



2ND SEM. 2012/2013

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UNIVERSITY OF SWAZILAND
SUPPLEMENTARY 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 colouration technician, you have been given a cotton grey cloth that was woven using staple yarns to pre-treat in preparation for dyeing. List all the pre-treatments you would perform in their progressive order. Justify your answer based on the attributes of the cloth.

(4 X 3 = 12 Marks)

- b) Fully explain how you would carry out each of the pre-treatments mentioned in (a).

(4 X 4 = 16 Marks)

- c) Enzyme de-sizing is safer compared to acid de-sizing. Support this statement.

(2 Marks)

- d) Define the following terms in relation textile colouration.

- i) Dye
- ii) Pigment
- iii) Exhaustion
- iv) Dye levelness
- v) Good dye penetration

(5 X 2 = 10 Marks)

[TOTAL MARKS = 40]

QUESTION 2

- a) List **four (4)** fabrics that have a high affinity for reactive dyes

(2 Marks)

- b) Fully explain why reactive dyes are characterized by a high fixation rate.

(2 Marks)

- c) Describe and state the function of the following steps involved in the application of azoic dyes.

- i) Naphtholation
- ii) Development

(2 X 3 = 6 Marks)

- d) Explain the fibre and dye interaction i.e. how the colour is actually formed in/on the fabric when dyeing textiles using the following dyes.

- i) Reactive dyes

- ii) Acid dyes
- iii) Azoic dyes
- iv) Disperse dyes

(4 X 5 = 20 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- a. List and mention the function of **four (4)** essential ingredients in a printing paste.

(4 X 1.5 = 6 Marks)

- b. Describe the following methods of printing and mention **one (1)** advantage and **one (1)** disadvantage of each.

- i) Block printing
- ii) Stencil printing
- iii) Screen printing
- iv) Transfer printing
- v) Burnt out designs
- vi) Jet spray printing

(6 X 4 = 24 Marks)

[TOTAL MARKS = 30]

QUESTION 4

- a) Describe the following after treatments and Give **one (1)** expected fabric colouration fault if they are not carried out.

- i) Steaming
- ii) Aging

(2 X 6 = 12 Marks)

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b) Describe in brief the treatments required to prepare the following fabrics for printing

- i) Silk
- ii) Wool
- iii) Viscose rayon
- iv) Nylon

(4 X 4 = 16 Marks)

c) Which dye class would you use to dye a leather bag. Justify your answer.

(2 Marks)

[TOTAL MARKS = 30]