



UNIVERSITY OF SWAZILAND
RESIT EXAMINATION PAPER

PROGRAMME : BACHELOR OF SCIENCE IN TEXTILES, APPAREL
DESIGN AND MANAGEMENT YEAR III

COURSE CODE : TADM 307

TITLE OF PAPER : COLOURATION TECHNOLOGY

TIME ALLOWED : TWO (2) HOURS

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

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CHIEF INVIGILATOR**

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QUESTION 1 (COMPULSORY)

- a) List the components of a spectrophotometer suitable for colour measurement and explain how the spectrophotometer is used to measure colour. (10 Marks)
- b) Give a brief description of basic dyes (8 Marks)
- c) Give **two (2)** advantages and **two (2)** disadvantages of beck dyeing machines (4 Marks)
- d) Give **five (5)** advantages and **five (5)** disadvantages of dyeing with natural dyes (10 Marks)
- e) Briefly describe the additive colour system (RGB) (8 Marks)

QUESTION 2

[TOTAL MARKS = 40]

- a) List **three (3)** objectives of scouring (3 Marks)
- b) Give a detailed explanation of the main processes that take place during cotton fabric scouring. (9 Marks)
- c) Outline the scouring process you used in the pre-treatment of cotton during your practical class. Include all the chemicals you added to your scouring liquor. (12 Marks)
- d) Dyeing can be carried out using any one of three processes:
 - i. Name **three (3)** dyeing processes that can be used in the dyeing of materials (3 Marks)
 - ii. Give factors that influence the choice of dyeing process (3 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- a) Differentiate between dyeing and printing. (10 Marks)
- b) Name **six (6)** factors that influence how a colour of an object is perceived (6 Marks)
- c) Give **four (4)** principal properties that all dyes must possess (4 Marks)
- d) Describe the different stages carried out when dyeing with vat dyes (10 Marks)

[TOTAL MARKS =30]

QUESTION 4

- a) Give a detailed description of bleaching cotton fabrics using hydrogen peroxide as a bleaching agent (15 Marks)
- b) Natural dyes can be extracted from various parts of a plant. Name **five (5)** parts of a plant that can be a source of natural dyes (5 Marks)
- c) Describe a natural dye extraction method that you used in one of your lab sessions (10 Marks)

[TOTAL MARKS = 30]