



**1<sup>st</sup> SEM. 2018/2019**

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**UNIVERSITY OF ESWATINI**  
**FINAL EXAMINATION PAPER**

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

**COURSE CODE : TAD405**

**TITLE OF PAPER : TEXTILE DYEING AND PRINTING**

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

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

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GRANTED BY THE CHIEF INVIGILATOR**

**QUESTION 1**

a) Use a fine liner to illustrate the following:

i) Simple motif in a 3X3 unit base

(4 Marks)

ii) Put the motif in repeat on a A5 work space (mention the repeat used)

(8 Marks)

iii) Apply **two (2)** colours on each of the motifs in ii).

(4 Marks)

b) Define the following terms

i) Dye

ii) Pigments

iii) Colour fastness

iv) Substantivity

(8 Marks)

c) Describe the colour fastness properties that are critical for the following items based on their functionality. Justify your answer.

i) Curtains

ii) Sihlangu National team kit

iii) Tinwel salon towels

iv) Red sofas at the Sibaya hotel foyer

(16 Marks)

[TOTAL MARKS = 40]

**QUESTION 2**

a) Describe the classes of dyes that would be suitable for the colouration of the following manufactured fibres.

i) Viscose

ii) Acetate

iii) Acrylic

iv) Polyester

(12 Marks)

b) Compare and contrast synthetic dyes and natural dyes by highlighting the advantages and disadvantages of each.

(16 Marks)

c) Explain why bleaching with hydrogen peroxide under alkaline conditions is often used over chlorine based bleaches.

(2 Marks)

[TOTAL MARKS = 30]



**QUESTION 3**

- a) Mention the most important natural dyeing parameters that determine the strength of dye colour yield.
- b) Describe **three (3)** methods of dye extraction one can use to extract dye from dried marigold flowers.

(4 Marks)

(15 Marks)

- c) A cellulosic fabric was successfully dyed with a dye extracted from water berries. Upon rinsing the fabric after dyeing, all the dye was washed off leaving a slight shade of purple. Explain the possible cause for this and clearly describe the process that can be followed to avoid the extreme dye wash off.

(5 Marks)

- d) Fully explain why DYEFIN opted to use the winch dyeing machine to dye their knitted fabrics instead of the jig dyeing machine which is actually more economical.

(6 Marks)

[TOTAL MARKS = 30]

**QUESTION 4**

- a) Demonstrate your colouration acumen by listing and describing **three (3)** pre-treatments that would be necessary before dyeing unbleached calico. Justify your answer.

(12 Marks)

- b) Identify the following on each of the textile surface designs below:
- Repeat and describe its distinct features.
  - Direction (show with arrows)
  - Symmetry

**A****B**

(8 Marks)

- c) Suggest and describe **two (2)** method of printing that can be used to apply each of the designs shown above (i.e. in b) on fabric.

(10 Marks)

[TOTAL MARKS = 30]