



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.

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1. a) Define the following terms
 - i. Tex (1 mark)
 - ii. Worsted count (1 mark)
 - iii. Denier (1 mark)
 - iv. Cotton count (1mark)
- b) The weight of spool with polyester thread wound it is 1.5kg.
if the weight of the spool alone is 0.3kg and the length of the thread is 50km,find the count of the thread .
 - i. Tex
 - ii. Denier (6 marks)
- c) Explain any FIVE properties of silk (10 marks)
2. a) With the aid of a diagram describe the yarn ring spinning. (10 marks)
- b) Explain the yarn winding process and name and sketch yarn packages. (10 marks)
3. a) Define the term blending (1 mark)
- b) Distinguish between fibre and sliver blending (4 marks)
- c) Explain five reasons for blending (10 marks)
- d) Give FIVE examples of blended fabrics (5 marks)
4. Discuss in detail any five yarn properties (20 marks)
5. Write notes on;
 - (a) Woollen yarn spinning
 - (b) Worsted yarn spinning
 (20 marks)
6. a) Draw a fibre classification chart for man-made fibres and name THREE fibres in each category. (10marks)
- b) Explain TWO reasons for a combing operation (4 marks)
- c) Explain THREE reasons for a carding operation (6 marks)

7. a) Illustrate the symbols applicable to each of the following.
- i) Warm iron
 - ii) Normal goods which may be cleaned in white spirit and solvent 113 only
 - iii) Hand wash only
 - iv) Articles which are washable but not at a temperature in excess of 40c.
 - v) Do not use chlorine bleach
 - vi) Drip dry
 - vii) Do not tumble dry
 - viii) Dry flat

(16marks)

- b) Differentiate between temporary hard water and permanent hard water

(4marks)

8. a) Discuss the burning behavior of the following fibres

i) Cotton ii) Wool (10marks)

- b) Explain any five properties of cotton (10marks)