

**M.Sc FOOTWEAR TECHNOLOGY  
(MSCFWT)**

**Term-End Examination  
June, 2011**

**MFW-029 : ADVANCED MANUFACTURING  
TECHNIQUE**

*Time : 3 hours*

*Maximum Marks : 70*

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*Note : All questions are compulsory and carry equal marks.*

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**PART - A (Designing - II)**

1. (a) Answer the following : 4x2=8
- (i) Name five basic sizing systems.
  - (ii) What is the length of smallest size in English sizing systems ?
  - (iii) What is the girth increment given in English size systems ?
  - (iv) Briefly explain American sizing system.
- (b) Differentiate the following (answer any three) : 3x2=6
- (i) Derby and Oxford
  - (ii) Classics and Casuals
  - (iii) English and French Binding
  - (iv) Gimping and Trimming
  - (v) Mule and Sabot

## PART - B (CUTTING - II)

2. (a) Fill in the blanks. (Answer *any four*) :  $4 \times \frac{1}{2} = 2$

(i) Vein marks will appear on \_\_\_\_\_ side of the full grain leather.

(ii) While packing the leather, the inner most skin should be kept with grain layer \_\_\_\_\_.

(iii) Shade variation is a defect in the case of \_\_\_\_\_ leather.

(iv) Leather should be kept at \_\_\_\_\_ R.H. level.

(v) In table R.S.M., Net coefficient =

(b) Explain in brief (*any four*) :

$4 \times 1 = 4$

(i) What is the difference between gross area and parallelogram area ?

(ii) How do we store the leather ?

(iii) What is area discrepancy ?

(iv) What is purchase cost variance ?

(v) What do you understand by material allowance ?

(vi) Define the table run method of grading.

(c) Answer *any four* of the following : 4x2=8

- (i) A shoe factory has received 7000 sq.ft. of leather of TR-grade. The price quoted as Rs.60/- per sq.ft. After arrival of the leather following results is observed on checking the lot :

GRADE	QUANTITY
A	1575 sq.ft.
B	2550 sq.ft.
C	2925 sq.ft.

Calculate purchase cost variance in terms of profit (+) or loss (-).

- (ii) There are two tanneries, 1<sup>st</sup> tannery is supplying 'B' grade leather @ 60 Rs./sq.ft. with area discrepancy of 8% and 2<sup>nd</sup> tannery is supplying 'A' grade leather @65 Rs./sq.ft. with area discrepancy of 12%. What will be the variance in cost, if 1000 sq.ft. material is purchased from both tanneries separately. Which tannery is giving the best value to the buyer ?
- (iii) What is leather grading ? Explain different method of leather grading. What are the best storing conditions for finished leather ?
- (iv) Write step-by-step procedure for calculating scale area through 180° method of RSM.
- (v) Explain the procedure of calculating material allowance of synthetic material by graphical method.
- (vi) Explain the various types of random tests for the selection of leather.

**PART - C (CLOSING - II)**

3. (a) Fill in the blanks (Answer *any four*) : 4x1=4

(i) We should use \_\_\_\_\_ roller for patent leather.

(ii) For hollow folding skive \_\_\_\_\_ roll over allowance is given.

(iii) French seam is also called \_\_\_\_\_.

(iv) Matrix skiving is done for \_\_\_\_\_.

(v) \_\_\_\_\_ needle point is combination of round and cutting point.

(vi) Dressing tool is used for \_\_\_\_\_.

(b) What is the use of strobel machine ? 1

(c) Draw the diagram of lock stitch formation. 1

(d) How can you identify between natural thread and man-made thread ? 1

(e) Write down the sequence of making french binding (with diagram). 2

(f) Give the difference between Pot life and Shelf life of adhesive. 1

(g) What is skiving ? What is the purpose of skiving ? Make a diagram of following skives. 4

Open raw edge ;

Lapped seam skive;

Hollow folding skive.

**PART - D (COMPONENT - II)**

4. (a) (i) Write the four different material used for manufacturing soles. Also write the ideal qualities for soling material. 1

**OR**

What is the significance of using different types of shanks ?

- (ii) What are common mistakes in the production of leather unit sole ? 1

**OR**

Write down atleast 6 important safety measures while operating Edge Pre-Trimming machine.

- (iii) Write the full form of following synthetic material used for making sole. (*any four*) 1

EVA, MCR, PVC, CR, PU, RR

- (iv) What are the different operations and why we do these operations ? 2

Splitting ;

Leveling and Roughing ;

Edge Pre-Trimming ;

Sole bottom Snuffing ;

- (v) A buyer gives a sample of "RIBBED INSOLE" to the factory. Write the process in sequence to start production in the factory. 2

- (b) (i) What is close trim leather unit sole ? 3  
Write the name of machines used for making leather unit sole.

**OR**

What are the various defects that are found in the finished bottom leather ? How we cut various bottom components by avoiding these defects ?

- (ii) Insole board cost 250/- sheet. Shank board cost 200/- sheet. Steel shank cost Rs.2/-pair, Rivets Rs.0.10/pc, Glue Rs.80/-liter. The production capacity is 4000 pairs a day and labour cost is Rs. 15000/month. Cost of plant and machinery is Rs.35,000,00/-. Find the costing of one pair of insole if the overhead cost is Rs.1200000/- per year and the owner wants a profit of 20%. 4

**PART - E (LASTING - II)**

5. (a) Match the following : **10x½=5**
- |                         |                          |
|-------------------------|--------------------------|
| (A) Brass spikes        | (1) Drafting             |
| (B) Toluene             | (2) Scouring             |
| (C) 120 - 130C          | (3) Toe puff             |
| (D) 8 mm Tacks          | (4) Tool                 |
| (E) 36 grit emery paper | (5) roughing wheel       |
| (F) Preformed staples   | (6) Seat part            |
| (G) 12 point pull       | (7) Heat setting machine |
| (H) Polyurethane        | (8) Chemical             |
| (I) Paint on            | (9) Adhesive             |
| (J) Pincer              | (10) Insole attaching    |
- (b) Give example for (*any four*) : **4x½=2**
- (i) Force Lasting
  - (ii) Lasting up
  - (iii) Abrasives
  - (iv) Flanged lasting
  - (v) Flat lasting
- (c) Give one word for (*any four*) : **4x½=2**
- (i) Toe puff generally used in sport shoes  
\_\_\_\_\_.
  - (ii) Heat setting machine used for fabrics  
\_\_\_\_\_.

- (iii) Spikes used for roughing on soft leather \_\_\_\_\_.
  - (iv) A variation for stitched down construction \_\_\_\_\_.
  - (v) An adhesive used for pasting of sole \_\_\_\_\_.
- (d) Fill in the blanks (*any four*) : 4x $\frac{1}{2}$ =2
- (i) 4<sup>th</sup> drafting pull occurs in \_\_\_\_\_ area.
  - (ii) \_\_\_\_\_ chemical is used in forepart while hand lasting.
  - (iii) \_\_\_\_\_ mm tacks are used in forepart while hand lasting.
  - (iv) \_\_\_\_\_ construction is also called cemented construction.
  - (v) \_\_\_\_\_ is used in sole preparation of TPR sole.
- (e) Answer *any one* of the following : 3
- (i) Describe different types of lasting with relevant examples.
  - (ii) Explain different types of grinderies used in lasting department.
  - (iii) Name any two construction and explain them.
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