

**1<sup>ST</sup> SEM. 2019/20**

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**UNIVERSITY OF ESWATINI  
RE-SIT EXAMINATION PAPER**

**PROGRAMME : BACHELOR OF SCIENCE IN TEXTILE  
APPAREL DESIGN AND MANAGEMENT YEAR  
II**

**COURSE CODE : TAD205**

**TITLE OF PAPER : TEXTILE SCIENCE**

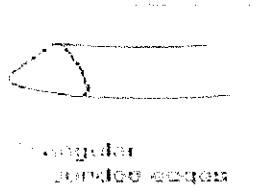
**TIME ALLOWED : TWO (2) HOURS**

**INSTRUCTIONS : ANSWER QUESTION ONE (1)  
AND ANY OTHER TWO (2) QUESTIONS**

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THE CHIEF INVIGILATOR**

**QUESTION 1 (COMPULSORY)**

- a) Name and briefly discuss any **five (5)** properties of cotton. (10 Marks)
- b) Describe the behaviour of the following fibres in 100% acetone, 5% chlorine bleach, and 70% sulphuric acid (9 Marks)
- Cotton
  - Viscose rayon
  - Wool
- c) Briefly describe the basic manufacturing principle for synthetic fibres. (8 Marks)
- d) Classify cellulosic fibres according to their types giving an example for each type. (6 Marks)
- e) Which fibre has the following microscopic appearance? Give any five properties relating to the fibre. (7 Marks)

**[TOTAL MARKS = 40]****QUESTION 2**

- a) Describe how bast fibres are extracted from the bast /stem of plants. (10 Marks)
- b) Name and describe the filature operations carried out during the production of silk fibres. (10 Marks)
- c) Based on your knowledge of the properties of cotton, explain **five (5)** care instructions that you think will be suitable for a cotton shirt. (10 Marks)

**[TOTAL MARKS = 30]****QUESTION 3**

- a) Describe the following weaves (10 Marks)
- Satin
  - Twill
- b) Describe the following types of fancy yarns (6 Marks)
- Slub yarns
  - Grandelle yarns
  - Chenille yarns
- c) Briefly describe the wool fibre cortex. (6 Marks)
- d) Describe the production process for acetate rayon. (8 Marks)

**[TOTAL MARKS = 30]**

**QUESTION 4**

- a) Explain **five (5)** objectives of blending two different types of yarns or fibres. Use poly-cotton as an example. **(10 Marks)**
- b) State and briefly describe the structures of a fibre considered when looking at fibre morphology. **(8 Marks)**
- c) Name **six (6)** properties of viscose rayon. **(6 Marks)**
- d) Describe the **two (2)** yarn count systems. **(6 Marks)**

**[TOTAL MARKS = 30]**