THE KENYA POLYTECHNIC

UNIVERSITY COLLEGE

DEPARTMENT OF INSTITUTIONAL MANAGEMENT

DIPLOMA IN CLOTHING TECHNOLOGY

END OF YEAR I EXAMINATIONS

NOVEMBER 2007

TEXTILE SCIENCE

2½ HOURS

Instructions to candidates:

Answer questions any FIVE questions.

All questions carry equal marks and the maximum marks for each part of a question are as shown.

This paper consists of 3 printed pages.

1. a) Define the following terms;

   i) Textile fibre (1 mark)

   ii) Lap (1 mark)

   iii) Sliver (1mark)

   iv) Roving (1 mark)

   b) Discuss the following processes of linen fibre production

   i) Dew retting

   ii) Water retting

   iii) Chemical

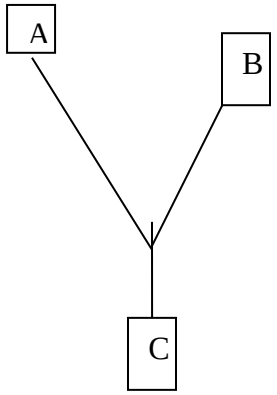
   iv) Scatching (16marks)

2. a) Explain the following thread (yarn) numbering systems:

   i) indirect

   ii) direct (10marks)

   b) Shown below is figure of a composite yarn. It consists of two single yarns A and B, twisted together to make a sewing thread C. If the count of the yarn A is 26tex and that of B is 130 denier, what is the resultant count of the sewing thread C is denier



(10marks)

3. Explain the following

   a) "Spinning" (2marks)

   b) Four principles of yarn production (8marks)

   c) Principles of open-end spinning (10marks)

4. a) Classify vegetable fibres citing two examples each case. (6marks)

   b) Explain the process of carbonizing wool fibre (4marks)

   c) Describe the process of producing flax fibres. (10marks)

5. Explain the production of silk fibre yarn under the following.

   i) Sericulture
   ii) Reeling
   iii) Throwing
   iv) Weighting (20marks)

6. a) Outline the THREE categories of raw cotton impurities giving four examples in each case (15 marks)

   b) Explain the following

   i) Tops
   ii) Noils (5marks)

7. Explain the following properties of textile fibres:

   i) Strength or tenacity
   ii) Abrasion resistance
   iii) Flexibility
   iv) Elongation and elastic recovery
   v) Resiliency (20marks)

8. Discuss the importance of the following properties of cotton fibres on it use.

   i) Luster
   ii) Density and specific gravity
   iii) Absorbency and moisture regain
   iv) Dimentional stability

   (20marks)