UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER

PROGRAMME	:	BACHELOR OF SCIENCE IN TEXTILE APPAREL DESIGN AND MANAGEMENT YEAR IV
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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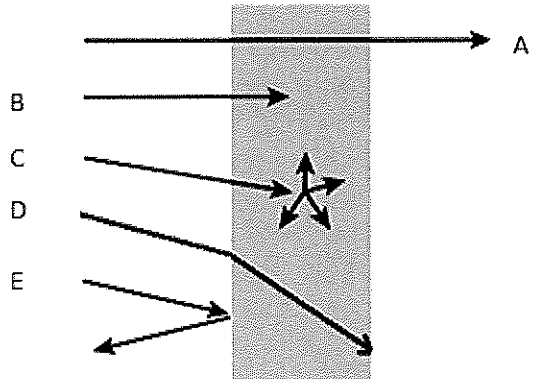
QUESTION 1(COMPULSORY)

a) The Munsell Colour Order System is a three-dimensional model based on the premise that each colour has three qualities or attributes: hue, value and chroma. Describe these attributes as used in the Munsell Colour Order System. **(12 Marks)**

b) Light interacts with objects in a number of ways. In the diagram below name the method of light interaction represented by each arrow. **(5 Marks)**



c) Explain how the following can act as obstacles to colour matching. **(12 Marks)**
   i) Fibre type
   ii) Fabric construction
   iii) Colour of substrate

d) Describe the following visual assessment methods **(8 Marks)**
   i) Ranking method
   ii) Percentage acceptance method

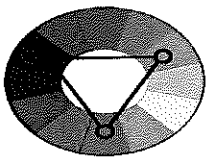
e) Name any **three (3)** colour order systems. **(3 Marks)**

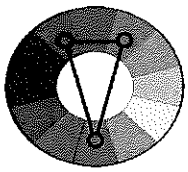
[TOTAL MARKS = 40]

QUESTION 2

a) Using the NCS colour system describe the colour represented by the notation **S 1050-R90B.** **(10 Marks)**

b) Name and describe the colour schemes represented by the following diagrams. **(10 Marks)**

i) 

ii) 

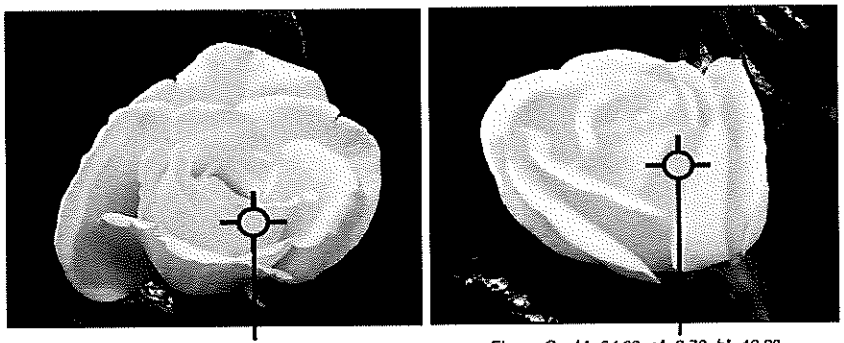
c) Use **one (1)** example to describe the subtractive colour theory. **(6 Marks)**

d) Define an illuminant and give **two (2)** examples of illuminants. **(4 Marks)**

[TOTAL MARKS = 30]

QUESTION 3

a) Use the CIELAB (L*a*b*) method to compare flower A to Flower C in the figure below **(10 Marks)**



b) Name and describe the **two (2)** types of metamerism. **(8 Marks)**

c) Differentiate between a calorimeter and a spectrophotometer. **(8 Marks)**

d) List **four (4)** rules that must be considered when deciding which colour difference to use during tolerancing. **(4 Marks)**

[TOTAL MARKS = 30]

QUESTION 4

a) List the components of a spectrophotometer suitable for colour measurement and explain how the spectrophotometer is used to measure colour. **(12 Marks)**

b) The colour-difference perceptibility and commercial acceptability do not always correlate. Explain **three (3)** instances when these might differ. **(6 Marks)**

c) Define the following terms **(6 Marks)**

i) Colour space
ii) Simultaneous contrast
iii) Colour constancy

d) Explain the Opponent Colour theory. **(6 Marks)**

[TOTAL MARKS = 30]