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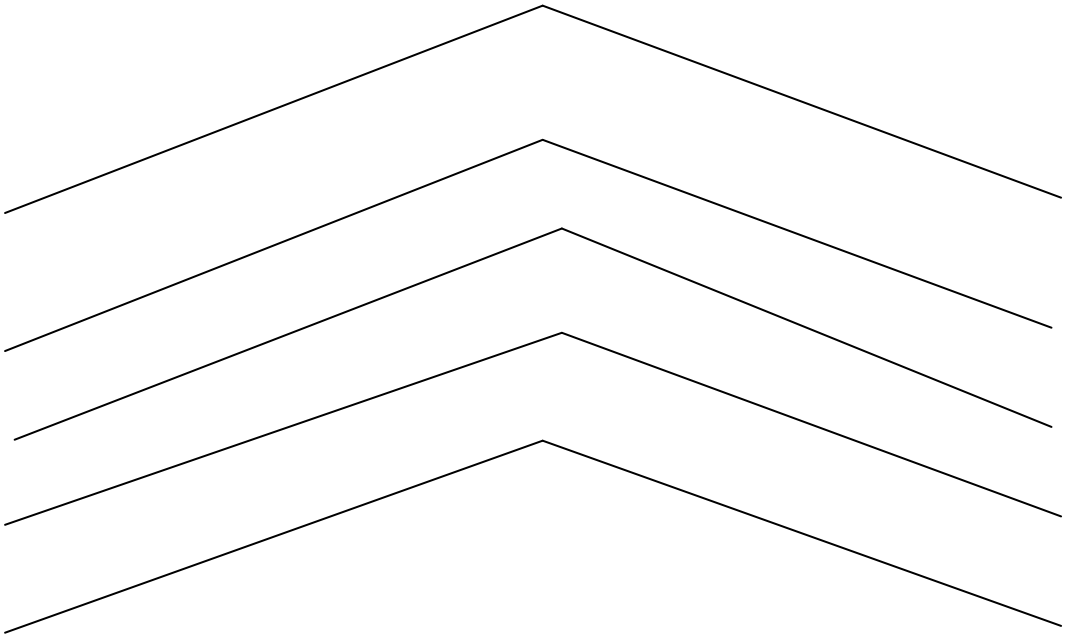

4- YEAR

DIPLOMA GARMENTS DESIGN AND PATTERN MAKING

SYLLABUS

5TH SEMESTER

4-YEAR DIPLOMA IN TEXTILE ENGINEERING PROGRAM
GARMENTS DESIGN AND PATTERN MAKING TECHNOLOGY
COURSE STRUCTURE

FIFTH SEMESTER (GARMENTS)

Sl.No	Subject code	Name of the subject	T	P	C	MARKS				
						Theory		Practical		Total
						Cont. assess	Final exam.	Cont. assess.	Final exam.	
1.	5051	Fabric Manufacturing-II	3	3	4	30	120	25	25	200
2.	5052	Garments Manufacturing – II	2	3	3	20	80	25	25	150
3.	5053	Garments Pattern & Marker Making	2	6	4	20	80	50	50	200
4.	5054	Printing and Finishing Process	3	3	4	30	120	25	25	200
5.	5055	Fabric Structure Design & color	3	3	4	30	120	25	25	200
6.	2149	Statistics	2	0	2	20	80	-	-	100
7.	2013	Book Keeping and Accounting	2	0	2	20	80	-	-	100
			17	**18**	**23**	**170**	**680**	**150**	**150**	**1150**

5051 FABRIC MANUFACTURING-II

T	P	C
3	3	4

AIMS

- To develop the basic knowledge regarding weaving & knitting.
- To develop the basic knowledge about shed & shedding mechanism.
- To familiarized the student with different motions of loom & knitting action.

SHORT DESCRIPTION:

Shed; Shedding mechanism; Tappet; Top roller mounting; Picking; Beating up; Take up motion, Let off motion & basic idea of knitting.

DETAILED DESCRIPTION

Theory:

1.0 Understand the shed.

1.1 Define shed.
1.2 Classify the shed.
1.3 Illustrate the method of formation of different sheds.
1.4 Mention the advantages & disadvantages of different types of sheds.

2.0 Understand in shedding mechanism.

2.1 Define shedding mechanism.
2.2 Classify method of shedding.
2.3 Define tappet and tappet shedding.
2.4 List different types of tappet.

3.0 Understand tappet shedding mechanism.

3.1 Discuss the mechanism of tappet shedding.
3.2 Explain the lift of tappet, depth of the shed and dwell period of tappet.
3.3 Discuss the points to be considered for tappet construction.
3.4 Describe the construction of plain tappet.
3.5 Describe the construction of twill tappet.
3.6 Mention the advantages and disadvantages of tappet shedding.

4.0 Understand tappet driving

4.1 State bottom shaft.
4.2 State counter shaft.
4.3 Discuss the function of counter shaft.
4.4 Illustrate the driving of bottom & counter shaft.
4.5 Calculate the ratio of crank shaft, bottom shaft & counter shaft, R.P.M for different number of shedding tappet.

5.0 Understand mounting of tappet & top roller.

5.1 Define mounting of tappet.

5.2 Define mounting of top roller.

5.3 Discuss the mounting of tappet on bottom shaft & counter shaft.

5.4 Discuss the heald shaft reversing motion.

5.5 Discuss the mounting of top roller for different number of heald shaft.

5.6 Relevant calculation of tappet driving & top roller mounting.

6.0 Understand the picking motion.

6.1 Define picking.

6.2 Classify the picking mechanism.

6.3 Define over picking & under picking.

6.4 Illustrate the working principle of over picking.

6.5 Illustrate the working principle of under picking.

6.6 Distinguish between over picking and under picking.

7.0 Understand the beating up.

7.1 Define beating up.

7.2 Mention the objects of beating up.

7.3 Describe the crank and crank arm beating-up mechanism.

7.4 Define sley eccentricity.

7.5 Define reed count & heald count.

7.6 Classify reed count.

7.7 Calculation requrding reed count & heald count.

8.0 Understand the hand knitting.

8.1 Define hand knitting.

8.2 Classify the hand knitting.

8.3 Describe the types of hand knitting.

8.4 Describe hand driving socks machine.

8.5 Describe the construction & working principle of sweaters machine.

8.6 Describe hand driving mufler machine.

8.7 Define the terms loop, loop length, course, wales, open loop, close loop, needle, sinker, cam, stitch, plain stitch, back stitch, stitch density.

9.0 Understand the power knitting.

9.1 Define power knitting machine.

9.2 Classify knitting machine.

9.3 Describe fabric machine.

9.4 Describe garments length machine.

9.5 Describe single jersey circular knitting machine**.**

10.0 Understand knitting action.

10.1 Describe single jersey circular knitting action**.**

10.2 Classify sinker & cam**.**

10.3 Describe the function of sinker & cam**.**

10.4 Define machine gauge.

10.5 Distinguish between single jersey & double jersey circular knitting machine.

10.6 Calculation of circular knitting machine**.**

Practical

1. Draw a handloom and show the yarn path through the loom.
2. Draw and leveling different parts of loom.
3. Draw and find-out the count of supplied reed & heald.
4. Draw plain tappet & twill tappet.
5. Practice socks machine operation.
6. Practice sweater machine operation.
7. Practice mafler machine operation.
8. Draw & identify different needles.
9. Practice the single jersey circular knitting action with latch needle.
10. Draw the circular knitting action of mufler machine.
11. At least two running weaving factory and one knitting factory visit.

References and bibliographic

1. Knitting Technology – Terry brackenbury & David Spensers.
2. Fabric manufacturing-2 – Md. Abdul khalique

5052 GARMENTS MANUFACTURING – II

T	P	C
2	3	3

AIMS

To be able to develop knowledge, skill and attitude in the field of garments manufacturing with special emphasis on:

- fabric spreading and fabric spreading machine
- fabric cutting and fabric cutting machine
- fabric splice, stitches and seam.

SHORT DESCRIPTION

Fabric spreading; Fabric spreading machines; Fabric splice; Fabric cutting; Fabric cutting machine; Stitches and seam.

DETAIL DESCRIPTION

Theory:

1 Understand the fabric spreading.

1.1 Define fabric spreading.
1.2 Mention the requirements of fabric spreading.
1.3 Describe the methods of fabric spreading.
1.4 List the types of fabric lays.
1.5 Describe each type of fabric lays.
1.6 List the types of fabric packages.
1.7 Describe each type of fabric package.

2 Understand the fabric spreading machines.

2.1 Mention the classification of fabric spreading machine.
2.2 Describe the manual method of fabric spreading.
2.3 Describe the feature of semi-automatic fabric spreading machine.
2.4 Describe the feature of fully automatic fabric spreading machine.

3 Understand the fabric splice.

3.1 Define splice.
3.2 Causes of splicing.
3.3 List the types of splice.
3.4 Describe different types of splice.

4 Understand the fabric cutting.

4.1 Define fabric cutting.
4.2 Mention the requirements of fabric cutting.
4.3 Describe the methods of fabric cutting.

5 Understand the fabric cutting machines.

5.1 Mention the names of manual cutting machine.
5.2 Mention the names of computerized cutting machine.
5.3 Describe the round knife & straight knife cutting machine.
5.4 Describe advantages and disadvantages of bent-knife cutting machine.
5.5 Describe the features of Die cutting & drill machine.
5.6 Describe computerized fabric cutting (CAM) machine.

5.7 Describe water jet cutting machine.
5.8 Describe laser cutting machine.
5.9 Describe plasma torch cutting machine.

6 Understand the sewing threads.

6.1 Define sewing threads.
6.2 List different types of sewing threads.
6.3 Describe the process of cotton sewing thread.
6.4 Describe the of features TC sewing thread.
6.5 Describe the features of polyester sewing thread.

7 Understand the stitches.

7.1 Define stitches.
7.2 Mention the classification of stitches.
7.3 Describe the principle of lock stitch formation.
7.4 Define chain stitch.
7.5 Describe the principle of chain stitch formation.
7.6 Describe the advantages and disadvantages of lock stitch formation.
7.7 Describe the advantages and disadvantages of chain stitch formation.
7.8 Describe the principle of multi-thread chain stitch formation.

8 Understand the sewing machine.

8.1 Define sewing machine.
8.2 List different types of sewing machine.
8.3 Describe each types of sewing machine.
8.4 List different components of general sewing machine.
8.5 Describe the function of different components of general sewing machine.
8.6 Working aids of sewing machine.

Practical:

1 Draw the diagrams of different types of fabric lays.
2 Draw the diagrams of fabric cutting machines and level important parts.
3 Practice on cutting out garments components from the fabrics with the help of straight & bent knife cutting machine.
4 Produce stitches on fabric with varying stitch density in straight line, curve line, circle line & rectangle line.
5 Produce chain stitch, lockstitch & overlock stitch on single layer & multilayer fabric.
6 Produce different types of seams with lock stitch & chain stitch.
7 At least two running garments factory visit.

5053 GARMENTS PATTERN AND MARKER MAKING

T	P	C
2	6	4

THEORY:

1. Understand the garments pattern.
- 1.1 Define garments pattern.
- 1.2 Mention the objectives of garments pattern.
- 1.3 Distinguish between basic pattern and garments pattern.

2. Understand the allowances.
- 2.1 Define allowance.
- 2.2 Define trimming allowance.
- 2.3 Describe the necessity of trimming allowances.
- 2.4 Define hemming allowance.
- 2.5 Mention the necessity of hemming allowances.
- 2.6 Define sewing allowances.
- 2.7 Describe the necessity of sewing allowances.
- 2.8 Describe the necessity of washing allowances (shrinkage allowances).

3.0 Understand the garments pattern making.
- 3.1 Discuss how to measure different parts of gent & female body.
- 3.2 Discuss the importance of garments pattern.
- 3.3 Describe the process of garments pattern making from a basic pattern.
- 3.4 Describe the process of garments pattern making of shirt.
- 3.5 Describe the process of garments pattern making of pant/trouser.

4.0 Understand the marker making.
- 4.1 Define marker.
- 4.2 Mention the objects of marker.
- 4.3 Describe the constraints of marker.
- 4.4 Mention the formula of marker efficiency.
- 4.5 Describe marker efficiency.
- 4.6 Find marker efficiency.
- 4.7 Find out marker efficiency by manual & computer method.

5.0 Understand the manual marker.
- 5.1 Define manual marker.
- 5.2 Mention the materials needed for marker making.
- 5.3 Describe the manual marker making process.

6.0 Understand the computer aided marker.
- 6.1 Define computer aided marker (CAD).
- 6.2 Discuss the importance of CAD.
- 6.3 Describe the marker process by CAD.
- 6.4 Differences between manual marker & CAD.

7.0 Understand the pattern grading.
- 7.1 Define grain line.
- 7.2 Mention types of grain line used in pattern grading.
- 7.3 Define pattern grading.

7.4 Discuss the importance of pattern grading.
7.5 Explain the pattern grading process for a shirt.

8.0 Understand the computer aided manufacturing.
8.1 Define computer aided manufacturing (CAM)
8.2 Discuss the importance of computer aided manufacturing (CAM).
8.3 Explain the computer aided manufacturing process.

PRACTICAL:

1. Understand the garments pattern.
1.1 Create production pattern for basic trouser for men (gents).
1.2 Develop toile form flat pattern.
1.3 Make a 6 pcs marker of trouser whose width is 70″ and size ratio.

S	M	L	XL
1	2	2	1

2.0 Perform the necklines making.
2.1 Make necklines.
2.2 Make collar reveres & bands.
2.3 Describe opening & fastening.
2.4 Make necklines as fashionable dress and shirt style.

3.0 Perform jacket pattern making.
3.1 Take the measurements for making pattern for men's jacket.
3.2 Prepare pattern of men's jacket.
3.3 List the required materials to make a jacket.
3.4 Make a jacket pattern.

4.0 Perform Coat pattern making.
4.1 Take the measurements for making pattern for a coat.
4.2 Prepare pattern of men's coat.
4.3 List the required materials to prepare a coat.
4.4 Make a coat pattern.

5.0 Make a 6 pcs marker of basic shirt whose width is 44″ and size ratio is

S	M	XL
2	2	2

6.0 Make a 12 pcs marker of a basic shirt with is 56″ width marker and size ratio as follows:

S	M	L	XL
1	1	2	2

7.0 Make a 12 pcs marker of a trouser with 56″ width marker and size ratio as follows:

S	M	L	XL
1	1	2	2

5054	**PRINTING & FINISHING PROCESS**	T	P	C
		3	3	4

AIMS

To be able to develop knowledge, skill and attitude in the field of printing and finishing process with special emphasis on:

- printing, printing paste and ingredients
- printing thickness and printing machinery
- method and style of printing
- ageing and steaming
- printing and finishing
- sunforising and calendering.

SHORT DESCRIPTION

Printing; Printing paste and ingredients; Printing thickness; Methods and styles of printing; Printing machinery; Ageing and steaming; Printing of cellulose fabric; Printing of wool and silk fabrics; Printing with disperse dye; Printing with pigments; Textile finishing; Sunforising; Calendering and Anti creasing.

DETAIL DESCRIPTION

Theory:

1 Understand the printing.

1.1 Define printing.
1.2 Describe the flow chart of printing process.
1.3 Describe the necessity of printing.
1.4 Distinguish between dyeing & printing.

2 Understand the printing paste & ingredients.

2.1 Describe the essential ingredients of printing paste.
2.2 Describe the functions of the wetting agents.
2.3 Mention the function of dispersing agents.
2.4 Mention the functions of defoaming agents.
2.5 Mention the functions of oxidizing and reducing agents.
2.6 Mention the function of catalyst.

3 Understand the printing thickeners.

3.1 Define printing thickeners.
3.2 Mention the objects of thickeners.
3.3 Mention the properties of printing thickeners.
3.4 Describe natural thickeners agents.
3.5 Describe the modified natural thickeners.
3.6 Describe the synthetic thickening agents.
3.7 Mention the properties of starch.
3.8 Mention the preparation process of starch.

4 Understand the methods and styles of printing.

4.1 Describe different methods of printing.
4.2 Describe different styles of printing.

4.3 Describe block printing process.
4.4 Describe batik printing process.
4.5 Describe tie dye printing process.

5 Understand the printing machinery.
5.1 Describe screen preparation of process.
5.2 Describe screen and rotary screen printing machine.
5.3 Mention advantages and disadvantages of screen printing.
5.4 List the limitation of printing machine.

6 Understand the ageing and steaming.
6.1 Mention the functions of ageing & steaming for printing.
6.2 Describe rapid ageing process.
6.3 Describe high pressure steaming process.
6.4 Describe high temperature loop steamers.

7 Understand the printing of cellulosic fabrics.
7.1 Describe the printing process of cotton fabric with direct dyes.
7.2 Describe the printing process of cotton fabric with reactive dyes.
7.3 Describe the sequences of dye cotton fabric dyeing with basic dye.
7.4 Describe sequence of dyeing cotton fabric with vat dyes.

8 Understand the printing of wool & silk fabrics.
8.1 Describe the printing paste preparation for printing wool and silk fabrics.
8.2 Describe the printing process of wool and silk with acid and reactive dyes.
8.3 Describe steaming process of wool and silk fabric.

9 Understand the printing of synthetic fabric with disperse dye.
9.1 Describe the printing paste preparation of disperse dye.
9.2 Describe the printing process of polyester & nylon with disperse dyes.
9.3 Describe the printing process of blend (TC) fabric with disperse dyes.
9.4 Describe the steaming process of disperse printing.

10 Understand the printing with pigments.
10.1 Describe pigments color.
10.2 Describe binder preparation for pigment printing.
10.3 Describe the printing procedure of cotton & polyester fabrics with a pigment.
10.4 Describe the curing system of pigment printing.
10.5 Identify the faults of pigment printing.
10.6 Describe the remedies of the faults of pigment printing.

11 Understand the textile finishing.
11.1 Define textile finishing.
11.2 Mention the classification of textile finishing.
11.3 Mention the importance of textile finishing.
11.4 Describe the physical finishing of cotton.
11.5 Describe the mechanical finishing of cotton.
11.6 Describe synthetic fabric finishing.
11.7 Describe blended fabric finishing.

12 Understand the sunforising.

12.1 Define sunforising.
12.2 Mention the objects of sunforising.
12.3 Describe the sunforising sequence of textile finishing process.
12.4 Describe sunforising (heel & shoe) machine.

13 Understand the calendering.

13.1 Define calendering.
13.2 Mention the objects of calendering.
13.3 List the essential elements of calendering.
13.4 Classify the calendering.
13.5 Describe 5-bowl, 7-bowl and soft calendering processes.

14 Understand the anti-creasing.

14.1 Define anti-creasing.
14.2 Mention the functions of anti-creasing.
14.3 Describe the importance of anti-creasing.
14.4 Describe anti-creasing process.
14.5 Mention the advantages of anti-creasing.

Practical:

1. Prepare printing paste by using different printing agent.
2. Print cotton fabric with direct dye.
3. Print cotton fabric with reactive dye.
4. Print cotton fabric with azoic dye.
5. Print jute fabric with direct dye.
6. Print jute fabric with basic dye.
7. Print synthetic fabric with disperse dye.
8. Print TC fabric with pigment dye.
9. Print wool fabric with acid dyes.
10. Print silk fabric with acid dyes.
11. Calendar the cotton fabric.
12. At least three running modern mill visit.

5045 FABRIC STRUCTURE DESIGN & COLOR

T	P	C
3	3	4

AIMS

To provide the student with an opportunity to acquire knowledge, skill and attitude in the area of fabric structure and cloth analysis with special emphasis on:

- Fabrics design
- Fabrics construction
- Fabrics drafting & lifting plan
- Analysis of cloth

SHORT DESCRIPTION

Basic Concepts of textile design and artistic design; Drafting and lifting. Weaving structure; Plan weave; Twill weave; Satin and sateen weave; Ornamentation of fabrics design; Figuring with extra threads; Double cloth Backed cloth; Leno weave; Velvet; Terry; and Analysis of cloth.

DETAIL DESCRIPTION

Theory:

1.0 Understand the concept of textile design.

1.1 Define textile design.
1.2 Describe the importance of textile design.
1.3 Distinguish between textile design and artistic design.
1.4 Describe fabric structure.
1.5 Describe uses of graph paper in textile design.

2.0. Understand the drafting & lifting plan.

2.1 Define drafting, lifting & denting plan.
2.2 Mention the classification of drafting.
2.3 Describe different types of drafting.
2.4 Describe the method of drafting & lifting plan.

3.0 Understand the plain weave.

3.1 Define plain weave.
3.2 Mention the characteristics of plain weave.
3.3 Classify the plain weave.
3.4 Describe different types of plain weave.
3.5 Mention the derivatives of plain weave.
3.6 Mention the end uses of plain weave.

4.0 Understand the twill weave.

4.1 Define twill weave.
4.2 Mention the characteristics of twill weave.
4.3 Describe twill line angle.
4.4 Mention the classification of twill weave.

4.5 Mention twill derivatives.
4.6 Describe zig-zag twill, herin bone, diamond, diaper, broken twill, stepped twill, re-arrange twill, shaded twill and combined twill.
4.7 Mention the uses of combined twill.
4.8 Discuss the drafting & lifting plan of different twill fabrics.

5.0 Understand the Stain and Sateen

5.1 Explain the meaning of stain & sateen.
5.2 State the relationship between satin and sateen.
5.3 Discuss the classification of satin.
5.4 Mention the rates of satin.
5.5 Draw a design of satin weave (warp weft satin) with drafting and lifting plan.
5.6 Discuss the uses of satin weave.

6.0 Understand the Extra Warp Design

6.1 Explain the term of extra warp design.
6.2 Describe the feature of extra warp design.
6.3 Draw the extra warp design.
6.4 Mention the uses of extra warp.

7.0 Understand the Extra Weft Design

7.1 Explain the term of extra weft design.
7.2 Describe the feature of extra weft design.
7.3 Draw the extra weft design.
7.4 Compare between the extra warp and extra weft design.
7.5 Determines the extra weft from the fabric.
7.6 Mention the uses of extra weft design.

8.0 Understand Double Cloth

8.1 Define the term of double cloth.
8.2 Classify the double cloth.
8.3 Draw self-stitched double cloth.
8.4 Draw center stitched double cloth.
8.5 Draw double cloth stitched by thread interchange.
8.6 Draw double cloth stitched by cloth interchange.
8.7 Draw alternate single ply and double ply construction.
8.8 Compare the different double cloth.
8.9 Mention the uses of double cloth.

9.0 Understand the Wadded Double cloth.

9.1 Define wadded double cloth.
9.2 State the purpose of wadded double cloth.
9.3 Discuss the feature of wadded double cloth.
9.4 Draw a design of warp and weft wadded double cloth.
9.5 State the quality of wadded double cloth.
9.6 Mention the uses of wadded double cloth.

10.0 Understand the Backed Cloth

10.1 Define the term of backed cloth.
10.2 Classify the backed cloth.
10.3 Discuss the warp-backed cloth.
10.4 Draw the warp backed cloth design.

10.5 State the weft backed cloth.
10.6 Draw the weft backed cloth design.
10.7 State the relation ship between warp backed cloth and weft backed cloth.
10.8 Mention the uses of backed cloths.

11.0 Understand the Crepe Weave

11.1 Define crepe weave.
11.2 Discuss the feature of crepe weave.
11.3 Classify the crepe weave.
11.4 Draw the crepe weave design with drafting and lifting plan.
11.5 Mention the uses of crepe weave.

12.0 Understand Hukaback Weave

12.1 Define huckaback weave.
12.2 Discuss the feature of huckaback weave.
12.3 Draw the huckaback design.
12.4 Mention the uses of huckaback design.

13.0 Understand the honeycomb weave

13.1 Define honeycomb and brighten honeycomb weave.
13.2 Classify the honeycomb weave.
13.3 Discuss the feature of honeycomb weave.
13.4 Draw the honeycomb and brighten honeycomb design with drafting and lifting plan.
13.5 Distinguish between honeycomb & brighten honeycomb weave.
13.6 Mention the uses of honeycomb and brighten honeycomb weave.

14.0 Understand the Standard Commercial fabrics

14.1 Mention the name of commercial fabrics.
14.2 Discuss the fabric specification.
14.3 Describe the ideal commercial fabrics with specification.
14.4 Explain the standard commercial fabrics.

15.0 Understand the Cloth Analysis

15.1 Explain the term of cloth analysis.
15.2 Discuss the feature of cloth analysis.
15.3 Discuss the necessity of cloth analysis.
15.4 Mention the factors of cloth analysis.
15.5 Determines the face and backside of the cloth.
15.6 Determines the rules of warp & weft from the fabric.
15.7 Determines the repeats from the fabric.
15.8 Determines the design from the fabric.
15.9 Calculate the yarns count from the fabric.

PRACTICAL

1. Construct the satin and sateen design with drafting and lifting plan.
2. Construct the extra warp and extra weft in a design.
3. Analyzed the Supplied Sample cloth.
4. Create design by analyzed the same supplied cloth.
5. Determined the counts of the supplied sample cloths yarns.
6. Identify the face and back side of the sample cloth.
7. Identify the warp way and weft way from the supplied sample cloth.

2149 **STATISTICS** T P C

2 0 2

AIMS

- To be able to understand the basic concepts and principles of statistics.
- To be able to use the knowledge of data collection and presentation of data.
- To be able to use the knowledge of different graphical representation and central tendency.
- To use the knowledge of measures of dispersion; distribution and sampling to solve the different problems.

SHORT DESCRIPTION

basic concepts of statistics; data collection; presentation of data; graphical representation ; central-tendency; measures of dispersion ; distribution ; sampling; correlation; regression; time series .

DETAILED DESCRIPTION

Theory:

1.0 Understand the basic concept of statistics.

1.1 Define statistics.
1.2 Describe the characteristics of statistics.
1.3 Describe the functions of statistics.
1.4 Mention the importance of statistics.
1.5 Describe the role of statistics in textile industry.
1.6 Mention the limitation of statistics.
1.7 Discuss statistics methods.
1.8 Describe the uses of statistics.

2.0 Understand the data collection.

2.1 define data and data collection
2.2 Classify o data according to source.
2.3 State the methods of collection of primary data.
2.4 State the methods of collection of secondary data.
2.5 Distinguish between primary and secondary data.

3. 0 understand the classification

3.1 Define classification.
3.2 State the objectives of classification.
3.3 Mention the factors of classification.
3.4 Describe the types of classification.

4.0 understand tabulation

4.1 Define statistical tabulation.

4.2 State the methods of tabulation.
4.3 Discuss the importance of tabulation.
4.4 Mention the uses of statistical table.

5.0 understand the presentation of data.

5.1 Define presentation of data.
5.2 classify presentation of data
5.3 Describe the procedure of data presentation.

6.0 understand the attribute and variable.

6.1 Define attribute and variable.
5.1 Classify variable.
5.2 Distinguish between attribute and variable.
5.3 Distinguish between discrete and continuous variable.
5.4 Distinguish between variable and constant.

6.0 understand the frequency distribution.

61 Define frequency distribution.
62 Describe the types of frequency distribution.
63 Mention grouped frequency distribution.
64 Mention ungrouped frequency distribution.
65 Distinguish between grouped and ungrouped frequency distribution.

7.0 understand the graphical representation.

7.1 Define graphical representation.
7.2 Mention the types of graphical representation.
7.3 State the importance of graphic presenting data.
7.4 Mention the limitation of diagrams and graphs.

8.0 understand the histogram.

8.1 Define histogram.
8.2 State the importance of histogram.
8.3 Describe the uses of histogram.
8.4 Mention the formula of histogram.
8.5 solve the problems related histogram

9.0 understand the frequency polygon.

9.1 Define frequency polygon.
9.2 State the importance of frequency polygon.
9.3 Distinguish between histogram and frequency polygon.
9.4 Solve the problems of frequency polygon.

10.0 understand the pie chart

10.1 define pie chart.

10.2 state the importance of pie chart

10.3 prepare the pie chart.

10.4 solve the problems of pie chart.

11.0 understand the arithmetic mean.

8.1 Define arithmetic mean.

8.2 Classify the arithmetic mean.

8.3 Mention the properties of arithmetic mean.

8.4 Calculate the simple arithmetic mean for grouped data.

8.5 Calculate the arithmetic mean for ungrouped data.

8.6 Calculate the a. m of unequal frequency distribution.

8.7 State the weight arithmetic mean.

8.8 Discuss the advantage and disadvantage of arithmetic mean.

8.9 Discuss the uses of arithmetic mean.

12.0 understand the geometric mean.

12.1 Define geometric mean.

12.2 Mention the advantage and disadvantage of geometric mean.

12.3 State the uses of geometric mean.

12.4 proof the gm $\geq$ *h. m and g.m* = $\sqrt{a \cdot m \times h\, m}$

12.5 solve the problems of geometric mean.

13.0 understand the harmonic mean.

13.1 Define harmonic mean.

13.2 Mention the advantage and disadvantage of harmonic mean.

13.3 State the uses of harmonic mean.

13.4 Proof the a m $\geq$ *g m* $\geq$ *h m*

13.5 solve the problems of harmonic mean.

14.0 understand the median

14.1 Define the median.

14.2 Mention the advantage and disadvantage of median.

14.3 Mention the uses of median.

14.4 State the formulae of median.

14.5 Solve the problems of median for group data.

15.0 understand the mode

15.1 Define the mode.

15.2 Explain the relation between mean, median and mode.

15.3 Mention the advantage and disadvantage of mode.

15.4 Mention the uses of mode.

15.5 State the formula for mode.

15.6 Solve the problems of mode.

15.7 Distinguish between median and mode.

16.0 understand of dispersion.

16.1 Define dispersion.

16.2 Classify the dispersion.

16.3 Discuss the relative measures of dispersion.

16.4 Explain the absolute measurement of dispersion.

16.5 Distinguish between dispersion and range.

16.6 Solve the problems of dispersion.

17.0 understand the range.

17.1 Define range.

17.2 Computation of range.

17.3 List the advantages and disadvantages of range.

17.4 Mention the uses of range.

17.5 Solve the problems of range.

18.0 understand the variance and standard deviation

18.1 Define variance and standard deviation.

18.2 Computation of standard deviation.

18.3 State the co-efficient of variation.

18.4 Mention the advantages and disadvantages of standard deviation.

18.5 Mention the uses of standard deviation and variance.

18.6 Distinguish between mean deviation and standard deviation.

18.7 State the quartile deviation.

18.8 Solve the problems of standard deviation and variance.

19.0 understand the correlation

19.1 Define correlation.

19.2 Classify the correlation.

19.3 State the co-efficient of correlation.

19.4 Discuss the correlation origin.

19.5 Proof that $-1 < r < 1$ for correlation.

19.5 Solve the problems of correlation.

20.0 understand the regression

20.1 Define regression.

20.2 State the regression equation.

20.3 State the difference between correlation and regression.

20.4 Deduct regression equation of y on x.

20.5 Deduct regression equation of x on y.

Reference books :

১) পরিসংখ্যান পরিচিতি ---------- মিয়া এবং মিয়ান

২) উচ্চ মাধ্যমিক পরিসংখ্যান ---------- আবুল কালাম আজাদ

৩) বানিজ্যিক পরিসংষ্যান -------- অধ্যাপশ এম, এইচ, আকন্দ

৪) Method of statistics -------- Shukla and Gulshan

2013 BOOK KEEPING & ACCOUNTING

T	P	C
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AIMS

- To be able to understand the principles and practices of book keeping and accounting.
- To be able to understand the procedures of general accounting, financial accounting and their application**.**

SHORT DESCRIPTION

Concept of book keeping and accounting; Transactions; Entry systems; Accounts; Journal; Ledger; Cash book; Trial balance; Final accounts; Cost account & financial accounting; Depreciation; Public works accounts.

DETAIL DESCRIPTION

Theory:

1.0 Understand the concept of book keeping and accounting.

1.1 Define book keeping and accountancy.
1.2 State the objectives of book keeping.
1.3 State the advantages of book keeping.
1.4 Differentiate between book keeping and accounting.
1.5 State the necessity and scope of book keeping and accounting.

2.0 Understand the transactions.

2.1 Define transactions and business transaction.
2.2 Explain the importance of transactions.
2.3 Describe the characteristic features of transactions.
2.4 Discuss the classification of transaction.
2.5 Identify the transaction from give statements stating reasons.

3.0 Understand the entry system.

3.1 State the aspects of transactions.
3.2 Define single entry system
3.3 State the objectives of single entry system.
3.4 Discuss the disadvantages of single entry system.
3.5 Define double entry system.
3.6 Discuss the principles double entry system.
3.7 Justify whether double entry system is an improvement over the single entry system.
3.8 Distinguish between Single entry and double entry system of book keeping.

4.0 Understand the classification of accounts.

4.1 Define accounts.
4.2 State the objectives of accounts.
4.3 Illustrate different type of accounts with example.
4.4 Define "Golden rules of Book keeping".
4.5 State the rules for "Debit" and "Credit" in each class of accounts.
4.6 Determine Debtor (Dr) and Creditor (Cr.) from given transactions applying golden rules.
4.7 Define accounting cycle.
4.8 State the different steps of accounting cycle.

5.0 Understand the Journal.

5.1 Define Journal.
5.2 State the object of journal.
5.3 State the functions of journal.
5.4 Mention the various names of journal.
5.5 Journalize from given transactions.

6.0 Understand the ledger.

6.1 Define ledger.
6.2 Interpret the form of ledger.
6.3 State the functions of ledger.
6.4 Distinguish between Journal and Ledger.
6.5 Prepare ledger from given transactions.
6.6 Explain ledger is called the king of all books of accounts.

7.0 Understand the cashbook.

7.1 Define cash book (single, double and triple column).
7.2 Explain cashbook as both Journal and Ledger.
7.3 Prepare double column cashbook from given transactions showing balances.
7.4 Prepare triple column cash book from given transaction and find out the balances.
7.5 Define petty cash book.
7.6 Prepare analytical and imp rest system of cash book.
7.7 Define discount.
7.8 Explain the different types of discount.

8.0 Understand the trial balance.

8.1 Define trial balance.
8.2 State the object of a trial balance.
8.3 State the methods of preparation of a trial balance.
8.4 Explain the limitations of preparation of a trial balance.
8.5 Prepare trial balance from given balance.

9.0 Understand the final accounts.

9.1 State the components of final account.
9.2 Distinguish between trial balance and balance sheet.
9.3 Identify the revenue expenditure and capital expenditure.
9.4 Select the items to be posted in the trading account, profit & loss account and the balance sheet.
9.5 State the adjustment to be made form the given information below or above the trial balance.
9.6 Prepare trading account, profit & loss account and balance sheet from the given trial balance & other information.

10.0 Understand the cost and financial accounting.

10.1 Define financial accounting.
10.2 State the objectives of financial accounting.
10.3 Define cost accounting.
10.4 Discuss the relationship between financial Accounting and cost accounting.
10.5 State the elements of direct cost and indirect cost.
10.6 Prepare cost sheet showing prime cost, factory cost, cost of production, total cost and selling price.
10.7 Explain the following terms:

a. Fixed cost
b. Variable cost
c. Factory cost
d. Overhead cost
e. Process cost
f. Direct cost
g. Operating cost
h. Standard cost

11.0 Understand the depreciation

11.1 Define depreciation.
11.2 State the objects of depreciation.
11.3 Discuss the necessity of charging depreciation.
11.4 Describe the different methods of determining depreciation.
11.5 Explain the relative merits and demerits of different method of depreciation.

12.0 Understand the public works accounts.

12.1 State the important aspects of public works accounts.
12.2 Describe the main features of public works accounts.
12.3 Explain "Revenue and Grant".
12.4 Define Value Added Tax (VAT)
12.5 State the merits and demerits of VAT.
12.6 Define Bill and Voucher.