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INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Bargarh/Fulia/Guwahati/Jodhpur/Salem/Varanasi/Champa/Kannur/KHTI-Gadag/SPKM-Venkatagiri

Diploma in Handloom & Textile Technology

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : First year Time:3 Hours

Course Code & Title : **1.2 Applied Mathematics** Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. If $A = \begin{bmatrix} 1 & 3 \\ 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 2 \\ 4 & 3 \end{bmatrix}$ find $A - B$.
2. Find x if $\begin{vmatrix} x & 25 \\ 3 & 5 \end{vmatrix} = 0$.
3. Find the value of θ, $2sin2\theta = \sqrt{3}$.
4. Without using table , Find the value of $2sin15^0 cos15^0$.
5. If $y = 5x^3 - 7x^2 + 3x - 1$ find $\frac{dy}{dx}$.
6. Differentiate $\log(x^3 + 1)$ with respect to x.
7. Integrate $\int \cos(2 - 7x)\, dx$.
8. Evaluate $\int \left(x^2 + \frac{3}{x}\right) dx$.
9. Find the solution of the equation $x + 2y = 4$ *and* $x - 2y = 0$.
10. If the arithmetic mean of data 7,8, x,11,14 is 9 then find the value of x.

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Find x if $\begin{vmatrix} x & 2x & 5 \\ x & 3x & 5 \\ 1 & x & 5 \end{vmatrix} = 0$. (4)

B. Solve the equation by using Cramer's rule : (8)

$2x + 3y - z = 1$, $3x + 5y + 2z = 8$, $x - 2y - 3z = -1$.

(OR)

C. If $A = \begin{bmatrix} 1 & 0 & -2 \\ 2 & 3 & -1 \end{bmatrix}$, $B = \begin{bmatrix} 4 & -1 & 3 \\ 0 & 2 & 1 \end{bmatrix}$ & $C = \begin{bmatrix} 2 & -3 & 0 \\ 1 & 4 & 5 \end{bmatrix}$ then find $A -$ (4)

$3B + 2C$.

D. If $A = \begin{bmatrix} 1 & 2 \\ 1 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & -1 \\ 1 & 2 \end{bmatrix}$ verify that $(AB)^{-1} = B^{-1}A^{-1}$. (8)

12. A. If $sin\theta = \frac{3}{5}$, find the value of $sin3\theta$. (4)

B. If $tanA = \frac{1}{3}$ & $tanB = \frac{1}{7}$, show that $2A + B = 45^{\circ}(or)\ \frac{\pi}{4}$. (8)

(OR)

C. Prove that $\frac{sin2A}{1-COS2A} = cotA$ (4)

D. If A+B+C=180, prove that $cotAcotB + cotBcotC + cotCcotA = 1$. (8)

13. A. Differentiate $y = x^2 sinx$ with respect to x. (4)

B. Find $\frac{dy}{dx}$, where $y = xsinx - \frac{e^x}{1+x^2}$. (8)

= (OR)

C. Find $\frac{dy}{dx}$ if $y = xe^x cosx$ with respect to x. (4)

D. Differentiate $y = \frac{\sqrt{x}-1}{\sqrt{x}+1}$ with respect to x. (8)

14. A. Evaluate $\int \frac{5}{x^3} dx$. (4)

B. Evaluate $\int \frac{cosx}{3+5sinx}\ dx$. (8)

(OR)

C. Evaluate $\int \frac{1}{4x^2-9}\ dx$. (4)

D. Evaluate $\int xsin3x\ dx$. (8)

15. A. Solve the following simultaneous equations: $8x + 5y = 9\ , 3x + 2y = 4$. (4)

B. Show that the points $(2,-2), (8,4), (5,7) and\ (-1,1)$ are vertices of a rectangle. (8)

(OR)

C. Verify the points $(2,-2), (-3,8)\ and\ (-1,4)$ are collinear. (4)

D. Find the mean of the following distribution (8)

Marks	0-10	10-20	20-30	30-40	40-50
Number of students	7	10	15	8	10

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Diploma in Handloom & Textile Technology

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Time:3 Hours

Semester : 03

Course Code & Title : **3.1 WEAVING TECHNOLOGY & TEXTILE CALCULATIONS - II**

Maximum Marks: 80

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. Write the limitations of barrel dobby.
2. Mention the essential features of pit loom.
3. State the relationship between concentration of size and add-on% of sizing.
4. Define the term 'throw of tappet'.
5. What is sley eccentricity?
6. Classify the negative let – off motions.
7. Calculate the count of 2 fold yarn twisted from 2 singles of 20^s and 40^s yarn.
8. What will be the number of ends per inch in a $3/60^s$ stockport reed?
9. Differentiate gear and speed ratio between the crank shaft to bottom shaft in shuttle loom.
10. List the functions of carrier wheel in gearing.

PART-B

((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Mention the features and suitability of lattice dobby. (4)

    B. Explain the construction and working principle of barrel dobby in handloom with neat sketch. (8)

(OR)

    C. Differentiate frame loom and pit loom. (4)

    D. Construct different sections layout for accommodating 25 frame looms in an industrial handloom unit and also explain the minimum facilities required. (8)

12. A. Classify and explain the different motions in power loom weaving. (4)

    B. Describe the passage of material in automatic cone winding machine and tensioner setting of any one type with neat sketch (8)

(OR)

C. What is bunch building mechanism in weft winding? (4)

D. With a neat material passage diagram, describe the various section and working of a multi cylinder sizing machine. (8)

13. A. Classify and mention the features of under pick mechanism. (4)

B. Describe the working principle of cone over pick mechanism with timings diagram. (8)

(OR)

C. Write the reasons for shuttle fly out and differentiate late picking and early picking. (4)

D. Describe the seven wheel take up motion and calculate theoretical and practical dividend. (8)

14. A. Calculate the resultant count of the three fold cotton yarn composed of 12^s, 15^s and 20^s single yarn. (4)

B. The take-up of one of the component threads in a loop yarn is 90%. The count of this component yarn is 40s. If the count of the other component yarn is 80s, calculate the length and weight of component threads are there in 5 pounds of the resultant yarn. (8)

(OR)

C. Calculate the average count of 10 tex, 15 tex, and 20 tex yarns. The length of yarn in each case is same in 1Km. (4)

D. Calculate the total number of ends in the reed from the following particulars: (8)
Count of the reed : 48s ST
Denting : 2 ends per dent for body & 4 ends per dent in selvedge
Reed width: 52 inch (including ½ inch selvedge on each side).

15. A. List the different types of gears with suitable sketch. (4)

B. Calculate the rpm of driver pulley 'A' driving another pulley 'B' of 60 cms diameter and rpm of 160. The diameter of the driver pulley 'A' is 20cms. Allow 6% for loss of speed due to slippage. (8)

(OR)

C. A line shaft of weaving shed makes 150 rpm. The diameter of the line shaft drum is 15 inches and diameter of loom pulley is 10 inches. Calculate the rpm of the loom. (4)

D. A wheel 'A 'of 80 teeth is driven by a wheel 'B' of 60 teeth. On the same stud of 'B' a wheel 'C' is fixed of 40 teeth. Then wheel 'C' is driven by a wheel 'D' of 20 teeth, fixed on shaft making 200 rpm. Calculate the speed of wheel 'A'. (8)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 03 Time:3 Hours

Course Code &Title : **3.2 Fabric Structure-II** Maximum Marks:80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Mention any two weaves used to produce check effect in the fabric.
2. Mention two effects obtained by the combination of two weaves.
3. Name the two different types of distorted thread effect.
4. Write any two type of Bedford cord.
5. Mention two purposes of use of wadding threads in welt structure.
6. Mention the main difference between welt and pique
7. How many series of warp and weft are required to produce ordinary double cloth ?
8. Write the different types of stitches used to produce double cloth.
9. What is the purpose of producing interchanging double cloth ?
10. How many shuttles are used in double width cloth ?

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. What is distorted thread effect? (4)

    B. Indicate weave, draft, peg plan by using satin & sateen to form check effect on 10 X 10. (8)

(OR)

    C. Construct a stripe effect by combing any two weaves. (4)

    D. Draw a design of distorted warp thread effect on 14 x 14. Also indicate the draft for it. (8)

12. A. Classify the Bedford cord weaves. (4)

    B. Construct a weave, draft and peg plan of Bedford cord weave on 16 X 4. (8)

(OR)

C. Define the Bedford cord weaves. (4)

D. Give the design, draft and peg plan for wadded twill faced Bedford cord. (8)

13. A. Differentiate Welt and Bedford cord. (4)

B. Construct a weave, draft & peg plan of a loose back welt structure. (8)

(OR)

C. Differentiate welt and Pique weave. (4)

D. Explain the method of constructing figured pique weave by suitable motif and weave structure. (8)

14. A. Construct double width plain cloth with thread interlacing diagram. (4)

B. Construct centre stitched double cloth weave by using 2/2 twill weave for face and back weave. (8)

(OR)

C. Construct the tubular cloth weave and mark thread interlacing diagram. (4)

D. Explain different types of double cloth with suitable illustrations. (8)

15. A. Differentiate thread interchanging double cloth & cloth interchanging double cloth with its line diagram. (4)

B. Construct weave for interchanging double cloth to produce stripe effect. (8)

(OR)

C. Explain the weft wadded double cloth with suitable weave structure. (4)

D. Construct the thread interchanging double cloth weave structure for the different types of stripe effects. (8)

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(Regulation-2014)

Semester : 03 Time:3 Hours

Course Code & Title : **3.3 Chemical Processing of Textiles I** Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What do you mean by scouring process?
2. Name any four dry preparatory processes.
3. Define Chromophore.
4. Mention the types of singeing machines.
5. Record the effect of MLR in dyeing.
6. What is the after treatment for direct dyeing?
7. Classify the Vat Dyes.
8. What do you mean by solubilized vat dye?
9. Mention the type of Bond formed between reactive dye and cotton.
10. What do you mean by Bifunctional reactive dye?

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. What is the need for preparation of grey goods before dyeing? (4)

    B. Explain in details about the bleaching of cotton by using universal Bleaching agent. (8)

(OR)

    C. Write the objective of Desizing and Scouring. (4)

    D. Explain in details about the morphological structure of cotton and mention the composition of raw cotton. (8)

12. A. Record the difference between Dyes and Pigments. (4)

    B. Explain in details about the process of gas singeing machine. (8)

(OR)

C. What is the concept for Banned dyes? (4)

D. Give the preparatory process sequence for white cotton material, and define them. (8)

13. A. Define "Percentage shade" and "percentage Exhaustion". (4)

B. Write in detail the process of dyeing of cotton by using Azoic Dye. (8)

(OR)

C. Write about the after treatment for direct dyed goods, Mention why it is done? (4)

D. Mention in details the basic process parameters that influence the dyeing behavior of textile materials. (8)

14. A. Write about the mechanism involved in vatting process. (4)

B. Explain the process of dyeing of cotton with solubilized vat dye. (8)

(OR)

C. Briefly explain the different classes of vat dye. (4)

D. Explain the process of dyeing of cotton with vat dye. (8)

15. A. Mention the properties of Reactive dye. (4)

B. Explain the dyeing process of cotton by using reactive dye. (8)

(OR)

C. Differentiate Hot brand reactive dye from Cold brand reactive dye. (4)

D. Mention in details the basic process parameters that influence the reactive dyeing behavior of cotton. (8)

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(Regulation-2014)

Semester : 03 Time:3 Hours

Course Code & Title : 3.4 Material science and engineering mechanics Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define the term 'hardness'.
2. List any four essential properties of a lubricant.
3. Specify the three characteristics of a force.
4. State Newton's second law of motion.
5. Define the following terms for a ductile material: (i) stress, and (ii) Strain
6. Differentiate the horse power and the brake horse power.
7. List any four application of soldering process.
8. List the steps in carpentry process to make a joint.
9. What are the advantages of a belt drive?
10. Define velocity ratio and illustrate it with simple equation.

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. List the properties of timber and its applications. (4)

    B. Classify the cast iron based on carbon content and highlight its characteristics. (8)

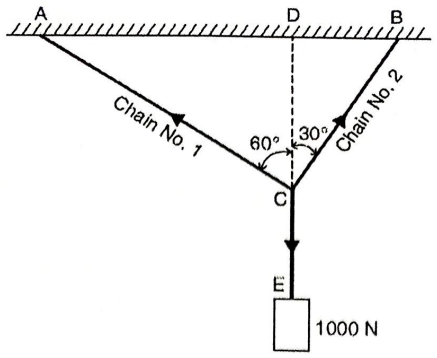
    (OR)

    C. List any four advantages of thermoset polymers compared to thermo-plastic polymers. (4)

    D. Describe the constituents of paints and varnishes. Also, brief its characteristics. (8)

12. A. State the parallelogram law of two forces and illustrate it relevant equations. (4)

    B. A weight of 1000 N is supported by two chains as shown in Fig. Determine the tension in each chain. (8)



(OR)

C. Write the relationship between the displacement, velocity and the acceleration. (4)

D. A body, falling freely under the action of gravity passes two points 15 m apart vertically in 0.3 seconds. From what height, above the higher point, did it start to fall. (8)

13. A. The stress developed within the elastic limit of a ductile material is 60 N/mm^2 for the corresponding strain of 0.03. Find the Young's modulus. (4)

B. Draw the stress-strain diagram for a mild steel and specify the proportional limit, elastic limit, upper yield point, lower yield point, ultimate strength and rupture point. (8)

(OR)

C. State the law of conservation of energy. (4)

D. Brief about the following: (i) Work, (ii) Power and (iii) Energy with numerical illustrations. (8)

14. A. List any four operations that are performed using milling machine. (4)

B. Draw the simplified schematic of a conventional lathe and mark all the parts. (8)

(OR)

C. List any four each advantages and applications of arc welding process. (4)

D. Brief the different stages in sand casting process. (8)

15. A. What is power transmission? List any four methods of power transmission. (4)

B. Brief the cross belt drive system with simple sketch. Also list its advantages and applications. (8)

(OR)

C. Write the relationship between the mechanical advantage, velocity ratio and the efficiency of a simple lifting machine. (4)

D. Explain the constructional feature and working of single fixed pulley and the single moving pulley. (8)

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(Regulation-2014)

Semester : 04 Time:3 Hours

Course Code &Title : **4.2 Fabric Structure - III** Maximum Marks:80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the purpose of producing treble width plain cloth?
2. How many series of threads are required to produce treble cloth?
3. What is the purpose of using wadding threads in the backed cloth?
4. Which type of backed cloth can be produced economically and why?
5. Write the main difference between 'cut pile' & 'loop pile' structure.
6. What are the essential conditions to produce terry pile fabric?
7. What are the techniques of anchoring of piles?
8. What is face to face technique?
9. What is corduroys structure?
10. How many loom required to produce Chenille Axminister pile?

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Draw the design & interlacement diagram of the treble width plain cloth. (4)

    B. Draw a treble cloth by taking 3/3 twill on face, centre & back. Mention the stitching method used. (8)

(OR)

    C. Construct a reversible type of warp backed cloth taking 5 thread satin & sateen weave. (4)

    D. Draw a design of weft backed cloth by taking 2/2 twill on face & 8 threads sateen as back weave and F: B = 1:1. (8)

12. A. Differentiate between warp backed cloth and weft backed cloth.(any four) (4)

    B. Construct a design of weft wadded warp backed cloth by taking 3/1 twill & 1/3 twill. (8)

(OR)

C. Construct a design of 3/3 imitation warp backed cloth. (4)

D. Construct a design of a reversible warp wadded weft backed cloth. (8)

13. A. Classify the pile structure. (4)

B. Draw the design and interlacement diagram of the following designs:- (8)

i) 3 pick terry pile produced both sides

ii) 4 pick terry pile produced on face side only

(OR)

C. Write the salient features of the terry pile structures. (4)

D. With proper illustration using any two colors, draw the check effect produced by using 4 pick terry pile structure. (8)

14. A. Write short notes on twin shed technique to produce warp pile fabric. (4)

B. Explain the method of production of warp pile fabrics with aid of wires. (8)

(OR)

C. Why face to face technique is preferred to form warp cut pile fabric than wire insertion method. (4)

D. Draw the design and interlacement diagram of a warp pile structure produced in both the methods "wire is inserted alone" & "simultaneous insertion of a pick and wire" from the following particulars. (8)

Ground weave – 2/1 Rib

Ground: Pile end – 2 : 1

& Pick : wire - 3 : 1

15. A. Write the salient features of the weft pile structures. (4)

B. Explain the production technique & process involved to produce weft pile fabrics. (8)

(OR)

C. Draw corded velveteen repeats on 10 ends by taking the following particulars. (4)

Ground weave – plain,

Ground : pile pick = 1 : 3

D. Explain the manufacturing technique of Chenille Axminister pile fabric in handloom. (8)

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Semester : 04 Time:3 Hours

Course Code & Title : **4.3. Chemical Processing of Textiles-II** Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the basic structure of a wool fiber, and how does it contribute to its morphological properties?
2. What is the role of the medulla in wool fibers?
3. What is the role of pH in hydrogen peroxide bleaching for wool and silk, and how does it affect the results?
4. Why scouring is necessary for polyester and nylon?
5. What is degumming of silk ? Why it is required before dyeing?
6. State the objects of crabbing and decatising.
7. Mention the functions of electrolyte in reactive dyeing.
8. State the functions of hydro-extractor.
9. List the advantages and disadvantages of natural dyes.
10. Why fastness property is required for textile material?

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Draw the morphological structure of wool and silk fibre (4)

    B. Explain the method of degumming of silk in detail. (8)

(OR)

    C. How does the diameter of a wool fiber impact its morphological properties and uses in textiles? (4)

    D. Describe the solvent scouring process in detail. (8)

12. A. Discuss about silk bleaching briefly. (4)

    B. Explain the bleaching of wool with hydrogen peroxide in detail. (8)

(OR)

C. What are the preparatory processes given for synthetic fibres before dyeing. (4)

D. Describe the woolen setting process potting, crabbing and decasting. (8)

13. A. Explain wool dyeing methods in detail. (4)

B. Explain the dyeing of silk with acid dyes and 1:1 and 1:2 metal complex dyes. (8)

(OR)

C. Discuss the effect of time, temperature and pH on dyeing of reactive dyes. (4)

D. Explain the necessity of electrolytes and leveling agents on dyeing of reactive dyes. (8)

14. A. Explain briefly about the working of jigger. (4)

B. Explain the working of hydro extractor with neat sketch. (8)

(OR)

C. Discuss briefly about winch dyeing machine. (4)

D. Explain the working principles of yarn package dyeing machine in detail. (8)

15. A. Mention the advantages and disadvantages of natural dyes. (4)

B. Describe the washing fastness and rubbing fastness on dyed cotton material. (8)

(OR)

C. Discuss the criteria for the selection of dyes for dyeing. (4)

D. Explain the common defects and damages in processing cotton materials in detail. (8)

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Semester : 04 Time:3 Hours

Course Code &Title : 4.4 Ecology & Pollution Control in Textile Industry Maximum Marks:80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What are the types of pollution?
2. Define textile pollution.
3. What is meant by air pollution?
4. What are the standard air quality parameters?
5. What is the expansion of TDS?
6. Give any two classification of water pollution.
7. Write any four physical parameter of water.
8. Define sludge.
9. Define Noise pollution.
10. What is the full form of ISO?

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. What are the causes of Environmental Problems? (4)

    B. Write a note on air pollution have on food, crops, forests and biodiversity. (8)

(OR)

    C. How does air pollution affect human health? (4)

    D. Explain the major pollutants in textile wastewater. (8)

12. A. What is photochemical smog? and it is effects. (4)

    B. Give the various sources of waste water in wet processing. (8)

(OR)

    C. What are the effects of global warming? (4)

D. Draw a neat sketch diagram of various steps of treatment of effluent of textile industry. (8)

13. A. What are the harmful substances in textile? (4)

B. Explain the sources of indoor air pollutant. (8)

(OR)

C. Write the structure of atmosphere. (4)

D. Describe the analytical methods for estimation of COD. (8)

14. A. Give an account of the ecological issues with textiles. (4)

B. What is waste? How it can be minimized? Explain (8)

(OR)

C. Write a note on two different methods of treatment of dyeing industry discharge. (4)

D. Describe the physical ,chemical and biological parameters of dye industries discharged permitted law. (8)

15. A. Define toxicity? Give any two processing of aids. (4)

B. Explain the sources of noise pollution and its control. (8)

(OR)

C. What is recycling of waste? Explain it with two examples. (4)

D. Salient feature of Environmental protection acts. (8)

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(Regulation-2014)

Semester : 04 Time:3 Hours

Course Code & Title : **4.5 PROFESSIONAL ETHICS AND PERSONALITY DEVELOPMENT** Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define 'Professional Ethics'.
2. Mention some Civic Virtue.
3. Why integrity of an employee is important in an organization?
4. Differentiate Self - Respect and Self – Esteem.
5. Explain the team 'Consensus' and 'Controversy'.
6. Write down the relationship between Law and Ethics.
7. Define 'Code of Ethics'.
8. What is meant by Perception?
9. State any two essential qualities of business communication.
10. What is Verbal and Non-Verbal Communication?

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Explain the different ways to improve the Human Values. (4)

    B. Define Profession. Explain the six characteristic that a professional must possess in order to be successful. (8)

(OR)

    C. What is Service Learning? Why Service Learning is important? (4)

    D. What are the different types of Ethics? Explain each one in details. (8)

12. A. How Moral Dilemmas can be Resolved? (4)

B. Discuss the theories pertaining to moral Autonomy with specific references to Consensus and Controversy. (8)

(OR)

C. What is meant by Spirituality? How does it differ from Religion? (4)

D. What are the Character Traits required for Self-Development and Growth of an Individual? (8)

13. A. What are Theory of Right Action and Theory of Right Ethics? (4)

B. Discuss how Gilligan's Theory of Moral Development differs from Kohlberg's Theory. (8)

(OR)

C. Write short notes on: (4)

(i) Self Interest (ii) Customs and Religion

D. Explain different types of Accidents. How Risk can be reduced? (8)

14. A. Explain the process of Perception. What are the factors influence Perception? (4)

B. Mention any four differences between Attitudes and Values. Explain the characteristics of Attitude. (8)

(OR)

C. Explain the SMART goal settings? Also write any two golden rules of goal setting. (4)

D. Define Career Planning. Explain the steps towards active Career Planning. (8)

15. A. Explain the types of Communication. (4)

B. What is the difference between Listening and Hearing? Explain with examples. Also write few tips to improve memory. (8)

(OR)

C. How complex-problem solving can be made easy and achievable? (4)

D. Define Time Management. Explain Time Management with respect to 'Pickle – Jar-Theory'. (8)

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INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Bargarh/Fulia/Guwahati/Jodhpur/Salem/Varanasi/Champa/Kannur/KHTI-Gadag/SPKM-Venkatagiri

Diploma in Handloom & Textile Technology

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 05 Time:3 Hours

Course Code &Title : 5.1 Weaving Technology and Textile Calculation - IV Maximum Marks:80

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. Classify Rapier Loom.
2. Why hydrophilic / hydroscopic weft yarns are not suitable for water jet looms?
3. Classify jacquard machines.
4. What kind of shed is formed in double lift single cylinder jacquard?
5. Write the use of leno jacquard machine.
6. Which kinds of fabrics are produced in self-twilling jacquard machine?
7. Calculate the yarn diameter of 40^S Ne cotton yarn as per Ashenhurts's formula.
8. Find the diameter of 60^S Ne cotton yarn by using Peirce's formula.
9. Define the term "Cover Factor" of a fabric.
10. What will be the cover fraction of warp, if the woven fabric is made of 50^S Ne cotton yarn with 68 ends per Inch?

PART-B

((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Brief the multi-phase weaving machine and state its advantages (4)

    B. Discuss the sequence of weft insertion techniques used in projectile loom with neat diagram. (8)

(OR)

    C. Classify shuttle-less looms and state the advantages of shuttle-less looms over shuttle looms. (4)

    D. Explain the weft insertion techniques of Air-jet loom with neat diagram. (8)

12. A. Write the functions of any four parts of Jacquard. (4)

    B. Explain the working principle of Double Lift Single Cylinder Jacquard with neat line diagram. (8)

(OR)

C. Differentiate between Single Lift Single Cylinder jacquard and Double Lift Double Cylinder Jacquard. (4)

D. Explain the working principle of Open shed jacquard machine with neat line diagram. (8)

13. A. Compare the Cross Border jacquard with Inverted hook jacquard (4)

B. Explain the mechanism and working principle of Leno jacquard in brief with neat line diagram. (8)

(OR)

C. Write the advantages and disadvantages of self-twilling Jacquard mechanism. (4)

D. With neat sketch, explain the mechanism and working principle of Damask jacquard machine in brief (8)

14. A. Calculate the diameter of the following yarn using Ashenhurts's formula. (4)

(a) 60^S Worsted Yarn (b) $2/100^S$ Cotton yarn

B. Calculate the diameter of the following yarn using Peirce's formula. (8)

(a) $2/40^S$ Cotton yarn (b) 80^S Spun Silk

(c) 50 x 2 Tex Polyester yarn (d) 60 Denier Nylon yarn

(OR)

C. Assume the diameter of 100 denier rayon as 1/200 inch, calculate the count of the following diameter yarns; (4)

(a) 1/80 inch dia. (b) 1/300 inch dia.

D. Derive the Peirce yarn diameter formula for cotton by using the specific volume of yarn as 1.1 cubic centimeters per gram. (8)

15. A. Find out the warp and weft fractional cover of the following cloth (Density of cotton is 1.52 gm/cc); (4)

Warp: 40 Tex & 18 ends per cm.

Weft: 30 Tex & 22 picks per cm.

B. In a plain cloth the count of warp and weft are 40^S and 60^S Ne respectively and corresponding threads per inch are 60 and 80. Find out the (8)

(a) Warp fractional cover (b) Weft fractional cover

(c) Cloth fractional cover (d) Cloth cover factor.

(OR)

C. Find out warp cover factor of a plain worsted fabric containing 60 ends per inch of 40^S worsted yarn. (4)

D. Compare the Relative closeness of Warp yarns in the following two plain cloth. (8)

(a) 30^S Cotton : 40 Ends Per Inch (b) 40^S Cotton : 76 Picks Per Inch

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Diploma in Handloom & Textile Technology

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 05 Time:3 Hours

Course Code &Title : **5.2 Fabric Structure - IV** Maximum Marks:80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define the structure of 'Extra Warp'.
2. Define Planting of Extra warp?
3. What is the interlacement of Finer ends in Patent satin?
4. Write the weft series used in combined warp and weft Tapestries.
5. Why do we use of different counts of graph paper in figured designing?
6. Write four different standard orders of arranging picks in weft backed cloth.
7. How do we get two Solid colour effect in Double Equal Plain Cloth weaving?
8. Mention any two special harness set-ups that are used for weaving Double cloth.
9. Draw the interlacing diagram of Gauze structure.
10. Name two mechanisms used in weaving leno fabrics.

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. How are the spots anchored in extra warp figuring? (4)

    B. Taking a motif on 12 x 12, mark the full structure of extra weft design with 1 : 1ratio of ground and extra picks. (8)

(OR)

    C. What are the different styles of arranging figures in Extra Weft Figuring technique? (4)

    D. Taking a spot design on 8 x 8, indicate the full structure of extra warp design on 16 x 8 threads (Ground weave is plain). (8)

12. A. Compare the structural difference of Patent Satin and Modern Tapestry. (4)

B. Explain reversible and non-reversible weft tapestry with suitable weave and thread interlacing diagram. (8)

(OR)

C. Indicate the three weaves of Reversible 3 Picks Weft Tapestry (4)

D. Draw the weft interlacing diagram of the above structure. (8)

13. A. Suggest suitable count of graph paper for designing a figured fabric of 120 Ends x 90 Picks. (4)

B. Take a small motif and enlarge it on 20 x 20 with suitable binding marks to produced figured single cloth. (8)

(OR)

C. Differentiate between Warp backed and Weft backed cloth (4 points). (4)

D. Taking a suitable guide graph in 24 x 24 and using the card diagram, describe the punching procedure for producing Warp Backed cloth using Sectional Tie. (8)

14. A. Indicate the four weaves to produce four different colour effects in double equal plain cloth. (4)

B. Taking a small motif, construct a full structure of a two colour double cloth on 48 x 48. (8)

(OR)

C. Draw the draft diagram of sectional Tie – sectional draft method. (4)

D. Indicate the structure of 2 colour effect Double Cloth on 40 x 40. (8)

15. A. Differentiate between Bottom Douping and Top Douping system in leno weaving. (4)

B. Sketch the drafting and interlacing diagram of Leno weave to produce Cord effect. (8)

(OR)

C. Indicate the Leno structures produced using Single Beam and Double Beam. (4)

D. Draw the neat diagram showing the formation of Crossed shed and Open shed in Leno weaving. (8)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 05 Time:3 Hours

Course Code & Title : **5.3 CHEMICAL PROCESSING OF TEXTILES-III** Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the value of Second-order Tg of polyester?
2. Mention the function of the carrier in polyester dyeing.
3. What is the process sequence for polyester/cotton blends?
4. Mention any two defects of beam dyeing of polyester.
5. Mention the function of retarder in acrylic dyeing with cationic dyes.
6. What is Barriness defect observed in nylon dyeing?
7. What are the demerits of block printing?
8. Name the resisting agent used in Batik printing.
9. What is the function of T.R.O. in printing paste?
10. What is Ageing process in textile printing ?

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. What are the factors responsible for the low dye-uptake of polyester? (4)

    B. State the objectives of Heat setting. Discuss the method of heat setting of polyester with Hot Air. (8)

(OR)

    C. Why is the H.T.H.P. dyeing method superior to carrier dyeing? (4)

    D. Describe the Thermosol method of dyeing polyester along with advantages and disadvantages. (8)

12. A. What are the precautions to be taken during batching on Beam dyeing machine? (4)

    B. Discuss the working of a Jet dyeing machine with a neat diagram. (8)

(OR)

C. What is the difference between Conventional Jet dyeing and Soft overflow dyeing machines? (4)

D. Give a brief outline of common defects observed while dyeing polyester in a Jet dyeing machine. (8)

13. A. Compare the dyeing behavior of Nylon6 and nylon66. (4)

B. Describe the method of dyeing nylon with acid dyes along with the function of various chemicals used. (8)

(OR)

C. Why is it difficult to dye 100% pure Acrylic fibers? (4)

D. Describe the method of dyeing Acrylic with basic dyes along with the function of various chemicals used. (8)

14. A. Differentiate between dyeing and printing. (4)

B. Discuss the working of Flat Bed screen printing machine with a neat diagram along with merits and demerits. (8)

(OR)

C. Explain the process of Heat Transfer printing. (4)

D. What do you mean by Style of printing? Discuss the printing styles used for producing white designs on a colored background. (8)

15. A. What are the desirable properties of a thickener? (4)

B. Describe the Photographic method of preparation of screens. (8)

(OR)

C. State the utility of Steaming and Curing operations in textile printing. (4)

D. Discuss the role of the following ingredients with examples :

a) Hygroscopic agents b) Acids & Alkali c) Reducing agents (8)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 05 Time:3 Hours

Course Code & Title : **5.4 Principles of Textile Testing - I** Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define the term "Sample" in textile testing.
2. List any four factors governed by sampling procedure.
3. State the definition of relative humidity.
4. Write any four important fiber properties that would be affected by moisture
5. Name any two direct reading balances used in the measurement of yarn count.
6. Differentiate direct system and indirect system of yarn numbering.
7. Draw the symbolic representation of two types of yarn twist.
8. Mention the relationship between twist and twist multiplier with respect to indirect system of yarn numbering.
9. What are the terminologies used for expressing the yarn irregularity.
10. State disadvantages of visual examination method of measurement of yarn evenness.

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Write short note on the role of textile testing in Quality control. (4)

    B. Describe the term random sample and biased sample in textile testing. (8)

(OR)

    C. Calculate the percentage mean range value of the following five sets of values (4)

Set 1	24	21	18	23
Set 2	16	23	17	20
Set 3	24	15	14	21
Set 4	14	17	22	18
Set 5	21	20	22	17

D. Calculate the coefficient of variation of the following tensile strength values of the viscose plain weave fabric (8)
42, 35, 45, 47, 30, 38, 42, 41, 40, 37

12. A. Write the importance of standard testing atmosphere while texting of textile materials. (4)

B. With neat sketch, explain the principle and method of measurement of relative humidity using wet and dry bulb hygrometer (8)

(OR)

C. Briefly discuss the correct invoice weight of the textile material. (4)

D. With schematic diagram, explain the method of measurement of moisture content value of the textile fiber using moisture testing oven. (8)

13. A. Explain the precautionary measures to be considered while preparing lea for measurement of yarn count. (4)

B. Explain the procedure for measurement of yarn count with the help of wrap reel and weighing balance. (8)

(OR)

C. Write the advantages and disadvantages of quadrant balance (4)

D. Explain in detail about the measurement of yarn count using beesley's balance (8)

14. A. Write a brief note on yarn twist and strength relationship with respect to spun yarn and filament yarn. (4)

B. With neat sketch, explain the procedure to determine the yarn twist using straightened fiber method. (8)

(OR)

C. Briefly discuss about the effect of twist on fabric properties. (4)

D. With neat sketch, explain the procedure to determine the yarn twist contraction method. (8)

15. A. List the various effects occur in the fabrics manufacturing process due to yarn irregularity. (4)

B. Explain in detail about the various effects produced on the fabric due to yarn irregularity. (8)

(OR)

C. Explain the method of measurement of yarn evenness based on cutting and weighing method. (4)

D. With suitable graphical representation, explain the classimate system of yarn fault classification (8)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 05 Time:3 Hours

Course Code & Title : **5.5 Principles of Management and Entrepreneurship** Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the Economic Importance of Handloom Industry in india?
2. Write objectives of Primary Handloom Weavers' Cooperative Society.
3. What is the handloom cluster?
4. State functions of IIHTs.
5. Explain the term "Market" and "Marketing".
6. What is the importance of Branding?
7. What is the Market sampling?
8. What do you mean by Primary data sources?
9. What is the Rural marketing?
10. Define Entrepreneurship.

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Explain the organization structure of handloom industry. (4)

    B. Describe history of Handloom Industry. (8)

(OR)

    C. Explain in brief the objectives of Apex Cooperative (4)

    D. Explain establishment and functions of Primary Handloom Weavers' Cooperative Society. (8)

12. A. Explain significance of Product Diversification. (4)

    B. Explain about the cluster development initiatives for Handloom Industry. (8)

(OR)

    C. Explain National Handloom Development Programme (NHDP). (4)

    D. Explain major services provided by the Weavers Service Centre. (8)

13. A. Write the objectives and importance of marketing. (4)

B. Distinguish between marketing and selling. (8)

(OR)

C. What is marketing planning? Explain the contents of a marketing plan. (4)

D. State the various elements of Marketing mix (8-P's). (8)

14. A. What is Marketing Research? Also explain various types of Marketing Research. (4)

B. What is Pricing? Explain factors affecting Pricing Decision. (8)

(OR)

C. Explain importance of Pricing. (4)

D. Discuss Pricing policy for Handloom Products. (8)

15. A. Explain significance and impact of "Rural-Marketing". (4)

B. Explain the roles of District Industry Centre (DIC) in promoting Entrepreneurship. (8)

(OR)

C. Distinguish between innovative entrepreneur and adoptive entrepreneur. (4)

D. What is E-Business? Explain Various type of E-Business. (8)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 06 Time:3 Hours

Course Code & Title : 6.1Weaving Technology & Textile Calculations –V Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is JALA?
2. How the solid border is obtained in Kancheepuram handloom weaving?
3. Mention Two basic difference between Norwich and London system of Harness Mounting.s
4. Why and where the Sectional Harness Tie is used?
5. Mention Two parameters effecting the GSM of the Fabric.
6. What will influence the compactness of the fabric?
7. Which kind of wastages are taken in account in cloth calculation?
8. Define Fabric Areal Density.
9. If the cost per meter of a cloth is Rs. 100 and the profit margin is 25%, what will be the selling price the cloth?
10. Mention the important factors (at least four) to calculate the cost of fabric.

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Compare between Single Ikkat and Double Ikkat technique. (4)

    B. State features of Banaras Handloom saree weaving. (8)

(OR)

    C. Explain the technique of making cross border in Kancheepuram handloom sarees. (4)

    D. State salient features of Jamdani Weaving of West Bengal and Paithani Weaving of Aurangabad. (8)

12. A. Compare between two harness mounting system. (4)

    B. If a harness is tied up to 72 sett and it is desired to produce fabric of 56 sett, how many hooks would have to be cast cut in a 400 hooks machine and how should they be distributed? (8)

(OR)

C. Calculate the no. of harness cords/hook for a 400-hook jacquard with the following particulars: no. of harness cords/inch = 96; width of the harness to be tied = 50 inch. (4)

D. Briefly discuss about the different type of Harness Tie-up(s). (8)

13. A. A cloth contains 48 EPI of 16^s yarn. What count of yarn should be used if a cloth of the same compactness is to be produced with 60 EPI? (4)

B. A 4-shaft twill cloth 2/2 twill is changed to (a) plain cloth and (b) 5 thread sateen cloth. If the ends per inch in the cloth is 72, calculate the ends per inch that will be required in the plain and sateen cloths, if warp /weft counts are same in both case. (8)

(OR)

C. A plain cloth contains 60 ends of 80^s yarn per inch. Calculate the no. of EPI to be required to keep the same firmness if a 100^s yarn is used. (4)

D. A cloth 50" wide, 50 yds long woven with 72 threads/inch with 2/42s cotton yarn weighs 25 lbs. if fabrics of 15 lbs and 30 lbs are to be produced with the same dimensions and compactness, find-out the sett and count of yarn for both the fabrics. (8)

14. A. A cotton cloth is woven as per the following particular (4)

Warp Count = 18 tex EPCM = 28 Warp Crimp = 2.5%
Weft Count = 21 tex PPCM = 25 Weft Crimp = 9.0%
Width of cloth = 100 cms ; Length of cloth = 1 mts
Calculate the weight of weft in kgs

B. Calculate the Fabric GSM (8)

(OR)

C. A cotton cloth is woven as per the following particular (4)

Warp Count = 22s Nec EPI = 64
Warp Crimp = 6.5%
Weft Count = 18 s Nec PPI = 60 Weft Crimp = 8.5%
Width of cloth = 1 yds; Length of cloth = 1 yds
Calculate the weight of warp yard per square yard

D. Calculate the Fabric weight in ounce per square yard as per above details. (8)

15. A. A Silk fabric is woven as per the following particulars: (4)

Warp Count = 40 denier
Weft Count = 60 denier
Reed count = 120sST
PPI =100
Cloth width = 45 inches
Piece Length = 100 meters
Selvedge = 42 each side of 40 denier
Warp Crimp = 2%
Weft Crimp = 4%
Warp Waste = 1%
Weft Waste = 2%

Cost of 40 denier = Rs 1800/- per kg
Cost of 60 denier = Rs 1300/- per kg
Conventional charges = Rs 35/- per meter
Overhead Expenses = 10% of total cost
Dyeing Charge = Rs 80/- per kg
Profit Margin = 20%
Calculate the cost of the two different yarns required.

B. Calculate the total selling price of the above fabric. (8)

(OR)

C. A Cotton fabric is woven as the following particulars (4)
Warp Count = 40s
Weft Count = 40s
Reed count = 80sST
PPI =84
Cloth width = 40"
Piece Length = 120 yds
Selvedge = ½" each side 4 yarn per dent
Warp Crimp = 5%
Weft Crimp = 8%
Warp Waste = 3%
Weft Waste = 2%
Cost of 40s yarn= Rs 150 /- per kg
Warp preparatory charges = Rs 20 per kg
Weft preparatory charges = Rs 10 per kg
Weaving Charges = Rs. 8.50 per mtr
Overhead Expenses = 10% of weaving charges
Profit Margin = 15%
Calculate the total amount required for warp and weft preparatory.

D. Calculate the selling price of the above cloth per meter. (8)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 06 Time:3 Hours

Course Code &Title : **6.2 - Fabric Structure-V** Maximum Marks:80

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. What are the advantages of using healds in extra warp weaving.
2. Name any two styles of extra weft figuring techniques.
3. Name the ends and picks used in patent satin design.
4. Mention the different tensions to be followed for beams in pique weaving.
5. Name the ends and picks used in 4 picks tapestry.
6. What is true damask?
7. What is the meaning of loose and fast picks in terry weaving?
8. Draw three picks reversible terry weave.
9. Name the saree which is produced in Gujarat state.
10. Name the place of origin of Jamdani saree.

PART-B

(4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Give the differences between extra warp and extra weft weaving. (4)

    B. Taking 20 x 20 guide graph, indicate the complete structure of extra weft graph design on 20 x 40 with 1 ground : 1 extra weft ratio. (8)

(OR)

    C. Draw any one of harness building and heald arrangements used for weaving extra weft design. (4)

    D. Taking 24 x 24 guide graph, indicate it's complete structure of extra warp design on 48 x 24 with 1 : 1 order. (8)

12. A. Make two weaves of figured pique. (4)

B. Take a guide graph of 8 x 6 and indicate the complete weave structure of figured patent satin on 24 x 24. (8)

(OR)

C. Mark two weaves of patent satin (ground and figure). (4)

D. Construct a fast back figured pique structure on 48 x 48 using basic figure on 16 x 12. (8)

13. A. Discuss about the different methods of damask weaving. (4)

B. Draw the design and interlacement diagram of four weaves of 4 picks non-reversible tapestry. (8)

(OR)

C. Differentiate reversible and non-reversible tapestry. (4)

D. Draw the designs and interlacement diagrams of three weaves of 3 picks reversible tapestry. (8)

14. A. Sketch the jacquard loom arrangement used for weaving terry pile for sectional tie & sectional draft. (4)

B. Using 12 x 12 guide graph, mark the complete structure of figured terry weave on 48 x 36. (8)

(OR)

C. Explain the reversible and non-reversible terry weave with suitable diagrams. (4)

D. Explain briefly inverted hook jacquard with suitable diagram. (8)

15. A. List the basic quality particulars of a shirting fabric produced on handloom. (4)

B. Write salient features of pochampalli tie and dye sarees and chanderi sarees. (8)

(OR)

C. Explain the techniques used to produce, traditional Kanchipuram sarees. (4)

D. Explain the features and production methods of paithani sarees. (8)

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Semester : 06 Time:3 Hours

Course Code &Title : **6.3 CHEMICAL PROCESSING OF TEXTILES-IV** Maximum Marks:80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Write the role of mild oxidizing agent in reactive dyes for printing cotton.
2. Write the name of acid liberating agent used in pigment printing.
3. Write the name of thickener used in acid dyes in silk printing.
4. What is the printing sequence of polyester?
5. Give two examples of traditional resist style of printing.
6. What are the two factors which affect selection of finishes?
7. State three examples of mechanical finishes.
8. Write two examples of flame retardants.
9. Write the name of two harmful chemicals used in Wet processing.
10. What is German ban?

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Write about the various printing methods suggested for printing of cotton materials using reactive dyes. (4)

    B. Explain in detail the printing process using pigments on cotton with recipe, process condition and role of chemicals used (8)

(OR)

    C. State the advantages of pigment printing on textile materials. (4)

    D. Explain the Pad- silicate process of printing using reactive dyes on cotton with recipe, objective of chemicals used and process conditions. (8)

12. A. Write in detail the traditional printing method of Batik. (4)

B. Explain how to print a given polyester fabric using disperse dyes? (8)

(OR)

C. Write in detail about the traditional printing method of Kalamkari. (4)

D. Explain the method of printing for silk fabric with acid dyes. Write the recipe, functions of chemicals used and printing sequence. (8)

13. A. Classify the textile finishing processes. (4)

B. What are the different types of calendars and explain the working of friction calendar with the help of a diagram? (8)

(OR)

C. Explain with suitable diagram the working of schriner calendar used in textile finishing. (4)

D. What is the principle of sanforization and explain with line diagram the working of sanforizing machine? (8)

14. A. What is the object of mercerization and write down the parameters for mercerization process on cotton fabric? (4)

B. Write the name of resins used in anti-crease finish and state the application method of DMDHU resin on cotton fabric. (8)

(OR)

C. What do you mean by softening of textiles; explain different types of softeners used in textile finishes. (4)

D. Discuss in detail with suitable diagram the working of pad less chainless mercerizing machine for cotton fabric. (8)

15. A. What do you mean by bio-finishing? (4)

B. Explain in detail the harmful chemicals used in textile Wet processing. (8)

(OR)

C. Explain the method for identification of Vat dyes in powder form. (4)

D. Write about the various eco-friendly Wet processes used in textile Wet processing. (8)

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INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

Bargarh/Fulia/Guwahati/Jodhpur/Salem/Varanasi/Champa/Kannur/KHTI-Gadag/SPKM-Venkatagiri

Diploma in Handloom & Textile Technology

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2014)

Semester : 06 Time:3 Hours

Course Code & Title : 6.4 PRINCIPLES OF TEXTILE TESTING-II Maximum Marks: 80

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Mention the standard atmospheric conditions and standard testing atmospheric conditions.
2. Calculate the breaking length, if a 100 denier yarn breaks at a load of 185 grams.
3. What is CSP?
4. What is CRE in textile testing?
5. Define the term 'waisting effect' in tensile testing.
6. Bursting strength is measured for which kind of fabric?
7. Write down the formula for calculating the bending modulus of a fabric.
8. What are the types of rubbing fastness?
9. What are the fabric defects removed in singeing process?
10. Define Six Sigma.

PART-B ((4+8)×5=60 Marks)

Answer all the questions in detail

11. A. Explain CRE principle of tensile strength instruments. (4)

    B. Elaborate the three different approaches of strength testing – Tensile, Tearing and Bursting. (8)

(OR)

    C. Explain how specimen length is an influencing factor in strength testing results? (4)

    D. Draw the typical load elongation curve of a textile fiber and explain the specified yield point, Tenacity at break, Extension at break and initial young's modulus in the curve. (8)

12. A. Discuss the advantages and disadvantages of single thread and lea strength test of yarns. (4)

B. Describe the method of measurement of yarn strength using Inclined plane principle with suitable sketch. (8)

(OR)

C. With schematic diagram, explain the principle of strain gauge sensor used in tensile testing machines. (4)

D. Discuss the working principle of single yarn strength tester with a neat sketch. (8)

13. A. What are the factors affecting the tear strength of fabrics? (4)

B. With suitable line diagram, explain the method of measurement of abrasion resistance using Martindale abrasion tester. (8)

(OR)

C. Define the term pilling and its possible causes. (4)

D. Explain the working procedure of Elmendorf tearing strength tester with suitable sketch. (8)

14. A. Why wool is preferred for suiting materials? Justify your answer. (4)

B. Explain the principle of measurement of stiffness property of a fabric using Shirly stiffness tester. (8)

(OR)

C. Give the formula for calculating drape co – efficient. (4)

D. Describe measurement of crimp percentage by using Shirley crimp tester. (8)

15. A. Mention any four fabric weaving defects and its possible causes. (4)

B. With suitable examples, explain the fabric inspection procedure as per 4 point systems. (8)

(OR)

C. Explain the term Quality control and Quality assurance. (4)

D. Discuss in detail about the Total Quality Management and its benefits in textile industry. (8)

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