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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME	:	**BACHELOR OF SCIENCE IN TEXTILE AND APPAREL DESIGN MANAGEMENT YEAR II**
COURSE CODE	:	**TADM 206**
TITLE OF PAPER	:	**FABRIC CONSTRUCTION DESIGN**
TIME ALLOWED	:	**TWO (2) HOURS**
INSTRUCTIONS	:	**ANSWER QUESTION ONE (1) AND ANY OTHER (2) QUESTIONS**

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QUESTION 1 [COMPULSORY]

a) Discuss the stages of fibre processing to yarns on the open-end spinning frame. **(20)**

b) Winding is a process that happens in a spinning mill. State the purpose of winding. **2 X 5 = (10)**

c) Sizing is a necessity in fabric construction. State two (2) objectives of sizing, and the key conditions for optimum sizing to occur. **2 X 5 = (10)**

[Total marks = 40]

QUESTION 2

a) What are the five (5) motions or principles in weaving a fabric? **2 X 5 = (10)**

b) State five (5) uses of non-woven fabrics. **(5)**

c) i) Calculate the linear density of a yarn that weighs 30g and is 200m long. **(2)**

ii) Calculate the warping time given a machine speed of 820m/min, 10,000m sheet length, 95% machine efficiency and 5 minutes of removal and loading time. **(5)**

iii) Calculate the weaving output of a weaving machine with 300RPM, 90% machine efficiency, 20 picks/cm and for 20 weaving looms. **(5)**

iv) Explain the following weaving notation:
C60 X TC40 / 100 X 50 / 1 X 2 / 150cm **(3)**

[Total marks = 30]

QUESTION 3

a) Non-woven fabric structures can be made using varied methods. Describe the four (4) different types of non-woven structures under the staple fibre webs that can be made; include two (2) properties and two (2) uses of each fabric type. **4 X 5= (20)**

b) Woven fabrics can be illustrated in three (3) different ways. Show two (2) ways of presenting a plain weave. **(4)**

c) Sketch the following weave plans and name the pattern shown:

i) Regular matt weave.
ii) Irregular matt weave. **(6)**

[Total marks = 30]

QUESTION 4

a) Explain the general fabric characteristics of knit fabrics. **2 X 7 = (14)**

b) Describe the properties of non-woven fabrics. **2 X 8 = (16)**

[Total marks = 30]