Summer Examinations 2015

LEA200115N

Module Title: Leather Technology 2  
Level: Five  
Time Allowed: Three Hours

Instructions to students:

- Enter your student number not your name on all answer books.
- Answer two questions from Section A and three questions from Section B.
- All questions are equally weighted. Where a question has more than one part the division of marks is stated.
- Begin each question in a separate answer book; label each book clearly with the number of the question you are answering.
- Neither books nor notes may be taken into the examination.
- The use of non-programmable calculators is permitted.
- Students are permitted to remove this examination paper at the end of the examination.
Section A

Answer two out of three questions. This will make a total of 40 marks.

Question 1

a. List the colour fastness properties associated with shoe upper leathers. Explain what the grey scale is.
   (10 marks)

b. Describe five different process steps that can help to achieve high colour fastness in shoe upper leathers.
   (10 marks)
   Total: 20 marks

Question 2

a. Identify five desired properties for handbag leathers.
   (5 marks)

b. For the raw material below, outline unique operation(s) that will help you achieve a quality handbag leather:
   i. East India kip; (5 marks)
   ii. Nile crocodile; (5 marks)
   iii. Cape ostrich. (5 marks)
   Total: 20 marks

Question 3

Aircraft upholstery leathers have high technical requirements.

List five technical requirements and discuss the reasons why they are specified and how they may be achieved through wet or dry processing.

(20 marks)

Section A Total: 40 marks
Section B

Answer three out of four questions. This will make a total of 60 marks.

Question 4

a. Give brief definitions for:
   
i. skiver;
   
ii. metal capping;
   
iii. nap;
   
iv. bagginess;
   
v. reduction pickle.

   (10 marks)

b. Discuss the technological considerations that need to be followed to achieve consistent, high performance water resistant leathers. Your answer should include theoretical technological improvements that could be made to achieve one million Maeser flexes.

   (10 marks)

Total: 20 marks

Question 5

For high quality garment leathers:

a. Discuss the differing properties obtained from
   
i. rechroming;
   
ii. reactive dyestuffs;
   
iii. and lightweight resins.

   (10 marks)

b. Explain the purposes in post tanning of:
   
i. low pH use of astrigent syntans;
   
ii. lubricating acrylic syntans;
   
iii. the use of glutaraldehyde during neutralisation;
   
iv. dye during the wetting back;
   
v. raw oil blended with the fatliquor.

   (10 marks)

Total: 20 marks
Question 6

a. Discuss the important considerations that need to be kept in mind when producing double face clothing leathers?

(10 marks)

b. Compare and contrast leathers dried using high tension toggle drying, low pressure vacuum drying and wet milling.

(10 marks)

Total: 20 marks

Question 7

Outline a process for the production of high performance split leathers from limed drop split.

Include:

i. a process flow diagram;

ii. splitting/shaving details;

iii. post tanning details;

iv. quality control testing.

(20 marks)

Section B Total: 60 marks

End of Section B

End of Paper