

SCHOOL OF ENGINEERING AND ENGINEERING TECHNOLOGY
DEPARTMENT OF POLYMER AND TEXTILE ENGINEERING

2014/2015 HARMATTAN SEMESTER EXAMINATION

PTE 509: COMPLEX TEXTILE DESIGNS.

INSTRUCTIONS: ANSWER FIVE QUESTIONS, AT LEAST TWO QUESTIONS FROM EACH SECTION. TIME ALLOWED: 3HRS
SECTION A

Question 1.

(a) Explain the factors that determine the prominence of twill weaves.

(b) Establish the following waves using the left hand S – twill systems,

(i) $\frac{3 \quad 1}{1 \quad 3}$ even sided on 16 x 16.

(ii) $\frac{4 \quad 1}{2 \quad 1}$ warp effect on 2nd multiple of the design size.

(iii) $\frac{3 \quad 2 \quad 1}{1 \quad 2 \quad 2}$ on 11 x 11.



Question 2.

Differentiate between a Satin and a Sateen weave and hence state the major rules which must be observed when producing a satin or sateen weave design.

Produce TWO Satin or Sateen structures for each of the following repeat sizes.

(i) Repeat size of 10 x 10

(ii) Repeat size of 12 x 12

(iii) Repeat size of 13 x 13

(iv) Repeat size of 4 x 4

For each of the designs above, state the MOVE NUMBERS used in the construction.

Question 3

Using your own motif and cross-sectional diagram, produce the point paper diagram for a RIPPLE fabric which is figured with the aid of TWO warps.

Give the card cutting instruction which will aid the production of the design on both a simple jacquard loom and a divided harness loom.

SECTION B

Question 4.

(a) Describe the 'angle of twill' in a twill weave construction.

(b) Produce the following weaves using the right hand S – twill systems.

(iv) $\frac{2 \quad 1}{1 \quad 1}$ warp effect on 15 x 15.

(v) $\frac{3 \quad 1}{1 \quad 3}$ even sided on 16 x 16.

(vi) $\frac{1 \quad 1}{1 \quad 3}$ filling effect on 18 x 18.

Question 5

(a) In order to produce a workable point paper design using the interchange method of producing coloured fabrics, TWO major regulations must be observed.

State these regulations and hence,

(b) Using a motif, x-sectional diagram of your own choice, produce the point paper diagram of three colour fabric on the interchange system.

(c) Produce the card-cutting instruction for above design if it is to be woven on

(i) A simple jacquard loom

(ii) Divided harness loom.

Question 6

The FUTO International Secondary School has requested a Textile Company to supply a striped fabric to the school.

Using any appropriate method of your choice, produce both the motif, cross-sectional diagram and the point paper diagram of the above fabric.

Also produce the card cutting instruction if the design is to be woven on a simple jacquard loom. State the number of colours you have produced.

**FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI.
SCHOOL OF ENGINEERING AND ENGINEERING TECHNOLOGY
DEPARTMENT OF POLYMER AND TEXTILE ENGINEERING**

2009/2010 HARMATTAN SEMESTER EXAMINATIONS.

PTE. 509: COMPLEX TEXTILE DESIGN.

TIME : 3HRS.

INSTRUCTIONS: ANSWER FIVE QUESTION ONLY

QUESTION 1. (a) List any three features of a repp fabric.

(b) Using any motif and cross section of your choice, produce the point paper diagram of a repp fabric which is figured with the aid of ONE weft only.

(b) Give the card cutting instruction for a textile firm which uses the divided harness or the doobby loom to produce the weave.

QUESTION 2. (a) Using some clearly labeled diagrams, show the major difference between a true repp and an adulterated repp.

(b) Show the cross sectional diagram of a true repp fabric figured with the aid of two warps and two wefts.

(c) Produce the point paper diagram for the above fabric.

(d) Produce the card cutting instruction to aid the weaver produce the design on a simple jacquard loom and

(e) On a divided harness arrangement.

QUESTION 3. (a) In order to produce a "backed fabric" using the interchange method, some fundamental rules must be observed. List these rules.

(b) Using the interchange method, produce the cross section of any two-colour fabric.

(c) Also produce the point paper diagram for the design.

(d) Give an adequate instruction to the weaver so that he/she can produce the design on a simple jacquard loom.

QUESTIOIN 4: As a manager of a weaving mill, you have been requested to produce a plain weave stripe fabric to be used by school children. The stripes show red, blue and bluish red.

(a) What method would you use in producing the above design?

(b) Show the motif and the cross sectional diagram for the above design.

(c) Produce the point paper design for the above design and

(d) Indicate the card cutting instruction to enable you weave the design on a simple divided harness loom.

QUESTION 5: (a) Produce the motif and point paper diagram of a repp fabric figured on TWO wefts.

(b) Give the card cutting instruction to enable the designer weave the fabric on a simple jacquard loom.

QUESTION 6: "TEXTILE DESIGN AND TODAY'S FASHION" Critically comment on the above topic.