

**M.Sc. FOOTWEAR DESIGN AND PRODUCTION  
(MSCFDP)**

**Term-End Examination**

00143

**December, 2016**

**MFR-006 : ADVANCED MANUFACTURING  
TECHNIQUE**

*Time : 3 hours*

*Maximum Marks : 70*

**Note :**

- (i) *Attempt any seven questions.*
- (ii) *At least one question must be selected from each section.*
- (iii) *All questions carry equal marks.*

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**SECTION A**

1. What is the purpose of using shank board in designing? 10
2. Explain fastening devices. Give the important characteristics required for these devices. 10

## SECTION B

3. Explain the methods of leather grading followed by the tanneries. 10
  
4. How will you calculate the cutting allowance for leather upper by using graphical method ? Suppose, for an article X, upper leather is cow full grain leather, leather grade is B and net area is 16.4 sq.dm for average size. How will you calculate the cutting norm for average size for an article X ? 10
  
5. Write the step-by-step procedure for calculating scale area through 180 degree method of RSM (Russ and Small Method). 10

## SECTION C

6. What is reinforcement ? What is the purpose of using it in upper leather ? What types of reinforcements should be used in upper leather on the basis of application ? 10
7. What is a seam ? Explain the different types of seams used in footwear with the help of diagrams. 10
8. Prepare a technical data sheet for French seam. The data sheet must include the following information : 10
- (a) Material : Cow leather, Types : full grain, Thickness : 1.2 mm
  - (b) Skiving details : Types, width, depth, types of machine, machine manufacturer, etc.
  - (c) Thread : Top and bottom thread size, twist, etc.
  - (d) Stitch : Types of stitch length, stitch density, etc.
  - (e) Needle : length, size, system, point, etc.
  - (f) Machine : Types, machine manufacturer name, country, model no., etc.
  - (g) Tool : Names of the tools used while making this seam
  - (h) Reinforcement tape : Material, types of weaving, width, colour, etc.
  - (i) Adhesive : Types of Adhesive, if used
  - (j) Diagram of the skiving and the French seam

## SECTION D

9. What are the various defects that are found in the finished bottom leather ? How can we cut various bottom components avoiding these defects ? 10
10. Write about the different types of leather unit sole. Also write the names of the machines used in manufacturing of leather unit sole. 10
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