



2nd SEM. 2012/2013

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

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

COURSE CODE : TADM 307

TITLE OF PAPER : COLOURATION TECHNOLOGY

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 (COMPULSORY)

a) As a textile colourist, you have been requested by a textile manufacturer to advise him/her on the most suitable dye class for the following fabrics. Justify your answer.

- i) Cotton
- ii) Wool
- iii) Polyester
- iv) Acrylics

(4 X 3 = 12 Marks)

b) A novice textile colourist carried out an experiment, whereby she/he dyed a denim fabric using an acid dye. Give **two (2)** expectations and why they will happen based on the affinity and solubility of cellulosic fibres.

(2 X 4 = 8 Marks)

c) In the dyeing and fixing of reactive dyes, 5 – 30% of the dye used is deactivated. Explain what happens to this form of the dye during the washing of garments made from such fabrics and why.

(4 + 4 = 8 Marks)

d) Describe the following colour models under the following sub-themes: Meaning of the acronym, description of the colour model and uses.

- i) RGB
- ii) CMYK
- iii) HSV

(3 X 4 = 12 Marks)

[TOTAL MARKS = 40]

QUESTION 2

- a) Dyeing can take place at various stages of textile production, one of them being the Pre-fibre stage. Explain how dye application can be achieved at this stage and give **two (2)** examples of fibres that can be dyed at this stage.

(4 + 2 = 6 Marks)

- b) The application of reactive dyes to cotton materials involves two distinct steps. Fully outline these **two (2)** steps and state the function of each step.

(2 X 4 = 8 Marks)

- c) Give reasons for the following statements. Justify your answers based on the properties of the dye classes.

- i) Basic dyes are not suitable for sports wear.
- ii) Basic dyes are not suitable for curtains.
- iii) Reactive dyes are excellent for blue cotton work wear suits.
- iv) Acid dyes are not suitable for 100% cotton bath towels.

(4 X 4 = 16 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- a. Describe the following styles or approaches of printing

- i) Direct
- ii) Discharge
- iii) Resist

(3 X 4 = 12 Marks)

- b. Name **three (3)** important thickeners used in printing and describe their preparation in brief.

(3 x 3 = 9 Marks)

- c. As a textile designer you have experienced a number of screen printing defects while screen printing, mention **two (2)** defects you have experienced and the remedies you employed to give good prints.

(2 X 4.5 = 9 Marks)

[TOTAL MARKS = 30]

QUESTION 4

- a) Define the following terms.

- i) Mordant
- ii) Colour saturation
- iii) Colour models
- iv) Hue
- v) Triad colour scheme

(5 X 2 = 10 Marks)

- b) Explain the printing process you observed for your screen printing sample under the following themes:

- i) Preparing the screens
- ii) Development of the screens
- iii) Printing of the design
- iv) Washing of the screens

(3 X 4 = 12 Marks)

- c) Outline the whole dyeing process you used during your practical on resist dyeing.

(8 Marks)

[TOTAL MARKS = 30]