Registration Number | | | | | | | |

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-2021)

Semester : 04 Time:3 Hours

Course Code & Title : **HTPC209 Weaving Technology - I** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. State the functions of tensioner in cone winding and mention its types.
2. List various faults in wound packages.
3. Write the functions of expanding comb in a warping machine.
4. What are the factors affecting size pick up?
5. What are early shedding and late shedding?
6. How do the picking force be changed in cone over pick mechanism?
7. State the functions of temples.
8. What is sley eccentricity?
9. Mention types of warp stop motions wires used in loom.
10. State the purpose of drop box motion in loom.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Differentiate splicing and knotting. (6)

    B. Explain the working principle of electronic yarn clearers with suitable sketches. (10)

(OR)

    C. Calculate the production in lbs /8 hours of a modern cone winding machine with delivery speed – 630 yards/min, yarn count – 40^s Ne and efficiency – 70%. (6)

    D. With a neat sketch explain the working of modern pirn winding machine. (10)

12. A. A warp containing 2650 ends is required to be sized to 12%. The length of sized warp on the beam is required to be 1120 yards. If the count of yarn is 30^s Ne, find out the weight of unsized warp and the weight of size to put on the warp in lbs. (6)

B. Explain the working of modern beam warping machine with neat sketch. (10)

(OR)

C. The fabric of 60 inch width and 52 EPI required to be produced. The warp beam is produced in a sectional warping machine with creel capacity of 240. Find out total number of ends in a beam and number of sections to be made. (6)

D. With neat sketch explain the working principle of multi cylinder sizing machine. (10)

13. A. Compare tappet shedding and dobby shedding. (6)

B. With a neat sketch explain the working principle of any one under pick mechanism. (10)

(OR)

C. Classify and explain the different motions in power loom weaving. (6)

D. Describe the working principle of negative tappet shedding mechanism in a loom with neat sketch. (10)

14. A. Compare side weft fork motion and centre weft fork motion. (6)

B. With a neat sketch explain the working of fast reed warp protection mechanism and mention for which type of fabric weaving it is suitable and why? (10)

(OR)

C. Explain negative let off motion. (6)

D. Describe the working principle of seven wheel take up motion with neat sketch and also compare with five wheel take up motion. (10)

15. A. What is weft replenishment mechanism? Mention its advantages in automatic loom. (6)

B. Explain the working principle of any one drop box motion employed in loom with neat sketch. (10)

(OR)

C. What is warp stop motion? State any two important elements and its functions used in mechanical warp stop motion. (6)

D. Describe the working principle of cop changing mechanism with neat sketch. (10)

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Diploma in Handloom & Textile Technology

NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 04 Time:3 Hours

Course Code & Title : **HTPC210 : Fabric Structure-II** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. By which weave the horizontal cord effect is produced?
2. Name the effect produced by Bedford cord weave?
3. What is the difference between a tubular cloth and a double width cloth?
4. What are the objectives of producing a double cloth?
5. Define "Reversible backed Cloth"
6. How many series of of warp and weft threads are required for producing treble cloth?
7. Differentiate between loop pile and cut pile.
8. How are corduroys different from velvets?
9. What is 'Doup'?
10. Mention two traditional fabrics produced by using extra warp and extra weft technique.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Construct Wadded Plain faced Bedford cord on 18 x 4. Also, indicate the draft and peg plan for it. (6)

    B. Construct a Pique Design on 24 x 20 using a motif of 8 x 10. (10)

(OR)

    C. Construct an ordinary welt structure on 6 x 6. (6)

    D. Classify the Bedford cord weave with a suitable example for each variety. (10)

12. A. Construct cloth interchanging plain double cloth creating check effect. (6)

B. Construct a self-stitched double cloth and mention the method of stitching used with the following particulars (10)
Face Weave: 2/2 Twill; Back Weave: 1/3 Twill; Repeat Size: 16 x 16.

(OR)

C. Explain the different principles of making double cloth. (6)

D. Construct a centre warp stitched double cloth with the following particulars (10)
Face Weave: 2/4 Twill; Back Weave: 3/3 Twill; Repeat Size: 13 x 12.

13. A. Construct a treble cloth on 12 x 12 with 2/2 twill as face, centre and back weave. (6)

B. Construct Imitation weft backed design on 11 x 11. (10)

(OR)

C. Differentiate between warp and weft backed cloth. (6)

D. Construct weft wadded warp backed design on 16 x 16. Also, indicate the draft for it. (10)

14. A. Differentiate between Velvet and Velveteen. (6)

B. Construct 3 pick and 6 pick reversible terry weave. Show the interlacement diagrams of both. (10)

(OR)

C. Construct 4 pick terry weave. (6)

D. Explain the process of production of loose and fast back velvet fabrics using suitable weave. Show the interlacement diagrams of these. (10)

15. A. Differentiate between Gauge and Leno weaving. (6)

B. Taking a spot effect on 6 x 6, show the extra warp graph design on 12 x 24 with the in ratio of 1 ground : 1 extra. Indicate suitable binding marks for extra warp ends. (10)

(OR)

C. Compare extra warp and extra weft figuring. (6)

D. Show a weave of Leno design with cross and open shed in it. (10)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 04 Time:3 Hours

Course Code &Title : **HTPC211 : CHEMICAL PROCESSING OF TEXTILES – II** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Mention the various techniques of polyester dyeing.
2. Identify the various types of dyeing defects.
3. Define the term printing.
4. Differentiate between in Dyeing and Printing.
5. Give the recipe for printing of cotton material with direct dyes.
6. Mention the methods of after treatments employed in reactive printing.
7. State the objectives of finishing on textile materials.
8. Categorize the various types of mechanical finishing on textile materials.
9. Specify the two chemicals used to impart crease recovery finish in cotton.
10. Write a note on antistatic finish.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Brief the concept of scouring and bleaching of polyester with sodium chlorite. (6)

    B. Discuss in detail about the purpose and various methods of heat setting process on polyester material. (10)

(OR)

    C. Explain the concept of thermosol dyeing of polyester material. (6)

    D. Clearly bring out the mechanism, recipe, and process conditions with procedure for dyeing of polyester with disperse dye using HTHP dyeing method. (10)

12. A. Briefly discuss on various styles of printing. (6)

    B. List the various types of ingredients used for preparation of print paste and (10)

brief their importance and functions.

(OR)

C. Explain the various style of traditional printing process. (6)

D. List the various methods of printing process and briefly discuss on rotary screen printing process with suitable illustration. (10)

13. A. Distinguish between dyes and pigments. (6)

B. Discuss in detail about the recipe, function of list of ingredients and procedure for direct style of printing of cotton material with reactive dyes. (10)

(OR)

C. Brief the recipe and procedure for silk printing with acid dyes. (6)

D. Describe the procedure of printing of polyester material with disperse dye and give the recipe ingredients and their functions. (10)

14. A. Classify the finishing process on textile materials. (6)

B. What is calendaring? What are the types of calendaring? Describe the process of swizzing calendaring with suitable diagram. (10)

(OR)

C. Write the various factors that affects the selection of finishing process on textile materials. (6)

D. With suitable illustrations briefly discuss on sanforizing mechanical finishing process on textile materials. (10)

15. A. Briefly discuss on various types of softeners used for softening finishing of textile materials. (6)

B. Explain on the process and mechanism of wrinkle recovery finish on cotton material. (10)

(OR)

C. Differentiate between Water proof and water repellency with examples. (6)

D. Discuss the method of applications and different chemical agents used for flame retardant finishing on cotton materials. (10)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 04 Time:3 Hours

Course Code & Title : **HTPC212 Textile Testing -I** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. State the advantage of Random sampling.
2. Provide the role of zoning technique in fiber sampling.
3. What do you mean by Relative humidity?
4. State the impact of moisture on fiber properties.
5. List the importance of the term "Micronaire" in fiber fineness.
6. Differentiate between the term Maturity ratio and Maturity index with respect to cotton fiber.
7. What is the constant rate of specimen elongation?
8. Mention the working principle of lea strength tester.
9. Illustrate the effect of yarn twist on the yarn strength.
10. Distinguish the term unevenness with the term imperfection in yarn faults.

PART-B **(**(6+10)×5=80 Marks)

Answer all the questions in detail

11. A. What do you mean by bias sampling? How will you avoid it? (6)

    B. Outline the cotton fiber sampling with squaring technique. (10)

(OR)

    C. List the various yarn sampling methods used for fabric and cone. (6)

    D. Illustrate and explain the sampling of wool fiber with zoning technique. (10)

12. A. Elucidate the importance of standard atmospheric condition in textile testing. (6)

    B. Explain in detail the working of wet and dry bulb hygrometer with neat illustration. (10)

(OR)

C. Outline the factors influencing the moisture regain of the textile material. (6)

D. Outline following methods of measuring moisture regain. (10)

i) Rapid regain dryer ii) Conditioning oven

13. A. List the merits and demerits of existing fiber length measurement methods. (6)

B. With suitable illustration, outline the method of measuring fiber fineness using Baer sorter. (10)

(OR)

C. How will you estimate the cotton fiber maturity using microscope? (6)

D. Enlighten the working of Shirley fiber maturity tester with its illustration. (10)

14. A. Outline the factors influencing the results of the tensile strength testing of fiber and yarn. (6)

B. Evaluate the working of Stelometer used in fiber strength measurement. (10)

(OR)

C. How the stain gauge principle is used in lea strength tester? Analyse with its purpose. (6)

D. State and explain the working of single yarn strength tester with sketch. (10)

15. A. Differentiate the term twist factor and twist multiplier with example. (6)

B. Analyse the use of fixed weight and length system in measuring thread count with neat sketch. (10)

(OR)

C. Illustrate and explain the various yarn faults in detail. (6)

D. How will you measure the yarn twist? Explain in detail the working of tension type twist tester. (10)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : **04** Time:3 Hours

Course Code &Title : **HTPE 202 GARMENT MANUFACTURING TECHNOLOGY** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. List the departments in a garment industry.
2. Draw any two styles of women's party wear.
3. Define anthropometry.
4. Differentiate between the pattern making method followed by a tailor and a garment industry.
5. What do you mean by marker efficiency?
6. List the advantages of band knife cutting machine.
7. Classify stitches.
8. Name any four garment accessories.
9. State the function of pressure foot and back tack lever.
10. Overlock machines are widely used for sewing knitted garments. Justify.

PART-B **(**(6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Give short notes on the various types of fabrics used for producing men's wear. (6)

    B. Discuss in detail about the quality assurance department and the function of quality controller in a garment industry. (10)

(OR)

    C. Describe the process flow chart for the production of men's full sleeved shirt. (6)

    D. Classify garments based on season, gender and application. (10)

12. A. Explain in detail about the precautions to be followed before taking (6)

measurement from the body.

B. Give the measurements required and the drafting procedure of T- Shirt. (10)

(OR)

C. Explain in detail about the pattern making tools with neat illustration. (6)

D. Describe the concept of pattern grading. (10)

13. A. Explain the types of cutting machines and give its functions. (6)

B. Write in detail about computerized cutting machine. (10)

(OR)

C. Discuss about any three spreading and cutting defects. Also give their remedial solutions. (6)

D. Describe the working principle of round knife and band knife cutting machine. (10)

14. A. Illustrate basic sewing machine and name its part. (6)

B. Explain in detail about sewing thread and its size designation. (10)

(OR)

C. State the application of (6)

i) hook and loop ii)interlining iii)wadding

D. Discuss in detail about the classification of seams based on Federal standards. (10)

15. A. Compare SNLS and DNLS machine. (6)

B. Discuss about feed of arm machine. List the area of application of the seam produced from feed of arm machine in various garments. (10)

(OR)

C. Explain fusing and pressing. (6)

D. Draw a neat diagram of sewing needle and label its parts. State the purpose of each parts of sewing needle. (10)

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NOV/DEC-2023 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 04 Time:3 Hours

Course Code & Title : HTPE203 Nonwoven Technology Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Write the definition of nonwovens as given by INDA.
2. What are the factors determining the choice of the fibre for nonwovens?
3. Which type of fibers is used in wet laid technique?
4. Give the different types of web forming system.
5. What is contact time in thermal bonding?
6. Compare foam bonding and spray bonding.
7. List the raw material requirements of spun bond fibers.
8. Justify the reasons for the requirements of high velocity air in melt blown process.
9. Compare raising and sueding treatments on nonwoven fabrics.
10. What are the property requirements of nonwoven chemical protective clothing?

PART-B **(**(6+10)×5=80 Marks)

Answer all the questions in detail

11. A. List the various application of nonwoven products by relating their properties. (6)

    B. Classify the nonwoven based on their preparation and production technique. (10)

(OR)

    C. Explain the steps involved in fiber preparation process of nonwoven fabric. (6)

    D. Indicate the fiber physical and chemical characteristics required for processing jute, polyester and polyethylene fiber in nonwoven process. (10)

12. A. Describe the working principle of aero dynamic web forming. (6)

    B. How do you prepare the web layer by using dry laying carding technique? Explain. (10)

(OR)

C. Demonstrate the process sequence of wet laid technique with a neat sketch. (6)

D. Explain briefly the principle of working of parallel and cross laid web laying process with neat sketch. (10)

13. A. Categorize the principle of working of various chemical bonding processes with neat sketch. (6)

B. Demonstrate briefly the principle of working of needle punching process with suitable diagram. (10)

(OR)

C. Discuss the principle of working of various thermal bonding processes with neat sketch. (6)

D. Explain briefly the principle of working of spunlacing process with neat sketch. (10)

14. A. Differentiate the important process parameters that required for melt blown process as compared with spun bond process. (6)

B. Describe the principle of working of melt blown process with neat sketch. (10)

(OR)

C. Identify the web characteristics and application of spun bond nonwovens. (6)

D. Explain briefly the principle of working of spun bonding process with neat sketch. (10)

15. A. List out the testing based on applications of non-woven fabrics. (6)

B. List the chemical finishing treatments suitable for nonwoven structures and write about two finishing treatments. (10)

(OR)

C. Demonstrate the procedure to perform the abrasion and tear resistance test of nonwoven material. (6)

D. Which type of nonwoven technology would you prefer for medical applications? Explain with suitable examples. (10)

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