



UNIVERSITY OF ESWATINI
FINAL EXAMINATION PAPER

PROGRAMME : **BACHELOR OF SCIENCE IN TEXTILE APPAREL
DESIGN and MANAGEMENT YEAR III**

COURSE CODE : **TAD411**

TITLE OF PAPER : **COLOUR MEASUREMENT**

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

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

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CHIEF INVIGILATOR**

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) Colour parameters of two fabric samples are given in the table below

	L^*	a^*	b^*
Batch	40	10	30
Standard	60	20	20

Determine the following values: ΔL^* , Δa^* , Δb and ΔE^* and explain the visual appearance of the sample based on the values that you got **(15 Marks)**

- c) State and explain the **two (2)** methods by which colour is reproduced **(10 Marks)**
- d) Briefly describe your understanding of an illuminant and give **three (3)** examples of illuminants **(5 Marks)**

[40 MARKS]

QUESTION 2

- a) Light interacts with objects in a number of ways. Name and briefly describe **four (4)** ways in which light interacts with objects **(8 Marks)**
- b) Describe the NCS colour order system, and using the same system how would you describe the visual appearance of an object with the notation **S1050-R90B** **(12 Marks)**
- c) Describe your understanding of metamerism and briefly explain any **two (2)** types of metamerism **(10 Marks)**

[30 MARKS]

QUESTION 3

- a) Describe any **three (3)** colour schemes **(12 Marks)**
- b) Describe the attributes that are used to describe colour **(9 Marks)**
- c) What are some factors that influence how colour is perceived **(5 Marks)**
- d) Briefly describe the importance of colour measurement **(4 Marks)**

[30 MARKS]

QUESTION 4

- a) Describe the Munsell colour system **(12 Marks)**
- b) Explain the following terms **(6 Marks)**
- i. Colour constancy

- ii. Simultaneous contrast
- iii. Successive contrast
- c) List **five (5)** rules that must be considered when deciding which colour difference to use during tolerancing (5 Marks)
- d) Explain the Opponent Colour theory (6 Marks)
- e) What is meant by achromatic colour (1 Mark)

[30 MARKS]