Explain the Step by Step procedure of Casting the foot for fabrication of Orthopaedic footwear.

6.0 **Fabrication of Specialty Footwear.**

6.1 Explain the fabrication of Foot ball boot.

6.2 Explain the Fabrication of Gymnastic shoe.

6.3 Explain the fabrication of Running spikes.

6.4 Explain the fabrication of Industrial Footwear.

6.5 Explain the Fabrication of Safety Rubber canvas boot for miners.

6.6 Explain the fabrication of Orthopaedic Shoes for the male patient of 40 years old With 4 years of industrial injury to his right foot. The foot could be corrected, but because of the patients medical history the doctor will not risk another piece of surgery. A part of the fracture, fragments or pieces are separating and because of the partial rigid foot a Forefoot Varus is present. Constant pressure on the fifth metatarsal head makes walking almost unbearable. Patient also has a Short Achilles tendon that does not allow him to get his right heel on the floor by one –half inch .

Suggested Student Activities

Each student should do any one of the following type activity or any other similar activity related to the course and before conducting , get it approved from concerned Teacher and HOD.

ACTIVITIES

5. Collect samples of innovative Footwear materials used in sports shoes.
6. Collect sketches of Sports shoe designs of popular brands.
7. Study the abnormalities in feet of near by people if any.
8. Showing the new designs to peers and take their opinion.

REFERENCES:

1. A complete hand book of Atheletic Footwear, Melvyn&chestin, Fair Price Publications, New York.
2. Text book of Footwear Manufacture – J.H. Thronton.

Suggested E-Learning references

http://icanmakeshoes.com>shoemaking.
2. **www.simpleshoemaking.com**
3. http://shoemakingcoursesonline.com

CO PO Mapping Matrix

Course outcomes		CL	Linked PO	Teaching periods
CO1	Explain the specifications of Industrial safety shoe.	**R/U**	**1,2**	**8**
CO2	Explain material requirement, Fitting requirement of Sports shoes.	**U/A**	**1,2**	**8**
CO3	Design Sports shoe.	**U/A**	**2,3**	**10**
CO4	Infer the Gait and weight bearing of person by Sole and Heel wear analysis.	**U/A**	**1,2**	**10**
CO5	Explain the modifications required for Orthopedic footwear.	**U/A**	**2,5,9**	**16**
C06	Explain the fabrication procedure of Specialty Footwear.	**A**	**2,3,4**	**8**

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3 — 5, 6	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
6	VI		3 — 7,8	10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

BOARD DIPLOMA EXAMINATIONS (C-18)

MID SEM-I

FIFTH SEMESTER EXAMINATION

Subject Name : SPORTS AND SPECIALTY FOOTWEAR

Subject Code : 18FW-503C

[Time Duration : 1 Hour] [Total marks :20]

PART-A

Answer ALL Questions and each question carries 01 marks 4 x 1= 4 marks

9. Draw the neat sketch of Leather Safety shoe and identify its parts. Specialty
10. Draw the neat sketch of Industrial and Safety Rubber Knee boot and identify its parts.
11. Explain Variable width lacing system.
12. Name different materials that can be used as Soles in fabrication of Sports footwear.

PART-B

Answer any TWO Questions s and each question carries 03 marks 2 x 3 = 6 marks

13. a) Explain the specifications of Steel toe cap to be used in Industrial and safety footwear.

(OR)

b) Write Sole and Heel Rubber requirement of Safety Rubber canvas boot for miners.

14. a) Explain different benefits of shoe that fit Well.

(OR)

b) Explain the fitting requirement of Court shoe.

PART-C

Answer any TWO Questions and each question carries 05 marks 2 x 5= 10 marks

15. a) If a person is working in underground Coal mine what should be the specification for his leather safety boot.

(OR)

b) Explain how you will evaluate the quality of the Steel toe cap from Impact resistance test.

16. a) Explain the features required in a shoe used for long distance running on hard road surfaces. (OR)

b) Explain Fitting, Upper, Sole requirements of Soccer shoe.

BOARD DIPLOMA EXAMINATIONS (C-18)
MID SEM-II
FIFTH SEMESTER EXAMINATION
Subject Name : SPORTS AND SPECIALTY FOOTWEAR

Subject Code : 18FW-503C
[Time Duration : 1 Hour] [Total marks :20]

PART-A

Answer ALL Questions and each question carries 01 marks **4 x 1= 4 marks**

1. Draw the neat sketch of Football shoe.
2. What are Running Spikes?
3. What is Hallux Valgus?
4. What is Hammer Toe?

PART-B

Answer any TWO Questions s and each question carries 03 marks **2 x 3 = 6 marks**

5. a) Explain the Fitting requirements of Gymnastic shoe.

(OR)

b) Draw the neat sketch of Gymnastic shoe and explain its design requirements.

6. a) Explain the features and uses of Surgical boot with posterior opening.

(OR)

b) Explain the Footwear Modifications required for a person with Pes planus Feet.

PART-C

Answer any TWO Questions and each question carries 05 marks **2 x 5= 10 marks**

7. a) Design Tennis shoe to play Tennis on soft grass Court.

(OR)

b) Design Football shoe to play football on soft grass court.

8. a) Explain how you will infer Gait of a person by Sole and Heel Wear Inspection.

(OR)

b) Explain Fabrication procedure of Surgical shoes for 34 years Male patient with above average body weight of around 94 kgs having a long third metatarsal shaft on left feet and as a result of walking on this metatarsal head the patient has

developed a Callus at this site, the callus has a painful corn in the center of it and patient also has a Pes cavus foot.

C18-FW-503C

OARD DIPLOMA EXAMINATION, (C-18)
Leather goods & Footwear Technology branch – V SEMESTER EXAMINATION

SPORTS AND SPECIALTY FOOTWEAR

Time : 2 Hours] [Total Marks: 40

PART-A

08X01=08

Instructions : 1. Answer **ALL** questions.

2. Each question carries **ONE** mark.

9. Explain Additional Heel Stabilizing lacing system.
10. What is Mallet Toe?
11. What is Rocker bar?
12. What are Longitudinal Arch Pads? Write its uses.
13. Briefly explain Twister cables.
14. What is Thomas heel?
15. Write the properties required for the leather to be used in the fabrication of Gymnastic shoes upper.
16. Write the properties required for Gymnastic shoe Sole materials.

PART-B

04X03=12

Instructions : 1. Answer any **FOUR** questions.

2. Each question carries **THREE** marks.

9. (a) Explain the fitting requirement of skates, Hockey skates.

(or)

9. (b) Explain the fabrication procedure of Sach heels.

10. (a) What is Prescription Footwear?

(or)

10. (b) Write the sole and Heel rubber requirement of Safety Rubber canvas boot for Miners.

11. (a) What is Thomas Bar? Write its used

(or)

11. (b) Explain the applications of Rocker bar?

12. (a) Explain how to reinforce the Toe area of Safety Rubber canvas boot for miners.

(or)

12. (b) Explain how to reinforce the Counter area of Safety Rubber canvas boot for miners.

PART-C

04X5=20

Instructions : 1. Answer any **FOUR** questions.

2. Each question carries **FIVE** marks.

13. (a) Explain the characteristics required for Footwear to be worn when fast running on Running Tracks.

(or)

13. (b)Suggest the Footwear modifications required for the person with Talipes equino Varus foot.

14. (a) Explain how you will infer Gait of a person by Sole and Heel Wear Inspection.

(or)

14. (b) Explain how will you fabricate shoe which should have spikes.

15. (a) Explain how to make orthopaedic footwear for a person with one leg short compare to other leg by 1.75 inches.

(or)

15. (b) Explain how will you reinforce Orthopedic footwear at required area by Fiber glassing.

16. (a) Explain the fabrication procedure of Football boot.

(or)

16. (b) Explain how to make orthopedic shoes for the Male patient of 37 years old, with 4 years of industrial injury to her right foot. The foot could be corrected, but because of the patients medical history the doctor will not risk another surgery. A part of the fracture, fragments or pieces are separating and because of the partial rigid foot a forefoot Varus is present. Constant pressure on the fifth metatarsal head makes walking almost

unbearable. Patient also has a Short Achilles tendon that does not allow her to get her right heel on the floor by one –half inch.

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18FW-504E-A, Estimating, Costing, Industrial Promotion and Marketing

Course Title :	**Estimating, Costing, Industrial Promotion and Marketing**	Course Code	**18FW-504E-A**
Semester	**V**	Course Group	**Elective**
Teaching Scheme in Periods(L:T:P)	**3:1:0**	Credits	**3**
Methodology	**Lecture + Assignments**	Total Contact Periods :	**60Pds**
CIE	**60 Marks**	SEE	**40 Marks**

Legend: R: Remember, U: Understand A: Application An: Analyze

Rationale:

The objective of this course is to make student to understand costing principles, estimate costing of finished articles, under stand basic accounting terminology, principles of accounting, preparing financial accounts statements, familiar about export, import policies, international marketing terminology and sales promotion techniques.

Pre requisites

CO1 : Analyzing elements of cost, various costs involved in finished products, Overheads

CO2 : Estimate material consumption requirement for various footwear articles and Cost of Finished articles

CO3 : Understand the accounting principles, terminology, evaluate final financial accounts statements

CO4 : Understand the growth of Leather and leather products sector, Identify different organisation's and its role in research and

	development of leather products sector, know the concept of international marketing	Basic knowledge of Industrial management and entrepreneurship, basic mathematics.
CO5 :	Understand the marketing Concept, Sales promotion techniques, sales tax, GST and role of advertising media on sales promotion	
CO6 :	Identify various instruments of exchange and understand their	

Course Outcomes

On successful completion of the course, the students will be able to attain below Course Outcomes:

COURSE CONTENT

UNIT 1

Principles of Estimating & Costing **Duration:11 Periods (L: 08– T:03)**

Classification of cost-Elements of cost-Distinguish estimating and costing-Overheads-Depreciation and causes for depreciation-Depreciation calculation methods-simple problems total cost calculation

UNIT2

Costing of Finished Articles **Duration: 06 Periods (L: 04– T:02)**

Calculation of quantities of material required for the manufacturing of different types of Footwear-Estimation of cost of manufacture of different types of Footwear :Chappal, shoe upper-full shoe-boot

UNIT3

Financial accounting, Elements of book keeping, preparation of profit and loss account, balance sheet **Duration: 14 Periods (L: 10– T:04)**

Importance of financial management-Functions and objectives of Financial accounting, book keeping- Merits of book keeping and accountancy to businessmen and government-Different terms of accounts, basic accounting principles-Types of accounts, fundamental concepts and basic rules for debit and credit-Double entry system of accounting and its advantages-Define journal, ledger and cashbook-Posting of journal entries and problems

on journal-Techniques involved in ledger posting and simple problems (illustration)-Cash book and state types of cash books-Assets & Liabilities with examples-Trial balance sheet-Trading account-Profit and loss account-Balance sheet.

UNIT 4

Growth and contribution of Footwear Industry, Different Agencies Promoting Leather Product Industries, Export and Import Policies

Duration : 08 Periods (L: 06– T:02)

Growth of Leather, Footwear Industry-Role of Organisations /institutions and their nature of work :Central Leather Research institute (CLRI)-Council of Leather Exports (CLE)-Central Footwear Training Institute (CFTI)-Footwear Design and Development Institute (FDDI) -Restrictions on import and export of Goods-International Marketing basic concepts-International Price quotations terminology.

UNIT5

Sales planning and control, sales promotion Techniques

Duration:13 Periods (L: 10– T: 03)

Market demand-Differentiate Buyers and Sellers market-Type of markets-Functions of marketing- Planning and fore casting of marketing trends-Fore casting techniques-Inventory control-Type of inventories and objectives of inventory management-Importance, objectives and functions of purchasing-Methods of purchasing and purchase procedure- Sales tax-GST-Functions of sales department-Sales promotion methods-Functions of salesman, qualities required for a good salesman-Role of advertising in the sales promotion- Role of advertising media such as news papers, magazines, direct mail and television etc.

UNIT 6

Instruments of Exchange **Duration: 08 Periods (L:06 – T02)**

Various instruments of exchange-Cheques, Hundi, Bill of Exchange, invoice- Features of Cheque and explain how to draft a cheque-Types of crossing cheque-Features of Bills of Exchange-Kinds of bills and distinguish inland bill of exchange and foreign bill of exchange-Trade bill Vs Financial bill-Distinguish cheque and bill of exchange- Feature of promissory notes-hundies- Forms of Invoice

Specific Learning Outcomes

Upon completion of the course the student should be able to

1.0 **Principles of Estimating & Costing**

1.1 Define the cost

1.2 State the objective of costing

1.3 Explain the necessity of cost control

1.4 Mention the type of costs

1.5 Classify the cost into direct and indirect costs

1.6 Classify the cost in association with the product

1.7 Classify the cost in to fixed costs and variable costs

1.8 Explain estimating

1.9 Distinguish estimating & costing

1.10 State the elements of cost

1.11 State the various costs to be taken into account while calculating the total cost

1.12 Define depreciation, Depreciation fund, Causes for depreciation

1.13 State the various methods involved in calculating depreciation such as straight line method, annuity method, sinking fund method, sum of the year digits method etc

1.14 Solve simple problems on depreciation by straight line method.

1.15 Compute the total cost and solving the simple problems

2.0 **Costing of Finished Articles**

2.1 Know the different materials used in footwear and their costs

2.2 Understand the materials consumption calculation

2.3 Estimate the Total cost of manufacturing for the following finished footwear articles

2.3.1 Chappal

2.3.2 Shoe Upper

2.3.3 Full shoe

2.3.4 Boot

3.0 Financial accounting, Elements of book keeping, preparation of profit and loss account, balance sheet

3.1 Functions and objectives of Financial accounting
3.2 State the objectives of book keeping
3.3 Know the merits of book keeping and accountancy to businessmen and government
3.4 Know Different accounting terminology.
3.5 State the basic accounting principles
3.6 State the types of accounts
3.7 Understand fundamental concepts and basic rules for debit and credit
3.8 Explain the double entry system of accounting and its advantages
3.9 Define journal, ledger and cashbook
3.10 Know the positing of journal entries and problems on journal
3.11 Distinguish Journal & Ledger
3.12 Explain the techniques involved in ledger posting and simple problems (illustration)
3.13 Define Cash book and state types of cash books
3.14 Simple problems on Single column Cash book
3.15 Define assets & Liabilities with examples
3.16 Define trial balance and state the characteristics of trial balance.
3.17 Write the trial balance sheet proforma.
3.18 Know the errors revealed and not revealed by trial balance.
3.19 State and explain the objectives of most important final financial accounts.
3.20 Know the method of preparation of trading account and draw the pro forma of the trading account.
3.21 Define and explain the importance of Profit and loss account.
3.22 Know various items that appear in profit and loss account.
3.23 Illustrate pro forma of profit and loss account.
3.24 Define balance sheet.
3.25 Prepare the balance sheet.
3.26 Solving the problems related to above three final financial accounts.

4.0 Growth and contribution of Leather and Footwear Industry, Different Agencies Promoting Leather Product Industries, Export and Import Policies

4.1 Explain the growth of Leather , Footwear Industry in India
4.2 Strengths and weaknesses of different Indian footwear industry competitors
4.3 Know the role of following institutions and their nature of work
a) Central Leather Research institute (CLRI)
b) Council of Leather Exports (CLE)
c) Central Footwear Training Institute (CFTI)
d) Footwear Design and Development Institute (FDDI)
4.4 Know the restrictions on import and export of Goods by Government

4.5 Know about following international marketing basic information.

a. Basic work.
b. Mode of export.
c. Method of correspondence.
d. Payment receipt procedure.
e. Selection of importers.
f. Trade loss.
g. Helping hands.
h. Trade barriers.

4.6 Understand International price quotations Terminology

a. F.O.B.
b. C.I.F.
c. Letter of credit.
d. Free trade zone.
e. Dumping.
f. Forwarding agency.
g. Bill of loading.

4.7 Know the difference between domestic market and International marketing

5.0 Sales planning and control, sales promotion Techniques

5.1 Understand the market demand.
5.2 Differentiate Buyers and Sellers market
5.3 State the type of markets
5.4 Explain the functions of marketing
5.5 Explain the planning and fore casting of marketing trends
5.6 Explain the importance of fore casting and state the limitations of fore casting
5.7 State and explain fore casting techniques
5.8 Define Inventory
5.9 State the type of inventories and objectives of inventory control and management
5.10 State the importance, objectives and functions of purchasing
5.11 Explain the methods of purchasing and purchase procedure
5.12 Understand about sales tax, GST
5.13 Single point and multi point Sales tax system
5.14 Explain the functions of sales department
5.15 Explain the sales promotion methods
5.16 State the functions of salesman, qualities required for a good salesman
5.17 Explain the role of advertising in the sales promotion

5.18 Explain the role of advertising media such as news papers, Magazines, direct mail and television etc.

6.0 **Instruments of Exchange**

6.1 State the various instruments of exchange
6.2 Define cheques, Hundi, Bill of Exchange invoice
6.3 State the features of cheque and explain how to draft a cheque
6.4 Explain the types of crossing cheques
6.5 Explain the features of Bills of Exchange
6.6 State the kinds of bills and distinguish inland bill of exchange and foreign bill of exchange, Trade bill Vs Financial bill
6.7 Distinguish cheque and bill of exchange
6.8 State the feature of promissory notes
6.9 State the concept and types of hundies .
6.10 Explain the features of Invoice

Suggested Student Activities

ACTIVITIES

9. Collect price quotations from different footwear materials vendors.
10. Collect GST rates information related to all footwear materials and finished articles.
11. Prepare feasibility report for setting up of small footwear repair centre.
12. Collect Profit & loss account statement for the past two years of any organisation and infer the results.

Reference Books

1. Industrial Engineering and Management -by Dr.O.P Khanna
2. Production Management- by Buffa.
3. Engineering Economics and Management Science - by Banaga& Sharma.
4. S.S.I Hand Book by S.P.B. Publishers.
5. Personnel Management by Flippo.
6. Industrial Management and Entrepreneruship by ZakriaBaig.
7. Entrepreneurship – by TTTI, Madras
8. Financial Management by Kuchal
9. Industrial Management & Entrepreneurship. by Laxminarayana.

Suggested E-Learning references

1. http://www.skilldevelopment.gov.in/
2. https://startupindia.gov.in/

CO PO Mapping Matrix

On Successful completion of the course, the student will be able to attain the following Course Outcomes (COs):

Course Outcome		CL	Linked PO	Teaching Periods
CO1	Analyzing elements of cost, various costs involved in finished products, Overheads	R/U	1,2,8	11
CO2	Estimate material consumption requirement for various footwear articles and Cost of Finished articles	U/A	1,2,3,4,5, 8	06
CO3	Understand the accounting principles, terminology, evaluate final financial accounts statements	R/U/A	2,3,7,8	14
CO4	Understand the growth of Leather and leather products sector, Identify different organisation's and its role in research and development of leather products sector, know the concept of international marketing	U/A	1,2,3,4,5,6	08
CO5	Understand the marketing Concept, Sales promotion techniques, sales tax, GST and role of advertising media in sales promotion.	R/U/A	1,2,3,4,5,7,9,10	13
CO6	Identify various instruments of exchange and understand their characteristics	R/U/A	1,2,9	08

CO/PO mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	Mapped POs
CO1	✓	✓						✓			
CO2	✓	✓	✓	✓	✓			✓			
CO3		✓	✓				✓	✓			
CO4	✓	✓	✓	✓	✓	✓					
CO5	✓	✓	✓	✓	✓		✓		✓	✓	
CO6	✓	✓							✓		

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

<table>
<tr><td rowspan="2">Sl No</td><td rowspan="2">Unit No.</td><td colspan="4">Questions to be set for SEE</td><td rowspan="2">Remarks</td></tr>
<tr><td colspan="2">R</td><td>U</td><td>A</td></tr>
<tr><td>1</td><td>I</td><td rowspan="6">4</td><td rowspan="2">1</td><td rowspan="2">9(a)</td><td rowspan="2">13(a)</td><td rowspan="2"></td></tr>
<tr><td>2</td><td>II</td></tr>
<tr><td>3</td><td>III</td><td rowspan="2">2</td><td rowspan="2">10(a)</td><td rowspan="2">14(a)</td><td rowspan="2"></td></tr>
<tr><td>4</td><td>IV</td></tr>
<tr><td rowspan="2">5</td><td rowspan="2">V</td><td rowspan="3">3</td><td>5, 6</td><td>9(b)
11(a)
11(b)</td><td>13(b)
15(a)
15(b)</td><td rowspan="2"></td></tr>
<tr><td rowspan="2">6</td><td rowspan="2">VI</td><td>7,8</td><td>10(b)
12(a)
12(b)</td><td>14(b)
16(a)
16(b)</td><td rowspan="2"></td></tr>
<tr><td colspan="2">Total Questions</td><td colspan="2">8</td><td>8</td><td>8</td></tr>
</table>

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

BOARD DIPLOMA EXAMINATIONS (C-18)
MID SEM-I
FIFTH SEMESTER EXAMINATION

Subject Name : **Estimating, Costing, Industrial Promotion and Marketing**

Subject Code : 18FW-504E-A

[Time Duration : 1 Hour] [Total marks :20]

PART-A

Answer ALL Questions and each question carries 01 marks 4 x 1= 4 marks

17. Define Cost.
18. What is depreciation?
19. Mention different upper materials used in fabrication of Chappal.
20. Name the various bottom parts/components used in Full shoe fabrication.

PART-B

Answer any TWO Questions s and each question carries 03 marks 2 x 3 = 6 marks

21. a) Identify various Sales and Distribution Over heads.

(OR)

b) Differentiate fixed cost and variable cost.

22. a) Explain the method of calculating leather consumption for Shoe upper.

(OR)

b) Explain how to estimate over head costs for estimating cost of finished articles.

PART-C

Answer any TWO Questions and each question carries 05 marks 2 x 5= 10 marks

23. a) Discuss how to calculate selling price of a product.

(OR)

b) Classify various types of Overheads.

24. a) Estimate the cost of Derby shoe upper size8 (adults).

(OR)

b) Estimate the cost of Simple open type footwear(Gents Chappal).

BOARD DIPLOMA EXAMINATIONS (C-18)
MID SEM-II
FIFTH SEMESTER EXAMINATION

Subject Name : **Estimating, Costing, Industrial Promotion and Marketing**

Subject Code : 18FW-504E-A

[Time Duration : 1 Hour] [Total marks :20]

PART-A

Answer ALL Questions and each question carries 01 marks **4 x 1= 4 marks**

1. Define Account.
2. State the types of cashbooks.
3. Mention the Competitors of Indian Footwear industry.
4. What is F.O.B?

PART-B

Answer any TWO Questions s and each question carries 03 marks **2 x 3 = 6 marks**

5. a) Explain the objectives of Preparing Balance sheet.

(OR)

b) Differentiate Journal and Ledger.

6. a) Discuss the objectives of CLE .

(OR)

b) Explain the strengths and weakness of Indian footwear industry.

PART-C

Answer any TWO Questions and each question carries 05 marks **2 x 5= 10 marks**

7. a) Discuss the liabilities of an enterprise.

(OR)

b) Illustrate Profit and Loss account statement.

8. a) Write the Circumstances under which Exports/Imports can be restricted by the Government of India.

(OR)

b) Discuss the role of CLRI in the development of Leather and Footwear sector in India.

C18-FW-504E-A

BOARD DIPLOMA EXAMINATION, (C-18)

LEATHER GOODS & FOOTWEAR TECHNOLOGY
V SEMESTER EXAMINATION

ESTIMATING, COSTING, INDUSTRIAL PROMOTION AND MARKETING

Time : 2 Hours] [Total Marks: 40

PART-A

08X01=08

Instructions : 1. Answer **ALL** questions.

2. Each question carries **ONE** mark.

17. State the objectives of Cost control.
18. What is letter of Credit?
19. Define inventory.
20. What is Estimating?
21. State types of Markets.
22. What is Multi point Sales tax system?
23. Write the advantages of crossing Cheques.
24. List various negotiable instruments.

PART-B

04X03=12

Instructions : 1. Answer any **FOUR** questions.

2. Each question carries **THREE** marks.

9. (a) Explain how do you Estimate the selling price of Chappal.

(or)

9. (b) Identify various Sales promotion methods .

10. (a) Outline the Golden rules of debit and Credit for real, personal and nominal accounts.

(or)

10. (b) Explain the various forms of Invoice.

11. (a) Specify the essential qualities required for a good salesman.

(or)

11. (b) Outline the purchasing procedure in an Organisation.

12. (a) Specify the circumstances under which a Cheque can be dishonored.

(or)

12. (b) Outline the Points to be keep in mind while drafting a cheque.

PART-C

04X5=20

Instructions : 1. Answer any **FOUR** questions.

2. Each question carries **FIVE** marks.

13. (a) Estimate Prime cost, Factory cost, Production cost, Total cost and Selling price from the following. Assume that the firm wants to have 10% profit on total cost.

Raw material cost	Rs. 50,000
Labour cost	Rs. 9,000
Direct expenses	Rs. 1,500
Factory Overheads	Rs. 7,000
Distribution expenses	Rs. 2,500
Selling expenses	Rs. 8,000
Administrative expenses	Rs. 6,000 .

(or)

13. (b) Examine various methods of Purchasing and suggest suitable method of purchase for procuring raw materials in Footwear industry.

14. (a) Discuss the objectives of preparation of Trial balance sheet and list the errors to be revealed and not to be revealed by trial balance.

(or)

14. (b) Explain the Parties and Essential features of Promissory notes.

15. (a) Differentiate Buyers market and Sellers market.

(or)

15. (b) Discuss the role of advertising media such as direct mail and Magazines in sales promotion.

16. (a) Classify the bills into inland and foreign bills and discuss its characteristics .

(or)

16. (b) Distinguish Cheque and Bill of exchange.

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LEATHER DYEING AND FINISHING

Course Title : LEATHER DYEING AND FINISHING Semester : **Semester V** Teaching Scheme in Hrs(L:T:P) : **49:11:0** Type of course : **Lecture + Assignments** CIE : **60 Marks**	Course Code : **18FW-504E-B** Course Group : ELECTIVE Credits : **3** Total Contact Hours : **60 periods** SEE : **40 Marks**

Pre Requisites:

This course requires the basic knowledge of pre-tanning operations, tanning, post-tanning operations done in leather processing

Course outcomes:

On successful completion of the course the student will be able to :

Course outcomes		Teaching Hours	Linked POs
CO1	List various chemicals used for neutralisation and retanning. Explain the methods of neutralisation and retanning for making different type of leathers	8	P1,P2
CO2	List various dyes and fatliquors used for doing dyeing and fatliquoring and explain the methods of dyeing and fatliquoring for making different type of leathers	12	P2, P3
CO3	List various chemicals used for Stuffing, Stripping and Bleaching. Explain the methods of Stuffing, Stripping and Bleaching for making different type of leathers	8	P2,P3,P4
CO4	Understand and Explain the various Machine Operations involved in leather manufacture	12	P2,P3
CO5	Explain the different methods of leather finishing based on crust selection	13	P1,P2 ,P6
CO6	Make use of neutralisation, re-tanning, dyeing, fatliquoring, stuffing, machine operations and finishing in leather manufacture	07	P2,P6
		60	

COURSE CONTENT:

Unit –I : Neutralization & Retanning : Duration: 08 Periods (L: 08 – T:0)

The chemicals used in neutralization, extent of neutralization, using of masking salts.

Retanning-Purpose, Materials-Methods for upper, garment, printed, E.I., and white leathers

Unit – II : Dyeing and fatliquoring: Duration: 12 Periods (L:12 – T:0)

Dye, colour, colour mixing and matching, different dyes and types of dyeing, fat liquoring and Stuffing, different materials used for fat liquoring, recipes and methods for fatliquoring

Unit – III : stuffing, Stripping and Bleaching: Duration: 08 Periods (L:08 – T:0)

Different materials used for stuffing, recipes and methods for stuffing and difference between stuffing and fat liquoring- Chemicals used for stripping, bleaching and extent of stripping and bleaching

Unit – IV : Machine Operations: Duration: 12 Periods (L:12 – T:0)

Different machine operation involved in finishing leather – Sammying, setting, drying, saw dusting and staking - Buffing and Snuffing, objectives of buffing and snuffing, types of buffing machine, difference between snuffing and buffing

Unit – V : Finishing : Duration: 13 Periods (L:13 – T:0)

Different types of finishing, impregnation - Splits and defected leathers finishing, improving methods by two tone and antique finishing

The assortment of leathers – the need – the defects observed selection of skins for particular type of leather – size and defects.

Unit – VI : Application of neutralisation, re-tanning, dyeing, fatliquoring, stuffing, machine operations and finishing: Duration: 07 Periods (L:07 – T:0)

Application of neutralisation, re-tanning, dyeing, fatliquoring, stuffing, machine operations and finishing in manufacture of different types of leathers

SUGGESTED LEARNING OUTCOMES:

Unit I: Neutralization & Retanning

1.1 Explain Neutralization of the leather for fat liquoring and dyeing

1.1.1 Outline the purpose of neutralization
1.1.2 Different chemicals used for neutralization
1.1.3 Describe the Utilization of masking salt in neutralization
1.1.4 List Order of preference of neutralizing chemicals in manufacturing of different types of leather
1.1.5 Explain pH control of leather during neutralization for different types of leather
1.1.6 Understand the effect of over neutralization on the properties of finished leather

1.2 Retanning
1.2.1 State purpose of retanning
1.2.2 List different retanning materials
1.2.3 Describe method of retanning for chrome leathers for making upper, garment. And printed leathers
1.2.4 Describe method of retanning E.I.Leathers
1.2.5 Describe method of retanning for white leathers

Unit II: Dyeing and fatliquoring

2.1 Explain Behaviour of dyes towards leathers
2.1.1 List Primary and complementary colours
2.1.2 Explain Theory of colour mixing

2.1.3 Make use of Colour matching
2.1.4 List Mordents
2.1.5 Explain Natural dye stuffs
2.1.6 List Metallic strikers
2.1.7 Explain Methods of dyeing leathers
2.1.8 Explain Fixing of dye to leather
2.1.9 Explain Different recipes of dyeing for different end products
2.2 Fat liquoring
2.2.1 Explain Fat liquoring of different types of leather
2.2.2 Explain Different types of oils, fats, waxes and emulsions used in fat liquor
2.2.3 Explain Different recipes of fat liquor, for manufacture of different types of leathers
2.2.4 Explain Fixing of fat liquors

Unit III: stuffing, Stripping and Bleaching

3.1.1 List Different types of oils, fats and waxes used in stuffing

3.1.2 Explain Different recipes for stuffing

3.1.3 Explain methods of stuffing the leathers

3.1.4 Compare the difference between stuffing and fat liquoring

3.1.5 List of chemicals used in stripping and in their order to preference

3.1.6 List of chemicals used in bleaching and in their order to preference

3.1.7 Outline the extent of stripping and bleaching for different types of leathers

Unit IV: Machine Operations

4.1 Explain Performing different machine operations for finishing different leathers
4.1.1 Sammying and setting
4.1.2 Compare Difference between Sammying and setting
4.1.3 Explain Different types of setting leather
4.1.4 Tell Purpose of setting leather
4.1.5 Explain Different types of drying the leather
4.1.6 Explain Drying of vegetable tanned leather
4.1.7 Explain Drying of chrome tanned leather
4.1.8 Drying of soft leather
4.1.9 Explain Paste drying
4.1.10 Explain Drying by nailing and toggle

4.1.11 Explain Vacuum drying
4.1.12 Outline methods of saw dusting
4.1.13 Explain method of staking and purpose of staking

4.2.1 Buffing and Snuffing
4.2.2 List Objectives of buffing
4.2.3 List Objectives of snuffing
4.2.4 Compare difference between buffing and snuffing
4.2.5 List different types of buffing machine
4.2.6 List different emery papers used for different purpose

Unit V: Finishing

5.1 Finishing of different types of leather

5.1.1 Explain classification of finishes
5.1.2 Explain Pigment finish and composition
5.1.3 Explain Aniline and semi aniline finish and composition
5.1.4 Explain Glaze finish and composition
5.1.5 Explain Fixing of different types of finishes
5.1.6 Explain Impregnation of leather
5.1.7 Explain Corrected grain finishing for upper leather.
5.1.8 Explain Full grain resin finishing for upper leather.
5.1.9 Explain Finishing of garment leather.
5.1.10 Explain Foil finishing.
5.1.11 Explain Metallic finish.
5.1.12 Explain Finishing of oil pull up leathers.
5.1.13 Explain Crackle finish.
5.1.14 Explain Brush-off finish.
5.1.15 Explain Patent leather finishing.
5.1.16 Explain Finishing of burnish able leather.
5.1.17 Explain Finishing of glove and lining leathers.
5.1.18 Explain Finishing milled cow nappa leather, glazed nappa leather.
5.1.19 Explain Finishing white leathers.
5.1.20 Explain Easy care finish.
5.2 Explain Splits and Lower Ends Finishing

5.3 Explain Finishing of splits for upper

5.2.1 Explain Improving the value of defected leather by finishing techniques such as two tone finish, antique finish

Unit – VI : Application of neutralisation, re-tanning, dyeing, fatliquoring, stuffing, machine operations and finishing:

6.1.0 Explain application of different neutralisation chemicals to get required properties in final leather

6.2.0 Explain application of acid dyes, direct dyes, metal complex dyes, basic dyes

6.3.0 Explain application of different re-tanning materials

6.4.0 Explain application of different fatliquors- anionic and cationic fatliquors

6.5.0 Explain application of different stuffing oils, fats and waxes

6.6.0 Explain application of different machine operations in leather manufacture

6.7.0 Explain application of different finishing methods to different types of leathers

SUGGESTED LIST OF STUDENT ACTIVITIES:

Note: The following activities or similar activities for assessing CIE (IA) for 5 marks (Any one)

1. Each student should do any one of the following type activity or any other similar activity related to the course and before conduction, get it approved from concerned Teacher and HOD.
2. Each student should conduct different activity and no repeating should occur

1	Collect various types of upper, lining, garment Leathers having distinct properties
2	Compare the properties of semi-chrome and full chrome, leathers and make a report
3	Collect latest manufacturing technology from magazines and internet

REFERENCE BOOKS :

1) Modern practice of retanning, dyeing and finishing by K.T.Sarkar – Chennai.
2) Leather Technician Hand Book by J.H.Sharp House,
3) Leather Producers Association – North Hampton – 1995.
4) C.Koteswara Rao and M.S.Olivannan Lecture Notes on Dyeing and Finishing of Leathers –CLRI – Chennai – 20.
5) C.L.R.I Publication – Madras – 20
6) Practical Leather Technology by J.Thornstein, E.Krieger Publishing Company – Malabar – Florida – 1993.

SUGGESTED E- LEARNING REFERENCES:

1. http://www.iltaonleather.org/jilta.html
2. https://www.clri.org/http://alcajournal.com/

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
6	VI		7,8	10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

C-18FW-504-E-B

BOARD DIPLOMA EXAMINATION, (C-18)
MIDSEM – I
FIFTH SEMESTER EXAMINATION
LEATHER DYEING AND FINISHING

TIME: 1 Hour **TOTAL MARKS: 20**

Important Note: Wherever any question has choice, marks will be allotted only to first attempted question. **No marks will be allotted for extra questions answered**

PART - A **(4x1 = 4M)**

Note: *Answer **ALL** the questions. Each question carries **1** mark.*
The length of the answer shall not exceed 1/4 of page

1. Write the indicator used in neutralization?
2. Write the neutralization pH of upper leathers?
3. List the primary and complimentary colours?
4. Define Dye?

PART- B **(2 x 3 = 6M)**

Note: *Answer the following questions. Each question carries **3** marks.*
The length of the answer shall not exceed 1 page

5 (a). Write the objectives of neutralization?

(OR)

(b). Write the effects of over neutralization?

6 (a). Draw the colour triangle?

(OR)

(b). write the advantages of using cationic fatliquors?

PART-C **(2×5=10M)**

Note: *Answer the following questions. Each question carries **5** marks*
The length of the answer shall not exceed 2 pages

7 (a). Explain the method of neutralization for garment Leathers?

(OR)

(b). Explain the various chemicals used in neutralization?

8 (a). Explain the different methods of Dyeing?

(OR)

(b). Explain the method of fatliquoring?

*** ** ***

C-18FW-504-E-B

BOARD DIPLOMA EXAMINATION, (C-18)
MIDSEM – I
FIFTH SEMESTER EXAMINATION
LEATHER DYEING AND FINISHING

TIME: 1 Hour **TOTAL MARKS: 20**

Important Note: Wherever any question has choice, marks will be allotted only to first attempted question. **No marks will be allotted for extra questions answered**

PART - A **(4x1 = 4M)**

Note: *Answer **ALL** the questions. Each question carries **1** mark.*
The length of the answer shall not exceed 1/4 of page

1. What is stuffing?
2. Write the objectives of fatliquoring?
3. What is meant by setting?
4. Why staking is done?

PART- B **(2 x 3 = 6M)**

Note: *Answer the following questions. Each question carries **3** marks.*
The length of the answer shall not exceed 1 page

5 (a). List different types of oils, fats and wax used in stuffing?

(OR)

(b). List some of the chemicals used in stripping?

6 (a). Compare between sammying and setting?

(OR)

(b). Write a note on vacuum drying?

PART-C **(2×5=10M)**

Note: *Answer the following questions. Each question carries **5** marks*
The length of the answer shall not exceed 2 pages

7 (a). Explain the different recipes for stuffing?

(OR)

(b). compare the difference between stuffing and fatliquoring?

8 (a). Explain the methods of conditioning the leathers?.

(OR)

(b). Explain the different methods of Drying?

** *** **

BOARD DIPLOMA EXAMINATION, (C-18) 18FW-504-E-B

END EXAMINATION
FIFTH SEMESTER EXAMINATION
LEATHER DYEING AND FINISHING

TIME: 2 Hour **TOTAL MARKS: 40**

Important Note: Wherever any question has choice, marks will be allotted only to first attempted question. **No marks will be allotted for extra questions answered**

PART – A

Instructions: 1. Answer **ALL** questions. 8X1=08
2. Each question carries **ONE** mark.

1. What is neutrailsation?.
2. List different types of fats used in stuffing?
3. What is aqueous finish?
4. List the properties of direct dye?
5. Name some up gradation finishes?
6. What is easy care finish?
7. Where metal complex dyes are used?
8. What is the purpose of stuffing?

PART – B

Instructions: 1. Answer the following questions. 4X3=12
2. Each question carries **THREE** marks.

9(a). How will you fix the fatliquor?

(or)

9(b). Classify the Leather Finishes?

10(a). Compare sammying and setting operations?

(or)

10(b). Distinguish between fatliquoring and stuffing?

11(a). Write the purpose of Impregnation?

(or)

11(b). Compare organic and inorganic pigments?

12(a). write the advantages of synthetic fatliquors?

(or)

12(b). Write the names of some retanning agents?

PART – C 4X5 = 20

Instructions: 1. Answer the following questions.
2. Each question carries **FIVE** marks.

13(a). Explain the method of neutralization for grain garment Leathers?

(or)

13(b). Describe the aniline finishing procedure for buff calf upper leathers?

14(a). Explain the different methods of bleaching the Leathers?

(or)

14(b).. Explain the different machine operations in crusting of Leathers?

15(a). . Explain the method of corrected grain resin finish for rejection grade leathers?

(or)

15(b). Explain the metallic finish procedure for goat upper Leathers?

16(a). . Explain the application of different fatliquors to the leathers?

(or)

16(b). Describe the different methods of stuffing?

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18FW-505E- A Machinery Maintenance Engineering

Legend: R: Remember, U: Understand A: Application An: Analyze

Rationale:

The objective of this course is to make student to understand working system of various footwear machinery, maintenance of machinery, plant maintenance procedures and safety.

Course Title :	**Machinery Maintenance Engineering**	Course Code	**18FW-505E-A**
Semester	**V**	Course Group	**Elective**
Teaching Scheme in Periods(L:T:P)	**3:1:0**	Credits	**3**
Methodology	**Lecture + Assignments**	Total Contact Periods :	**60Pds**
CIE	**60 Marks**	SEE	**40 Marks**

Pre requisites

Basic knowledge of Introductory Leather Products Technology, Basic Footwear Fabrication Technology Footwear upper fabrication, Footwear bottoming technology.

Course Outcomes

CO1 : Analyzing various factors influencing site selection for establishing an industry.

CO2 : Explain objectives of plant maintenance, various plant maintenance procedures and identify oils and lubricants used in maintenance of machines.

CO3 : Identify various plant Layouts, explain characteristics of various plant layouts

CO4 : Recommend proper safety accident prevention method in industries, Identify various operational hazards and safety protection devices used in footwear industries

CO5 : Identify various Footwear upper fabrication machinery, explain working system and its maintenance.

CO6 : Identify various Footwear Lasting and Bottom making machinery, explain working system and its maintenance.

COURSE CONTENT

UNIT 1

Selection of site **Duration:06 Periods (L: 05– T:01)**

Selection of site for setting footwear manufacturing unit-Various factors influence the site selection: Raw material, Transportation, Availability of water, power, Labour & market-advantages and disadvantages of site selection in Rural and Urban Areas

UNIT2

Plant maintenance **Duration: 11 Periods (L: 06– T:02)**

Importance-Various maintenance procedures: Preventive maintenance, Predictive ,Routine maintenance, Breakdown maintenance-Need of lubrication-Lubrication and oiling in Routine maintenance-Maintenance of various machines used in Footwear Industry-Estimating the repair and the maintenance cost.

UNIT3

Safety **Duration: 08 Periods (L: 06– T:02)**

Definition & Importance of safety-Causes of accidents-Accident prevention Rules-General
safety devices-Selection of machinery for different capacity of production

UNIT 4

Plant layout **Duration : 07 Periods (L: 05– T:02)**

Different type of flow patterns, Different types of lay outs: Process lay out-Product lay out-Combination layout-Fixed position layout-Rink system, advantages & disadvantages and suitability of above layouts for different industrial needs, requirements.

UNIT5

Shoe upper making machinery study **Duration:15 Periods (L: 12– T: 03)**

Working system of various machines used in Shoe upper fabrication in Footwear Industry: Panto graph-Clicking machine-Strap cutting machine-Stamping machine-Splitting machine-Skiving machine-Sewing machine-Embossing machine-Punching and Eye letting machine.

UNIT 6

Shoe bottom making machinery Study **Duration: 13 Periods (L:10 – T03)**

Working system of various machines used in bottom making department of Footwear Industry : contact Mulling Machine- Toe Steamer - Conditioning Chamber - Heat Setting Machine- Toe, seat & side lasting machines - Roughing machine- Pounding machine- Adhesive re activator- Sole attaching machine- Sole stitching machine- Trimming machine- Combined Finishing machine.

Specific Learning Outcomes

Upon completion of the course the student should be able to

2.0 **Selection of site.**

1.1 Explain the influence of following factors in site selection of industry.

1.1.1 Raw materials, Transportation.

1.1.2 Availability of water

1.1.3 Power.

1.1.4 Availability of skilled labour.

1.1.5 Cost of labour.

1.1.6 Accession to market.

1.2 Study of the above factors with regard to footwear industry.

1.3 Identify advantages, disadvantages of site selection in rural and urban areas.

2.0 **Plant maintenance**

2.1 Explain objectives of plant maintenance

2.2 Identify various Plant maintenance procedures

2.3 Explain following maintenance procedures, list advantages and disadvantages

Preventive maintenance

Breakdown maintenance

Predictive maintenance

Scheduled maintenance procedures

2.4 Explain objectives of Lubrication

2.5 Identify properties required for a good lubricant

2.6 Classify lubricants

2.7 Explain maintenance procedure followed in footwear machines

2.8 Identify various costs to be taken into account while estimating repair and maintenance cost.

3.**0 Safety**

3.1 Should know the general cause of accidents in factorises.
3.2 Should know the preventive actions to be taken for above causes.
3.3 Should know the basis accident prevention, safety rules and laws.
3.4 Should know and understand the importance of safety devices Ex: All moving parts should be property covered and similar safety concepts.
3.5 State and explain the accident prevention methods.
3.6 State the industrial hazards
3.7 State the operational hazards in footwear industries.
3.8 Should mention the reasons, remedies for the above hazards

4.0 **Plant layout**

4.1 List different flow pattern used in industries, define layout and list various parameters to be consider while lay outing
4.2 Explain following types of layouts applications
a) Process lay out
b) Product lay out
c) Combination layout, Fixed position layout
d) Rink system

4.3 Explain advantages, disadvantages and suitability of above layouts for different industrial needs, requirements

5.0 **Shoe upper making machinery study**

5.1 Describe the working system of various machines used in Shoe upper fabrication in Footwear Industry.

1. Panto graph.
2. Clicking machine.
3. Strap cutting machine.
4. Stamping machine.
5. Splitting machine.
6. Skiving machine.
7. Sewing machine.
8. Embossing machine.
9. Punching and Eye letting machine.

7.0 **Shoe bottom making machinery Study**

7.1 Describe working system of various machines used in bottom making department of Footwear Industry.

1. Contact Mulling Machine

2. Toe Steamer
3. Conditioning Chamber
4. Heat Setting Machine
5. Toe, seat & side lasting machines.
6. Roughing machine
7. Pounding machine.
8. Adhesive re activator
9. Sole attaching machine
10. Sole stitching machine.
11. Trimming machine.
12. Combined Finishing machine.

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Suggested Student Activities

ACTIVITIES

13. Collect different types of Shoe bottom making machinery picture.

14. Collection of various Upper making machinery pictures.

15. Watch working system of Shoe upper fabrication machinery videos and prepare a report.

16. Watch working system of Shoe bottom making machinery videos and prepare a report.

Suggested E-Learning references

1.http://icanmakeshoes.com>shoemaking.
2**. www.simpleshoemaking.com**
3.http://shoemakingcoursesonline.com

Reference Books

1. Manual of shoe making - Clarks.
2. Text book of Footwear manufacture - H.J.Thronton.
3. Introduction to the modern Footwear Technology - B. Venkatappaiah.
4. Lectures notes on Footwear Technology - Somanath Ganguly. (Series of Articles in JILTA)

CO PO Mapping Matrix

On Successful completion of the course, the student will be able to attain the following Course Outcomes (COs):

Course Outcome		CL	Linked PO	Teaching Periods
CO1	Analyzing various factors influencing site selection for establishing an industry.	R/U	1,2,5,6,7	06
CO2	Explain objectives of plant maintenance, various plant maintenance procedures and identify oils and lubricants used in maintenance of machines.	U/A	2,3,4,5,6	11
CO3	Identify various plant Layouts, explain characteristics of various plant layouts	U/A	2,3,4,5,6	08
CO4	Recommend proper safety accident prevention method in industries, Identify various operational hazards and safety protection devices used in footwear industries	U/A	1,2,3,4,5,6	07
CO5	Identify various Footwear upper fabrication machinery, explain working system and its maintenance.	R/U/A	1,2,3,4,5,10	15
CO6	Identify various Footwear Lasting and Bottom making machinery, explain working system and its maintenance.	R/U/A	1,2,3,4,5,10	13

CO/PO mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	Mapped POs
CO1	✓	✓			✓	✓	✓				
CO2		✓	✓	✓	✓	✓					
CO3		✓	✓	✓	✓	✓					
CO4	✓	✓	✓	✓	✓	✓					
CO5	✓	✓	✓	✓	✓					✓	
CO6	✓	✓	✓	✓	✓					✓	

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE					Remarks
		R			U	A	
1	I	4	1		9(a)	13(a)	
2	II						
3	III		2		10(a)	14(a)	
4	IV						
5	V		3	5, 6	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
6	VI			7,8	10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8			8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

BOARD DIPLOMA EXAMINATIONS (C-18)
MID SEM-I
FIFTH SEMESTER EXAMINATION

Subject Name : Machinery Maintenance Engineering

Subject Code : 18FW-505E -A
[Time Duration : 1 Hour] [Total marks :20]

PART-A

Answer ALL Questions and each question carries 01 marks **4 x 1= 4 marks**

25. When site selection question arises?
26. What are Raw materials for Footwear Industries?
27. Define layout.

28. Write the advantages of Rink system lay out.

PART-B

Answer any TWO Questions s and each question carries 03 marks **2 x 3 = 6 marks**

29. a) Explain the advantages of site selection in rural area for setting up of an industry.

(OR)

b) Suggest suitable type of transportation facility required for export oriented Footwear manufacturing industry and justify your answer.

30. a) Draw the neat sketches of various flow patterns.

(OR)

b) Explain fixed position lay out.

PART-C

Answer any TWO Questions and each question carries 05 marks **2 x 5= 10 marks**

31. a) Explain site selection criteria for setting up of Leather products fabrication industry.

(OR)

b) Discuss the advantages and disadvantages of selecting site in Urban area for establishing an industry.

32. a) Discuss the process lay out and mention its applications.

(OR)

b) Suggest suitable layout to be used in Closing section of Footwear manufacturing industry and justify your answer.

BOARD DIPLOMA EXAMINATIONS (C-18)
MID SEM-II
FIFTH SEMESTER EXAMINATION

Subject Name : Machinery Maintenance Engineering

Subject Code : 18FW-505E -A

[Time Duration : 1 Hour] [Total marks :20]

PART-A

Answer ALL Questions and each question carries 01 marks **4 x 1= 4 marks**

1. Define accident.
2. What are Electrical Hazards?
3. Mention two objectives of maintenance department.
4. What is lubricant?

PART-B

Answer any TWO Questions s and each question carries 03 marks **2 x 3 = 6 marks**

5. a) Explain various causes for accidents.

(OR)

b) Explain various accident prevention methods.

6. a) Explain the objectives of machine lubrication.

(OR)

b) Explain Predictive maintenance.

PART-C

Answer any TWO Questions and each question carries 05 marks 2 x 5= 10 marks

7. a) Suggest suitable safety devices to be used to protect ourselves from various Operational hazards in footwear industries.

(OR)

b) Identify various parameters to be considered while calculating accident costs.

8. a) Discuss suitable maintenance procedure to be adopted for bottoming section of Footwear unit.

(OR)

b) Explain the preventive maintenance procedure and its advantages.

C18-FW-505E-A

BOARD DIPLOMA EXAMINATION, (C-18)

LEATHER GOODS & FOOTWEAR TECHNOLOGY
V SEMESTER EXAMINATION

MACHINERY MAINTENANCE ENGINEERING

Time : 2 Hours] [Total Marks: 40

PART-A

08X01=08

Instructions : 1. Answer **ALL** questions.

2. Each question carries **ONE** mark.

25. List the advantages of selecting site in urban area for setting up of an industry.

26. State any four causes for an accident.
27. Name the principle involved in pantograph.
28. What is lay out?
29. Write the purpose of Rachet and pinion mechanism in Punching and Eyeleting machine.
30. List various machines used shoe upper fabrication.
31. Write the objective of pounding operation.
32. Name the adjustments provided in skiving machine for angle of skive and type of skive.

PART-B

04X03=12

Instructions : 1. Answer any **FOUR** questions.

2. Each question carries **THREE** marks.

9. (a) Classify various lubricants .

(or)

9. (b) Identify the essential parts involved in system of stitch formation in sewing machine.

10. (a) Explain break down maintenance objective and mention its advantages .

(or)

10. (b) Identify various adjustments provided in Toe lasting machine

11. (a) Outline the working system of embossing machine.

(or)

11. (b) Explain the functioning of Stamping machine.

12. (a) Explain the functioning of Seat lasting machine

(or)

12. (b) Suggest list of suitable machinery for Bottoming of Footwear

PART-C

04X5=20

Instructions : 1. Answer any **FOUR** questions.

2. Each question carries **FIVE** marks.

13. (a) Explain the site selection criteria for establishing leather products industry.

(or)

13. (b) Identify the parts of Single width skiving machine and explain the working system.

14. (a) Suggest suitable type of plant layout to be adopted in lasting and bottom making department of foot wear fabrication unit.

(or)

14. (b) Explain the features and functioning of combined finishing machine.

15. (a) Explain the working system of band knife splitting machine..

(or)

15. (b) Discuss the Driving mechanism and system of stitch formation in Single needle Flat bed sewing machine.

16. (a) Explain the working system of Fore part lasting machine.

(or)

16. (b) Discuss the working system of Conditioning chamber with neat sketch.

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Elementary Leather Technology

Course Title :	**Elementary Leather Technology**	Course Code	**18FW-505E-B**
Semester	**V**	Course Group	Elective
Teaching Scheme in Periods(L:T:P)	**3:1:0**	Credits	**3**
Methodology	**Lecture + Assignments**	Total Contact Periods :	**60Pds**
CIE	**60 Marks**	SEE	**40 Marks**

Rationale:

The objective of this course is to make students to Distinguish between leather and synthetic and know how Leather is made

Pre requisites:

Basic knowledge about Leather Products Technology and Basic Footwear Fabrication Technology

Course Outcomes:

Upon completion of the course the student should be able to

CO1 : Explain about how Raw hides and skins are sourced and assorted

CO2: List the pre tanning operations and tell the physio chemical changes taking place during the process

CO3: understand and explain the purpose of tanning and post tanning methods

CO4: Tell the sequence of operations from raw skins into finished Leathers

CO5: Tell how the Leathers are finished in to different types of finished Leathers

CO6: List the different types of Leather, their properties, their Testing, and their purchase procedure

COURSE CONTENTS

1.0 Defects of hides & skins

1.1 Define hide and skin
1.2 Understand defects in hides and skins.
1.3 Anti mortem defects.
1.4 Post mortem defects.
1.5 Identification of defects on raw hides and skins

2.0 Pre tanning operations..

2.1 .
2.2 Understanding pre tanning operations.
2.3 Curing and curing by different methods.
2.4 Objectives of soaking.
2.5 Different methods of soaking.
2.6 Objectives of liming.
2.7 Different methods of liming.
2.8 Objectives of fleshing.
2.9 Objectives of deliming.
2.10 Objectives of bating and degreasing.
2.11 Objectives of pickling.

3.0 Tanning.

3.1 Objectives of Tanning.
3.2 Classification of Tannages.
3.3 Methods of different Tannages.
3.4 Tests for Tannages (Shrinkage Temperature.)
3.5 Mineral Tannages classification.
3.6 Vegetable Tanning materials and classification.
3.7 Different methods of vegetable Tannages.
3.8 Oil Tannage:
  3.8.1 Oils used for oil Tannages.
  3.8.2 Properties of oil Tanned Leather.
  3.8.3 Oil Tannage.
3.9 Syntans.
  3.9.1 Classification of syntans.
  3.9.2 Uses and application of syntan.

4.0 Post Tanning operations and Finishing.

4.1 Splitting and Shaving.
4.2 Retanning.
4.3 Purpose and materials for retanning.

4.4 Definition of semichrome and Full chrome and chrome retanned leathers.
4.5 Neutralisation and its importance.
4.6 Dyeing.
4.6.1 Definition dye and colour.
4.6.2 Classification of dyes selection of dyes for different Leathers.

4.7 Fat liquoring.
4.7.1 Study of fat liquoring.
4.7.2 Importance & fat liquoring.

5.0 **Finishing of Leather**.
5.1 Constituent of Finishing season.
5.2 Importance of various constituent & finishing.
5.3 Different types of finishes and its importance.

6.0 Physical Properties and purchase procedure
6.1 Assortment of finished Leathers for various end uses.
6.2 Properties of different leathers.
6.3 Feel colour, substance.
6.4 Tear resistance.
6.5 Tensile strength, Abrasion resistance.
6.6 Flexural endurance, bursting strength etc.
6.7 Wet rub and dry rub resistance.
6.8 Shrinkage temperature
6.9 Assortment of leather into different grades, (Area or weight).
6.10 Fixation of rates for different grades Leathers.
6.11 Purchase of Leather by Area/weight basin.
6.12 Purchase of Leathers by different method.

Specific Learning outcomes:

1.0 Defects in Hides and Skins:

1.1 Tell how defects in Hides & Skins are formed
1.2 Tell what is meant by hide, skin and the difference between them.
1.3 List the various defects normally observed on hides and skins.
1.4 Tell about the defects occurred while the animal in alive and how it occurs.

1.5 Tell about the defects, how it occurred after death of the animal
1.6 List the various defects on the hides and skin and by identifying on it.

2.0 Pre tanning Operations

2.1 List out the pre tanning operations, the importance of it and its sequence..
2.2 To explain why the hides and skins need curing, and various curing methods.
2.3 Explain the purpose of soaking and its importance upon the quality of final leather.
2.4 List the different methods of soaking according to curing conditions.
2.5 List out the Liming objectives, lime cao, Ca $(OH)_2$, some of sharpening agents.

2.6 Explain the different methods of liming like pit liming, paddle liming.
2.7 Tell the effect of over and under liming.
2.8 Tell the purpose of de liming and Checking completion of de-liming with phenolpthalein indicator with its colour change
2.9 Explain the purpose of degreasing and its impact on final quality of leather.
2.10 Explain the Purpose of picking, its P^H, the salt, acid requirement.

3.0 Tanning

3.1 Explain why tanning is done, and what transformation takes place during tanning.
3.2 Classify tanning by organic and inorganic.
3.3 List the Methods of inorganic tanning particularly one bath, two bath tanning, chrome liquor preparation, basicity etc.
3.4 List the Methods of organic tanning like Pit tanning, Drum tanning, leaching.
3.5 List some of vegetable tanning materials and type their occurrence.
3.6 Check for completion of tanning by shrinkage temperature, the T_s of Chrome, vegetable tanned leathers.
3.7 Compare Oil tanning, Oils used in tanning, properties of oil tanned leathers.
3.8 Outline syntans, where it is used, uses of syntans with their classification.

4.0 Post tanning operations

4.1 List various mechanical operation like splitting, shaving, sammying, setting operations and the sequence of post tanning for F/c, S/c leathers.
4.2 Explain the Rechroming and its importance.
4.3 Neutralisation, why it is needed, the neutralisation process effect of over neutraliation and under neutralisation.
4.4 Explain the retanning operation importance and the change in properties.
4.5 Explain the Dye, colour, dyeing methods, classify dyes and select dye for different type of leathers.
4.6 Explain the Fatliquoring purpose and its types.

5.0 Leather Finishing

5.1 Explain why the leathers are to be finished
5.2 List the Composition leather finish.
5.3 List the types of finish
5.4 Illustrate the Resin finishing techniques , advantages and disadvantages
5.5 Illustrate the protein finishing techniques , advantages and disadvantages
5.6 Explain about top coats

6.0 Physical Properties and purchase procedure

6.1 Assort the finished leathers for various uses.
6.2 List the Properties of different leathers like upper, garment, lining etc.
6.3 Tell what is meant by Covering, Substance

6.4 Explain about Stitch tear strength, tongue tear strength, tensile strength, abrasion resistance, flexural endurance, water absorption resistance, wet, rub dry rub fastness, grain crack, grain break strength.

6.5 Assort finished leather based on uniformity in colour, thickness, cutting value, area, weight

6.6 List the different grades of leathers.

6.7 Explain the Purchase of leather by area/ weight basis

6.8 List different types of selection etc.

SUGGESTED LIST OF STUDENT ACTIVITIES:

Note: The following activities or similar activities for assessing CIE (IA) for 5 marks (Any one)

1. Each student should do any one of the following type activity or any other similar activity related to the course and before conduction, get it approved from concerned Teacher andHOD.
2. Each student should conduct different activity and no repeating should occur

1	Collect various types of upper, lining, garment Leathers having distinct properties
2	Collect different vegetable tanning materials and make a report
3	Collect different chemicals use in leather manufacture and write a report on it

	RUBRICS FOR ACTIVITY (5 MARKS)					
Dimension	Unsatisfactory	Developing	Satisfactory	Good	exemplary	
	1	2	3	4	5	
COLLECTION OF DATA	Does not collect any information relating to the topic	Collects very limited information; some relate to the topic	Collect much information; but very limited relate to the topic	Collects some basic information; most refer to the topic	Collects a great deal of information; all refer to the topic	
Fulfill team's roles & duties	Does not perform any duties assigned to the team role	Performs very little duties but unreliable.	Performs very little duties	Performs nearly all duties	Performs all duties of assigned team roles	
Shares work equally	Always relies on others to do the work	Rarely does the assigned work; often needs reminding	Usually does the assigned work; rarely needs reminding	Normally does the assigned work	Always does the assigned work without having to be reminded.	
Listen to other Team mates	Is always talking; never allows anyone else to speak	Usually does most of the talking; rarely allows others to speak	Talks good; but never show interest in listening others	Listens, but sometimes talk too much	Listens and speaks a fair amount	

REFERENCES:

1. Theory and practice of leather Manufacture by K.T.Sarkar. AJoy Sarkar – Madras.
2. Introduction to the principles of leather manufacture by S.S.Dutta. Indian Leather Technologists Association Calcutta – 1980.

SUGGESTED E- LEARNING REFERENCES:

3. http://www.iltaonleather.org/jilta.html
4. https://www.clri.org/http://alcajournal.com/

CO PO Mapping Matrix

On Successful completion of the course, the student will be able to attain the following Course Outcomes (COs):

Course Outcome		CL	Linked PO	Teaching Periods
CO1	Explain about how Raw hides and skins are sourced and assorted	R/U	1,6	7
CO2	List the pre tanning operations and tell the physio chemical changes taking place during the process	R/U	1,3,4	13
CO3	understand and explain the purpose of tanning and post tanning methods	U/A	1,3,4	8
CO4	Tell the sequence of operations from raw skins into finished Leathers	U/A	1,3	12
CO5	Tell how the Leathers are finished in to different types of finished Leathers	R/U/A	1,3,4,6	10
CO6	List the different types of Leather, their properties, their Testing, and their purchase procedure	U/A	1,3,10	10

CO/PO mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	Mapped POs
CO1	✓					✓					
CO2	✓		✓	✓							
CO3	✓		✓	✓							
CO4	✓			✓							
CO5	✓		✓	✓		✓					
CO6	✓		✓							✓	

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
6	VI			10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

Model Paper for Mid Sem-I

BOARD DIPLOMA EXAMINATION, (C-18)

GOVERNMENT INSTITUTE OF LEATHER TECHNOLOGY-HYDERABAD

FIFTH SEMESTER, 18FW-505E-B

ELEMENTARY LEATHER TECHNOLOGY

Time: 1 hr. Total Marks: 20 M

Important Note: Wherever any question has choice, marks will be allotted only to first attempted question. **No marks will be allotted for extra questions answered**

PART-A (4x1 = 4M)

Note: *Answer **ALL** the questions. Each question carries **1** mark.*
The length of the answer shall not exceed 1/4 of page

1. Define the term HIDE & SKIN.
2. Define anti mortem defects?
3. What are pre tanning operations?
4. Which indicator is used for checking completion of Deliming?

PART-B (2 x 3 = 6M)

Note: *Answer the following questions. Each question carries **3** marks. The length of the answer shall not exceed 1 page*

5. a) Outline the Flaying operation for Hides and skins?

   OR

   b) Write a note on Rainy season defects on hides and skins?

6. a) write the objectives of Liming?

   OR

   b) write the purpose of pickling?

PART-C (2x5 = 10M)

Note: *Answer the following questions. Each question carries **5** marks. The length of the answer shall not exceed 2 pages*

7. a) Classify the defects and explain various post mortem defects?

   OR

   b) Explain about the processing defects?

8. a) Explain the method of soaking for wet salted hides and skins?

OR

b) Explain the deliming methods?

Model Paper for Mid Sem-II

BOARD DIPLOMA EXAMINATION, (C-18)

GOVERNMENT INSTITUTE OF LEATHER TECHNOLOGY-HYDERABAD

FIFTH SEMESTER, 18FW-505E-B

ELEMENTARY LEATHER TECHNOLOGY

Time: 1 hr. Total Marks: 20 M

Important Note: Wherever any question has choice, marks will be allotted only to first attempted question. **No marks will be allotted for extra questions answered**

PART-A **(4x1 = 4M)**

Note: *Answer **ALL** the questions. Each question carries **1** mark.*

The length of the answer shall not exceed 1/4 of page

1. Define the term Tanning?
2. What is chamois Leather?
3. Define post tanning operations?
4. What is a Dye?

PART-B **(2 x 3 = 6M)**

Note: *Answer the following questions. Each question carries **3** marks. The length of the answer shall not exceed 1 page*

5. a) Classify the Tanning Materials?

OR

b) Write the Properties of oil Tanned leathers?

6. a) Write the objectives of Shaving?

OR

b) Distinguish between Sammying and setting?

PART-C **(2x5 = 10M)**

Note: *Answer the following questions. Each question carries* ***5*** *marks. The length of the answer shall not exceed 2 pages*

7. a) Explain the One bath chrome tanning method?

   OR

   b) Write the uses of syntans in Leather manufacture?.
8. a) List the chemicals used in the neutralisation and explain the method of Neutralisation?

   OR

   b) Explain the methods of Dyeing? ----------

Model Paper for SEE

BOARD DIPLOMA EXAMINATION, (C-18)

GOVERNMENT INSTITUTE OF LEATHER TECHNOLOGY-HYDERABAD

Diploma in Leather Goods & Footwear Technology –FIFTH SEMESTER, 18FW-505E-B

ELEMENTARY LEATHER TECHNOLOGY

Time :**2** Hrs Total Marks : 40

Important Note: Wherever any question has choice, marks will be allotted only to first attempted question. **No marks will be allotted for extra questions answered**

PART – A (8x1 = 8M)

Note: *Answer* ***ALL*** *the questions. Each question carries* ***1*** *mark.*
The length of the answer shall not exceed 1/4 of page

1. Define Hide?
2. Define tanning?
3. Define Pigment?.
4. Define Assortment?
5. What is a Lacquer?
6. What is meant by aqueous finish?
7. Define colour?
8. What is meant by substance?

PART- B (4 x 3 = 12M)

Note: *Answer the following questions. Each question carries* ***3*** *marks.*
The length of the answer shall not exceed 1 page

9. (a) write the objectives of Bating?

OR

(b) Classify Leather Finishes?

10. (a) What is the neutralization pH of upper and garment leathers?

OR

(b) Outline the assortment based on weight?

11. (a) Outline resin finishing procedure?

OR

(b) Outline Protein finishing procedure?

12. (a) compare wet rub and dry rub fastness?

OR

(b) compare tensile and tear strength?

PART - C **(4x5 =20M)**

Note: *Answer the following questions. Each question carries* ***5*** *marks*
The length of the answer shall not exceed 2 pages

13. (a) Explain about the various defects in hides and skins?

OR

(b) Explain briefly the various constituents of finishing season?

14. (a) Explain about the one bath method of chrome tanning?

OR

(b).Explain the objectives of finishing?

15. (a) Explain the aniline finishing method?

(b) Describe about the machine operations during finishing?

16.(a) Describe the random testing of leathers.

OR

(b) Describe about grading of leathers?

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18FW-506P — ADVANCED FOOTWEAR DESIGNING LAB PRACTICE

Course Title :	**ADVANCED FOOTWEAR DESIGNING LAB PRACTICE**	Course Code	**18FW-506P**
Semester	**V**	Course Group	Practicals
Teaching Scheme in Periods(L:T:P)	**0:0:45**	Credits	**1.5**
Methodology	**Practical**	Total Contact Hours :	**:45Pds**
CIE	**60 Marks**	SEE	**40 Marks**

Pre requisites

This course requires the Basic Knowledge of Footwear styling, designing.

Rationale:

The course is designed to make student to design, develop patterns, and fabricate Derby, Oxford, Slip on, Court shoe, Boot Footwear styles.

Course outcomes

On successful completion of the course, the students will be able to attain below Course Outcome

Course Outcome		**Linked Exercises**	**CL**	**Linked PO**	**Teaching Hours**
CO1	Designing and Develop the patterns for Derby shoe style.	2	R/U/A	2,4,7,10	9
CO2	Designing and Develop the patterns for Oxford shoe style.	3	R/U/A	2,4,7,10	6
CO3	Designing and Develop the patterns for Slip on shoe style.	4	R/U/A	2,4,7,10	9
CO4	Designing and Develop the patterns for Court shoe style.	5	R/U/A	2,4,7,10	6
CO5	Designing and Develop the patterns for Boot style.	6	R/U/A	2,4,7,10	9

C06	Designing and Develop the patterns for Bottom components.	7	R/U/A	2,4,7,10	6

Course Contents (Exercises)

1. Designing and pattern development of Derby shoe style.
2. Designing and Pattern development of Oxford shoe style.
3. Designing and pattern development of Slip on shoe style.
4. Designing and pattern development of Court shoe style.
5. Designing and pattern development of Boot style.
6. Designing and pattern development of Bottom components.

Suggested Learning Outcomes

1. Design and Pattern development of Derby shoe style.

1.1 Develop Derby base from the mean forme.
1.2 Develop Derby upper shell from the Derby base.
1.3 Develop patterns for Various upper components of Derby shoe from Derby shell.
1.4 State different springs to be given to standard/shell.
1.5 Develop derby lining shell from the derby upper shell.
1.6 Develop patterns for various lining components of derby shoe from lining shell.
1.7 Develop Toe cap derby upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.
1.8 Develop wing cap derby upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.
1.9 Develop Toe cap , facing and counter upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.
1.10 Develop Wing cap , facing and counter upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.

2**. Design and Pattern development of Oxford shoe style.**

2.1 Develop Oxford Standard from the mean forme.
2.2 Develop Oxford upper shell from the Oxford standard.
2.3 Develop patterns for Various upper components of Oxford shoe from Oxford shell.
2.4 State different springs to be given to standard/shell.
2.5 Develop Oxford lining shell from the Oxford upper shell.
2.6 Develop patterns for various lining components of Oxford shoe from lining shell.
2.7 Develop Toe cap Oxford upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.

2.8 Develop wing cap Oxford upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.
2.9 Develop Toe cap , facing and counter upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.
2.10 Develop Wing cap , facing and counter upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.

3. Design and Pattern development of Slip on shoe style.

3.1 Develop Slip on Standard from the mean forme.
3.2 Develop slip on with half saddle upper shell from the slip on standard.
3.3 Develop patterns for Various upper components of slip on with half saddle shoe from slip on with half saddle upper shell.
3.4 State different springs to be given to standard/shell.
3.5 Develop slip on with half saddle lining shell from the slip on with half saddle upper shell.
3.6 Develop patterns for various lining components of slip on with half saddle shoe from lining shell.
3.7 Develop slip on with full saddle upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.
3.8 Develop Slip on with Buckle and bar upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.
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4. Design and Pattern development of Court shoe style.

4.1 Develop Court shoe Standard from the mean forme.
4.2 Develop Court shoe upper shell from the Court shoe standard.
4.3 Develop patterns for Various upper components of Court shoe shoe from Court shoe shell.
4.4 State different springs to be given to standard/shell.
4.5 Develop Court shoe lining shell from the Court shoe upper shell.
4.6 Develop patterns for various lining components of Court shoe from lining shell.
4.7 Develop Toe cap Court shoe upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.
4.8 Develop wing cap Court shoe upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.

5. Designing and pattern development of Boot style.

5.1 Develop Boot upper base from the mean forme.
5.2 Develop Boot upper shell from the boot upper base.
5.3 Develop patterns for Various upper components of boot from the Boot Upper shell.
5.4 State different springs to be given to standard/shell.
5.5 Develop Boot lining shell from the Boot Upper shell.
5.6 Develop patterns for various lining components of Boot from the Lining shell.
5.7 Develop Boot with collar upper shell, lining shell, Upper patterns, lining patterns from the given mean forme.

6. Designing and pattern development of Bottom components.

6.1 Develop the patterns for the insole for the given last.

6.2 Develop the Patterns for the sole.

6.3 Develop the Patterns for the Heel.

6.4 Develop the Patterns for the Toe puff.

6.5 Develop the patterns for the Stiffener.

6.6 Develop the Patterns for the Runner.

Suggested Student Activities

1. Survey of new designs in showrooms, shopping malls, Net, magazines.
2. Design and Develop patterns for new type of shoe designs,
3. Design and Develop patterns for new type of Boot designs.

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REFERENCES

1) Manual of shoe making - Clarks.
2) Text book of Footwear manufacture - H.J.Thronton.
3) Shoe designing manual-Leather Technology Mission-CLRI
4) Lectures notes on Footwear Technology - Somanath Ganguly. (Series of Articles in JILTA)
5) Lecturer notes on Footwear Designing- CLRI.

E Learning Resources

http://icanmakeshoes.com>shoemaking.
2. www.simpleshoemaking.com
3. http://shoemakingcoursesonline.com

Scheme of Valuation of SEE		
S.No	Particulars	Marks
1.	Identification of tools/machine	02
2.	Writing procedure	08

3.	Conducting of experiment and performing the given task	20
4.	Results	05
5.	Viva-voce	05
	Total	40

State Board of Technical Education and Training, Telangana

Semester End Examination Model Question paper

DFWT V Semester Practical Examination

Corse Code: 18FW-506P **Duration: 3 hours**

Course Name: ADVANCED FOOTWEAR DESIGNING LAB PRACTICE

Max.Marks:40

Instructions to the Candidates:

(i)Answer any One of the following Questions.

1. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Toe cap Derby from the given Mean forme.
2. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Wing cap Derby from the given Mean forme.
3. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Oxford from the given Mean forme.
4. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Toe cap Oxford from the given Mean forme.
5. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Wing cap Oxford from the given Mean forme.
6. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Slip on with Full saddle from the given Mean forme.
7. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Wing cap Court shoe from the given Mean forme.
8. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Boot from the given Mean forme.
9. Design, develop the upper shell, Upper patterns, Lining shell, lining patterns for Boot with Collar from the given Mean forme.

18FW-507P — FABRICATION OF BOOTS AND HEAVY FOOTWEAR LAB PRACTICE

Course Title :	**FABRICATION OF BOOTS AND HEAVY FOOTWEAR LAB PRACTICE**	Course Code	**18FW-507P**
Semester	**V**	Course Group	Practical
Teaching Scheme in Periods(L:T:P)	**15:0:30**	Credits	**1.5**
Methodology	**Lecture + Practical**	Total Contact Hours :	**:45Pds**
CIE	**60 Marks**	SEE	**40 Marks**

Pre requisites

This course requires the Basic Knowledge of Footwear fabrication.

Rationale:

The course is designed to make student to design, develop patterns, and fabricate Boots.

Course outcomes

On successful completion of the course, the students will be able to attain below Course Outcome

Course Outcome		**Linked Exercises**	**CL**	**Linked PO**	**Teaching Hours**
CO1	Design and Develop the patterns for Boot.	1	U/A	2,4,7,10	6
CO2	Cut Boot Upper components.	2	A	3,4	6
CO3	Fabricate boot upper	3	A	3,4	9
CO4	Lasting of Boot.	4	A	3,4	9
CO5	Prepare upper and sole for sole attaching and sole attaching.	5	A	3,4,6	9
C06	Finishing of boot.	6	A	3,4,6	6

Course Contents (Exercises)

7. Designing and developing the patterns for the boot.

8. Cutting the boot upper components.
9. Fabrication of Boot upper.
10. Lasting of the Boot.
11. Upper and Sole preparation for sole attaching and sole attaching operation.
12. Finishing of the boot.

Suggested Learning Outcomes

1. Designing and developing the patterns for the boot.

1.11 Develop boot upper shell, upper patterns , lining shell, lining patterns for the selected last.

1.12 . Develop boot with collar upper shell, upper patterns , lining shell, lining patterns for the selected last.

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2. Cutting the boot upper components.

2.1 Cutting the boot upper components.

2.2 Cutting the boot Lining components.

3. Fabrication of Boot upper.

3.1 Skiving the components.
3.2 Splitting the components.
3.3 Stitching the various components.

4. Lasting of the Boot.

4.1 Attaching Toe puff and Stiffener to the Upper.

4.2 Conditioning the upper for Lasting.

4.3 Cut and attach insole to the last.

4.4 Last the upper to the insole.

5. Upper and Sole preparation for sole attaching and sole attaching operation.

5.1 Perform Upper Roughing operation.
5.2 Perform Bottom Roughing operation.
5.3 Perform Bottom Priming operation.
5.4 Apply adhesive to the upper and sole.
5.5 Attach sole to the Upper.

6. Finishing of the boot.

6.1 Perform Edge paring operation.

6.2 Perform Heel paring operation.
6.3 Perform Sole and Heel finishing operations.
6.4 Clean the upper with Upper cleaners.
6.5 Conditioning the upper for finishing.
6.6 Filling the upper with suitable fillers.
6.7 Dress the upper with suitable shoe dressings.

Suggested Student Activities

1. Collect innovative materials that can be used in Boot fabrication.

2. Collect innovative materials that can be used as soles.

REFERENCES

6) Manual of shoe making - Clarks.
7) Text book of Footwear manufacture - H.J.Thronton.
8) Lectures notes on Footwear Technology - Somanath Ganguly. (Series of Articles in JILTA)
9) Lecturer notes on Footwear Fabrication- CLRI.

E Learning Resources

http://icanmakeshoes.com>shoemaking.
2. www.simpleshoemaking.com
3. http://shoemakingcoursesonline.com

Scheme of Valuation of SEE		
S.No	Particulars	Marks
1.	Identification of tools/machine	02
2.	Writing procedure	08
3.	Conducting of experiment and performing the given task	20
4.	Results	05

5.	Viva-voce	05
	Total	40

State Board of Technical Education and Training, Telangana

Semester End Examination Model Question paper

DFWT V Semester Practical Examination

Corse Code: 18FW-507P **Duration: 3 hours**

Course Name: FABRICATION OF BOOTS AND HEAVY FOOTWEAR LAB PRACTICE

Max.Marks:40

Instructions to the Candidates:

(i)Answer any One of the following Questions.

10. Develop the patterns, fabricate Ankle boot variation-1 with given material.
11. Develop the patterns, fabricate Ankle boot variation-2 with given material.
12. Develop the patterns, fabricate Ankle boot variation-3 with given material.
13. Develop the patterns, fabricate Ankle boot variation-4 with given material.
14. Develop the patterns, fabricate Ankle boot variation-5 with given material.
15. Develop the patterns, fabricate Ankle boot variation-6 with given material.

18FW 508P—FOOTWEAR MACHINERY MAINTENANCE ENGINEERING LAB PRACTICE

Course Title :	**FOOTWEAR MACHINERY MAINTENANCE ENGINEERING LAB PRACTICE**	Course Code	**18FW508P**
Semester	**V**	Course Group	Practical
Teaching Scheme in Periods(L:T:P)	**1:0:2 15:0:30**	Credits	**1.5**
Methodology	**Lecture + Practical**	Total Contact Periods :	**:45Pds**
CIE	**60 Marks**	SEE	**40 Marks**

Pre requisites

This course requires the Basic Knowledge of Leather products Fabrication, Footwear upper fabrication, and Footwear bottoming fabrication

Rationale:

The course is designed to help the student in understanding method of operating various footwear fabrication machinery, its maintenance and different difficulties occur during fabrication process while using machinery.`

Course outcomes

On successful completion of the course, the students will be able to attain below Course Outcomes

Course Outcome		Linked Exercises	CL	Linked PO	Teaching Periods
CO1	Estimate machinery requirement for setting up of shoe upper fabrication unit	1	R/U/A	1,2,3,4,7	06
CO2	Estimate machinery requirement for setting up of Full shoe fabrication unit	2	R/U/A	1,2,3,4,7	06
CO3	Study the working system of Clicking, Strap cutting machine	3,4	R/U/A	1,2,3,4,6	09
CO4	Understand functioning, maintenance of Splitting machine, Skiving machine	5,6	R/U/A	1,2,3,4,6	12

CO5	Distinguish and explain the working system of Flat bed single needle and Double needle sewing machines	7,8	R/U/A	1,2,3,4,6	12

Course Contents (Exercises)

1. Selection of machinery for setting up of shoe upper fabrication unit
2. Selection of machinery for setting up of Full shoe fabrication unit
3. Study of working system of clicking machine
4. Study of working system of Strap cutting machine
5. Study of working system of Splitting machine
6. Study of working system of Skiving machine
7. Study of working system of Flat bed Single needle sewing machine
8. Study of working system of Flat bed Double needle sewing machine

Suggested Student Activities

1. Student visits nearby industry to see the Latest machines.
2. Student should prepare maintenance charts to all machinery in their labs
3. Perform time study for selection, estimate correct quantity of machinery required for setting up of footwear unit

E Learning Resources

1. http://icanmakeshoes.com>shoemaking.
2. www.simpleshoemaking.com

3. http://shoemakingcoursesonline.com

Scheme of Valuation of SEE		
S.No	Particulars	Marks
1.	Identification of tools/machine	02
2.	Writing procedure	08
3.	Conducting of experiment and performing the given task	20
4.	Results	05
5.	Viva-voce	05
	Total	40

State Board of Technical Education and Training, Telangana

Semester End Examination Model Question paper

DFW V Semester Practical Examination

Corse Code: 18FW508P **Duration: 3 hours**

Course Name: 18FW508P— FOOTWEAR MACHINERY MAINTENANCE

ENGINEERING LAB PRACTICE

Max.Marks:40

Instructions to the Candidates:

(i)Answer any One of the following Questions.

16. Estimate Machinery requirement for setting up of shoe upper fabrication unit having proposed production capacity of 1000 pairs per day in a single shift of 8 hours.
17. Estimate Machinery requirement for setting up of Full fabrication (only bottoming) unit having proposed production capacity of 1000 pairs per day in a single shift of 8 hours.
18. Explain the working system of Hydraulic Clicking machine with neat working diagram.
19. Explain the working system of Strap cutting machine with neat working diagram.
20. Explain working system of Band knife Splitting machine with neat diagram.
21. Describe working system of Single width Skiving machine with neat diagram
22. Explain working system of Single needle Flat bed sewing machine with neat sketch.
23. Describe working system of Double needle Sewing machine with neat sketch.

PROGRAMMING IN C LAB PRACTICE

Course Title:	**Programming in C lab practice**	Course Code	**18FW509P**
Semester	**V**	Course Group	**practical**
Teaching Scheme in Periods(L: T:P)	**15:00:30**	Credits	**1.5**
Methodology	**Lecture + Practical**	Total Contact periods:	**45Pds**

CIE	**60 Marks**	SEE	**40 Marks**

Pre requisites

Basic knowledge of Computer Operation.

Course outcomes

Course Outcome	
CO1	Write programs using input/output statements, variables and operators
CO2	Work on Constants, Variables, Data Types, Operators and Expressions in C
CO3	Construct programs on Decision making and Looping statements.
CO4	Develop programs using arrays and structures

Course Content

1. **Programming Methodology and Introduction to C Language Duration: 5 Periods**
   Program - Define High level language and low level language-history of C language - importance of C language – Define & Differentiate Compiler, Assembler - structure of C language - programming style of C language - steps involved in executing the C program

2. **Understand Constants, Variables and Data Types in C and Understand Operators and Expressions in C Duration: 15 Periods**
   Character set - C Tokens - Keywords and Identifiers- Constants and Variables - data types and classification - declaration of a variable - Assigning values to variables - Define an operator - Define an expression -Classify operators - List and explain various arithmetic operators with examples -Illustrate the concept of relational operators - List logical operators - various assignment operators - Increment and decrement operators - Conditional operator - List bitwise operators -List various special operators- Arithmetic expressions- precedence and associativity of operators- Evaluation of expressions - formatted input and output.

3. **Decision making and Looping statements Duration: 10 Periods**

Simple if statement with sample program – if else statement – else if statement – switch statement -Classification of various loop statements- while statement – do-while statement - for loop statement - break and continue statements.

4. **Arrays and Structures** **Duration: 15 Periods**

Arrays -declaration and initialization of One Dimensional -Accessing elements in the Array - Declaration and initialization of two Dimensional Arrays - sample programs on matrix addition and matrix multiplication–Declaration of a Structure – Structure members – Array of structures.

Course Outcome		CL	Linked PO	Teaching Hours
CO1	Write programs using input/output statements, variables and operators	**R, U, A**	**1,2,3,4,8,9,10**	**5**
CO2	Work on Constants, Variables, Data Types, Operators and Expressions in C	**R, U, A**	**1,2,3,4,8,9,10**	**15**
CO3	Construct programs on Decision making and Looping statements.	**R,U, A**	**1,2,3,4,8,9,10**	**10**
CO4	Develop programs using arrays and structures	**U, A**	**1,2,3,4,8,9,10**	**15**
			Total Sessions	**45**

REFERENCE BOOKS

1. Let Us C -- YeshwanthKanetkar BPB Publications
2. Programming in ANSI C -- E. Balaguruswamy Tata McGrawHill
3. Programming with C -- Gottfried Schaum'outline
4. C The complete Reference -- Schildt Tata McGraw Hill

List of Experiments

1. Exercise on structure of C program
2. Exercise on Keywords and identifiers
3. Exercise on constants and variables
4. Execution of simple C program

5. Exercise on operators and expressions
6. Exercise on special operators
7. Exercise on input and output of characters
8. Exercise on formatted input and output
9. Exercise on simple if statement
10. Exercise on ifelse statement
11. Exercise on elseif ladder statement
12. Exercise on switch statement
13. Exercise on conditional operator
14. Exercise on while statement
15. Exercise on for statement
16. Exercise on do...while statement
17. Exercise on one dimensional arrays
18. Exercise on two dimensional arrays
19. Exercise on structure
20. Exercise on array of structures

SCHEME OF INSTRUCTIONS AND EXAMINATION

18FW-510P- PROJECT WORK

V SEMESTER

S. No	Subject	Duration	Items	Max Marks	Remarks
1	MINI PROJECT	6 Months	1. project I spell (Abstract submission)	25	
			2. project II spell (Final submission)	25	
			3.a)Maintenance of Log Book	15	
			b)Record work	15	
			4.a) Seminar	10	
			b) Viva Voce	10	
Total :				**100**	

The Project shall carry 100 marks and pass marks is 50% a candidate failing to secure the minimum marks should repeat the Project work.