

Registration Number

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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

FIRST YEAR EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FIRST YEAR

Time:3 Hours

Course Code & Title : 1.1 English and Communication Skills

Maximum Marks:80

PART-A (2×10=20 Marks)

Answer all the questions within two to three sentences

1. **Underline the Noun in the following sentences.** (4×1/2=2)
 - a) Rama killed Ravan.
 - b) Mohan is the captain of the team.
 - c) Indira Gandhi was a brave lady.
 - d) Kumar sings well.

2. **Underline Interjections in the following sentences:** (4×1/2=2)
 - a) Alas! He is dead.
 - b) Oh! You are late.
 - c) Good-bye, friends!
 - d) Hurrah! We have won the match.

3. **Point out the Pronoun in the following sentences:** (4×1/2=2)
 - a) She went to Delhi last Saturday.
 - b) He joined the university
 - c) Somebody entered the room.
 - d) Each of the boys is given a pen.

4. **Underline the Adjectives in the following sentences:** (4×1/2=2)
 - a) Tagore is a great poet.
 - b) Madurai is a beautiful temple city.
 - c) Kamla is a clever girl.
 - d) She ate some mangoes.

5. **Fill in the blanks with correct VERBS given in the brackets:** (4×1/2=2)
 - a) One of my sisters' _____ going on a trip to Italy. (is/are)
 - b) Either my shoes or your coat _____ always on the floor. (is/are)
 - c) They _____ good friends. (was/are)
 - d) Ruhi _____ sleeping till 7.00 AM. (is/are)

6. What do you mean by 'feedback' in communication? (2)

7. Fill in the blanks with suitable Preposition given in bracket: (4×1/2=2)
- a) I am proud ___ my son. (to/with/of)
 - b) Please write ___ ink. (with/in/from)
 - c) The Sun sets ___ the west. (in/into/from)
 - d) She is good ___ Mathematics. (in/for/with)
8. Combine the sentences with proper conjunction: (2×1=2)
- a) He worked hard. He failed in the exam.
 - b) The children danced. The piper played a tune.
9. Say whether the following sentence is simple/compound/complex: (4×1/2=2)
- a) She opened the door and went out.
 - b) Man is the maker of his fate.
 - c) As he was blind he could not cross the road.
 - d) The teacher said that the earth moves round the sun.
10. Fill in the blanks with 'a' or 'an' whichever is correct. (4×1/2=2)
- a) My neighbor is ___ European.
 - b) He joined ___ University in US.
 - c) I shall be back in ___ hour.
 - d) ___ elephant is a strong animal.

Part B (4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Read the passage carefully and answer the following questions. (2+2=4)

Florence Nightingale was born at Florence in Italy on 15th May, 1820. Her parents called her after the name of the city where she was born. Her sole ambition in life was to be a nurse and so she gave up all thoughts of marriage and personal happiness. She spent years visiting hospital after hospital. Day and night, she visited every bed in the hospital to see that no patient was neglected and that all were as comfortable as possible. However hard she might have worked all day, every night she would take her lamp and move from bed to bed. 'The lady with the lamp' the soldiers called her and that is the name by which the world has remembered her ever since.

- i. When did Florence Nightingale born?
 - ii. What was Florence Nightingale's sole ambition?
- B. Write a letter to your friend thanking him for sending you a birthday present. (8)

(OR)

- C. Write the other forms of verbs in the space: (4)

	Present	Past tense	Past Participle
i.	BUY		
ii.	KEEP		
iii.	FIND		
iv.	MAKE		

D. Write a letter to the Director of your Institute requesting permission to go on an industrial visit. (8)

12. A. Write a composition on the topic 'Uses of Mobile Phones'. (4)
 B. Write a letter to the principal of your college to grant you two day leave to attend your sister's wedding. (8)

(OR)

- C. Write a short note on Causes and Effects of pollution. (4)
 D. Write a letter to a Sports Firm to order sports items. (8)
 13. A. Point out the Adverbs in the following sentences: (4)
- He is too shy.
 - Your sister is somewhat better.
 - I surely expect him tomorrow.
 - The patient is much worse today.

B. What is communication? Explain its different types. (8)

(OR)

- C. Write a paragraph on 'A Memorable Day in My Life.' (4)
 D. Explain different barriers in communication. (8)

14. A. Answer the following questions: (2+2=4)

- Where were you born?
- What is your ambition?

B. What is spoken communication? Explain its importance. (8)

(OR)

C. Give some tips to ensure successful telephonic interview. (4)

D. Complete the following Dialogue: (8)

Customer: Hello, Mr. Das how are you?

Shopkeeper: _____

Customer: I would like to buy a pen.

Shopkeeper: _____

Customer: Not very costly.

Shopkeeper: _____

Customer: How much does it cost?

Shopkeeper: _____

Customer: OK. I will buy this.

15. A. Convert the following sentences into negative: (4)

- i. Sita cooks food.
- ii. Radha danced well.
- iii. You were happy.
- iv. Mohan plays cricket.

B. Punctuate the following sentences: (8)

- i. What are you reading sita
- ii. Radha said sachin is a good boy
- iii. The teacher says the earth revolves around the sun
- iv. We should be loving caring and responsible citizen

(OR)

C. Identify the type of tenses in the following sentences: (4)

- i. They are playing cricket.
- ii. She has been writing a letter for two hours.
- iii. I met her yesterday.
- iv. He will come tomorrow.

D. Read the passage given below answer the following questions: (8)

Ishwar Chandra Vidyasagar was a man of exemplary character. Though a great scholar, he was not at all proud. On the contrary, he was very modest. He was an extremely dutiful son and cherished great reverence for his parents. On one occasion, while he was a teacher in the college of Fort William, his mother wrote to him to come to home to attend his brother's wedding. He applied to his superior officer for leave, but was refused. He thereupon immediately tendered his resignation, saying that his mother's command was much more important than his service. The officer was impressed by his boldness and granted him leave.

- i. Who was Ishwar Chandra Vidyasagar?
- ii. Point out two outstanding qualities of Ishwar Chandra Vidyasagar?
- iii. What impressed the officer? What did he do then?
- iv. What is the meaning of 'reverence' given in the above paragraph?

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 BARGARH/FULIA/GUWAHATI/JODHPUR/SALEM/VARANASI/CHAMPA/KHTI-GADA/SPKM IIHT VENKATAGIRI
DIPLOMA IN HANDLOOM & TEXTILE TECHNOLOGY
FIRST YEAR EXAMINATION - APRIL/MAY--2022
(REGULATION -2014)

SEMESTER: FIRST YEAR

Course Code & Title: 1.2 APPLIED MATHEMATICS

TIME: 3 HOURS
 MAX.MARKS:80

PART-A

(02x10=20)

Answer the following questions within two or three sentences

- Solve: $\begin{vmatrix} x & 4 \\ 9 & x \end{vmatrix} = 0$
- If $A = \begin{pmatrix} 1 & 3 \\ 3 & 4 \end{pmatrix}$, $B = \begin{pmatrix} 1 & 2 \\ 4 & 3 \end{pmatrix}$. Find $A - B$.
- Find the value of $\sin 40^\circ \cos 10^\circ - \cos 40^\circ \sin 10^\circ$.
- Find $\cos 75^\circ$.
- Find $\frac{dy}{dx}$ if $y = (2x + 5)^3$.
- Find $\frac{dy}{dx}$ if $y = e^{4x} + \sin(x^2 + 5)$.
- Evaluate : $\int \frac{1}{\sqrt{x}} dx$.
- Evaluate : $\int_0^{\frac{\pi}{2}} \cos^9 x dx$.
- Find the distance between the two points if P(3,-1) and Q(-1,1)
- Find the median of the observation 4,7,3,2,5,6,8

PART-B

((4+8)*12=60 MARKS)

Answer all the questions in detail

11. A) Find the value of the determinant $\begin{vmatrix} 1 & 1 & 2 \\ 3 & -4 & 6 \\ 1 & -6 & 2 \end{vmatrix}$ (4)

B) Find the inverse of the matrix $A = \begin{bmatrix} 1 & 0 & 3 \\ 2 & 1 & -1 \\ 1 & -1 & 1 \end{bmatrix}$. (8)

(OR)

C) If $A = \begin{pmatrix} 2 & 3 & 0 \\ 5 & 2 & -1 \end{pmatrix}$, $B = \begin{pmatrix} 3 & -1 & 4 \\ 2 & 6 & 7 \end{pmatrix}$. Find $3A - 2B$. (4)

D) Solve the following using cramer's rule $x + y + z = 2$, $2x - y - 2z = -1$, $x - 2y - z = 1$

(8)

12. A) Prove that $\sin(A + B) \sin(A - B) = \sin^2 A - \sin^2 B$.

(4)

B) If $\tan A = \frac{1}{3}$, $\tan B = \frac{1}{7}$ then prove that $2A + B = \frac{\pi}{4}$

(8)

(OR)

C) Prove that $\cos 3A = 4 \cos^3 A - 3 \cos A$.

(4)

D) If $A+B=45^\circ$, prove that $(\cot A-1)(\cot B-1)=2$. Hence find the value of $\cot(22\frac{1}{2})^\circ$

(8)

13. A) Differentiate $y = e^x \log x$ with respect to x

(4)

B) Find $\frac{dy}{dx}$, if $y = (x^2 - 4)(2x^2 - 7)$.

(8)

(OR)

C) Find $\frac{dy}{dx}$, if $y = ax^2 + b \tan x + 8$

(4)

D) Differentiate $\frac{e^x + \cos x}{1 - \sin x}$ with respect to x .

(8)

14. A) Evaluate $\int x^2 e^x dx$

(4)

B) Evaluate $\int \frac{1}{1 + \sin x} dx$

(8)

(OR)

C) Evaluate $\int (x + 2)(x + 3) dx$

(4)

D) Evaluate $\int \frac{x + 2}{x^2 + 4x - 3} dx$.

(8)

15. A) Solve the following simultaneous linear equation $3x - 5y + 1 = 0$, $x - y + 1 = 0$

(4)

B) Show that the points $(3,5)$, $(6,0)$, $(1,-3)$ and $(-2,2)$ are vertices of a Square .

(8)

(OR)

C) Find the value of 'a', so that $(1,4)$, $(2,7)$ and $(3,a)$ are collinear.

(4)

D) Find the mean of the following frequency distributions

(8)

CI	0-20	20-40	40-60	60-80	80-100
Frequency	15	18	21	29	17

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Diploma in Handloom & Textile Technology

FIRST YEAR EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FIRST YEAR

Time:3 Hours

Course Code & Title : **1.3 Applied Physics(Regulation 2014)**

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . What are the units of Mass, Length and Time in M.K.S & C.G.S system?
- 2 . Give two examples of fundamental physical quantities.
- 3 . What is the pressure coefficient of a gas?
- 4 . What is the relation among pressure, volume and temperature of an ideal gas.
- 5 . Define refractive index.
- 6 . What is time period of an oscillation?
- 7 . State Coulumb's Law of electrostatics. Indentify the symbols used in its expression.
- 8 . State Kirchoff's first Law for electrical circuits.
- 9 . What is an extrinsic semiconductor? Give an example.
- 10 . What is an electronic logic gate?

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Write dimensional formula for Energy and Acceleration. (4)
- B. Write how dimensional analysis is used to derive the relation among physical quantities by giving a suitable example. (8)

(OR)

- C. What are derived physical quantities? Give any two examples of them. (4)
 - D. Check the correctness of the Kinematic relation $v = u + at$ by dimensional analysis. Where symbols v , u , a & t have their usual meaning. (8)
12. A. At constant temperature the volume of a gas changed from 200 cm cube to (4)

600 cm cube. If the initial pressure was 300 cm of Hg then what will be its new pressure?

- B. Derive the ideal gas equation. (8)

(OR)

- C. Explain volume coefficient of expansion of a gas. (4)

- D. State & explain Boyle's Law and Charles's Law for a gas in a container. (8)

13. A. In a total internal reflection, the critical angle was 60 degrees. Calculate the refractive index of the denser medium with respect to the rarer medium. (4)

- B. With a neat diagram explain the image formation in a simple microscope. (8)
Derive the expression for the magnification produced in it.

(OR)

- C. If the refractive index of glass with respect to air is 1.5 then what is the refractive index of air with respect to glass? (4)

- D. Derive the expression for the Refractive index of the material of a transparent prism by using minimum deviation method. (8)

14. A. State and explain Ohm's law for electrical conduction in a material. (4)

- B. Derive the expression for collective capacity of a system of capacitors connected in parallel to each other. (8)

(OR)

- C. Two resistances of 4 ohm and 8 ohm are connected in parallel. Find the equivalent resistance of the combination. (4)

- D. Explain the working of Wheatstone bridge to find an unknown resistance. (8)

15. A. Differentiate conductors from semiconductors using energy band theory. (4)

- B. Explain the construction and working of a half-wave rectifier with diodes. (8)

(OR)

- C. Write the truth table of "OR" logical operation. Draw its electronic symbol. (4)

- D. Explain the construction and working of a PNP transistor. (8)

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Diploma in Handloom & Textile Technology

FIRST YEAR EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FIRST YEAR

Time:3 Hours

Course Code & Title : **1.4 Applied Chemistry**

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Define hardness of water. Mention its unit.
- 2 . State the role of catalyst in a chemical reaction. Mention its types.
- 3 . Give any two uses of Caustic soda and write its chemical formula.
- 4 . What is Autocatalysis? Give one example.
- 5 . Write the chemical formula of Glauber's salt and Bleaching Powder.
- 6 . What are the uses of bleaching powder?
- 7 . What is Esertification reaction?
- 8 . Write chemical structure of Aniline and Benzene.
- 9 . What are polysaccharides? Give one example.
- 10 . What is Polymerization?

PART-B

{(4+8) ×5=60 Marks}

Answer all the questions in detail

11. A. What are the disadvantages of hard water? (4)
B. Explain the process of softening of hard water using Permutit and Clark's process. (8)
- OR**
- C. What are oxidising and reducing agents? Give two examples of each. (4)
D. What is soft water? Explain the Calgon process of water softening. (8)
12. A. What will happen when Glauber's salt reacts with dilute acid? Write any two uses of HCl. (4)
B. Elaborate the properties and uses of sodium hydroxide. (8)
C. What are the uses of bleaching powder? (4)

D. Describe the properties and uses of Sodium hydrosulphite. (8)

13. A. Write about the manufacturing process of sodium hypochlorite. (4)

B. Explain the properties and uses of Rongalite-C (8)

OR

C. Explain the manufacturing of H_2O_2 by electrolytic process. (4)

D. Write about the physical and chemical properties of bleaching powder. (8)

14. A. What is addition reaction? Give any two example (4)

B. What is diazotization? Mention the chemical properties and uses of Naphthalene. (8)

OR

C. Write the chemical reaction for hydrolysis of esters by acid and base respectively. (4)

D. Explain physical and chemical properties of benzene. (8)

15. A. What are oligosaccharides? How can it be further classified? (4)

B. Write the chemical structure and uses of Nylon and wool. Explain the type of polymerization on the basis of their structure? (8)

OR

C. Write the chemical formula and uses of glucose and fructose. (4)

D. Differentiate between Addition polymerization and Condensation polymerization with suitable example. (8)

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Diploma in Handloom & Textile Technology

FIRST YEAR EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FIRST YEAR

Time:3 Hours

Course Code & Title : **1.5 FIBRE & YARN TECHNOLOGY**

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1) Define textile fibre.
- 2) Name two natural fibres and its source.
- 3) State objectives of draw frame.
- 4) Define term 'Tyre cords'.
- 5) Define degumming of silk.
- 6) What is scouring process in woollen yarn manufacturing?
- 7) Write two end uses of ring spun yarn.
- 8) What is Open End Spun yarn?
- 9) What are the objectives of manufacturing blended yarn?
- 10) Define knitting.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

- 11) a) What are the objectives of carding and combing in cotton spinning process? 4
b) Compare manufacturing process of carded yarn and combed yarn. 8

OR

- c) Write any four physical properties of wool fibre. 4
d) Draw the flow chart diagram showing the classification of textile fibre. 8
- 12) a) Write the main properties and uses of viscose rayon fibre. 4
b) Explain the production process of polyester fibres with help of flow chart diagram. 8

OR

- c) Write the properties and uses of Nylon - 6. 4
d) Explain the production process of Nylon - 66 with the help of neat flow chart diagram. 8
- 13) a) Write the life cycle of silk worm with neat diagram. 4
b) Explain the manufacturing process sequence of spun silk yarn. 8

OR

- c) What are the basic difference between woollen yarn & worsted yarn? 4
d) Explain in details the manufacturing process of worsted yarn. 8
- 14) a) Discuss in brief about the 'Basic principle of yarn formation' in open end spinning process

b) Compare the manufacturing process of the ring spun yarn with open – end spun yarn. 8

OR

c) Discuss in brief the process of manufacturing yarn in Friction spinning technology. 4

d) Explain air jet spinning process with neat sketch. 8

15) a) Explain briefly classification of knitted fabrics. 4

b) Write short notes on

(i) Textured yarns.

(ii) Crepe yarn. (4+4=8)

OR

c) Write short notes on non-woven fabric. 4

d) Explain in details about manufacturing process of Garments. 8

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Diploma in Handloom & Textile Technology

FIRST YEAR EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : **FIRST YEAR (BACK PAPER)**

Time:3 Hours

Course Code & Title : **1.6 Weaving Technology and Textile Calculations I**

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Draw a schematic diagram of Cone and Cheese packages.
- 2 . What are the objectives of sizing process?
- 3 . What are the functions of reed in a handloom?
- 4 . What are the secondary and tertiary motions in weaving?
- 5 . Write the advantages of bamboo reed in handloom weaving process.
- 6 . List any four types of shuttle and their suitability in Handloom weaving.
- 7 . Calculate the weight of yarn in pounds of 816 hanks of 60^s Ne cotton yarn.
- 8 . How many bundles can be made from 2760 hanks of 12s cotton yarn?
- 9 . What is the conversion formula for converting Ne into Nm and Ne to Denier?
- 10 . What is the conversion formula for converting Tex to Denier and Tex to Ne?

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Enlist the characteristics of a Good warping. (4)
B. With suitable diagram, explain the process of peg warping. (8)
- (OR)
- C. Enumerate the qualities expected from the ideal sizing process. (4)
D. What are the ingredients used in sizing? List out their functions. (8)
12. A. Explain the role of various primary motions in handloom weaving process. (4)
B. With a simple sketch, explain the functions of heald, reed, temple and picker (8)
in a handloom weaving process.

(OR)

- C. Explain any one type of heald reversing motion with suitable sketch. (4)
- D. Explain the different types of shed with its advantages and disadvantages. (8)
13. A. Compare the beat-up process during closed shed and open shed. (4)
- B. With suitable diagram, explain the process of pocker rod and ratchet wheel take-up mechanism. (8)

(OR)

- C. Explain the rope lever and weight mechanism of let-off mechanism. (4)
- D. Explain the various auxiliary motions of a handloom. (8)
14. A. What would be the weight of yarn in gram of 180 kilometers of 24s N_f Cotton yarn? (4)
- B. The weight of 960 meters of cotton yarn is 20 gram, find the count of yarn in N_e and N_f system (8)

(OR)

- C. The weight of 600 yards length of yarn is 12 gram. Find out the count of yarn in worsted system. (4)
- D. i. The count of 300 yards of yarn was found to be 60s Worsted. Find out its weight in grains. (8)
- ii. The weight of a 32s worsted yarns was found to be 157 grains, find out its length in meters.
15. A. Derive the Count conversion formula to convert New English System to metric System (4)
- B. Convert 60 s N_e cotton count into the following system (8)
- i. Tex ii. Denier iii. Spun silk iv. N_f

(OR)

- C. Derive the Count conversion formula to convert New English System to denier System (4)
- D. Derive the Count conversion formula to convert (8)
- i. Metric count to N_f System ii. New French cotton count to Spun Silk

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Diploma in Handloom & Textile Technology

FIRST YEAR EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : 1ST YEAR

Time:3 Hours

Course Code & Title : **1.7 FABRIC STRUCTURE-I**

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Name any 2 fabrics for which Catch Cord System is necessary.
- 2 . Name any 4 derivatives of plain weave.
- 3 . 2/4, 1/5, 3/1, 2/3 twill weaves – Classify them as warp face & weft face twill weaves.
- 4 . How many heald shafts are required to produce diamond & wavy twill along the cloth combined twill.
- 5 . What are the 02 different weaves used in dice check.
- 6 . Construct 4 thread irregular satin.
- 7 . Which weave is forming cell formation on both side of the cloth.
- 8 . Name any 02 weaves suitable for toweling fabrics.
- 9 . Name any 02 colour & weave effect.
- 10 . Construct weft Cork Screw Weave on 5 X 5.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Explain with neat sketch graphical representation of structure of woven fabrics. (4)
 - B. What are the different methods of ornamenting a plain weave. (any 08 points) (8)
- (OR)**
- C. Explain classification of woven fabrics. (4)
 - D. Construct 2 X 4 warp rib, 6 X 2 weft rib, 6 X 6 stitched mat weave and 6 X 6 basket weave. (8)

12. A. Name any 08 weaves constructed on twill base. (4)
B. Construct design, draft, peg plan and tie up for wavy twill across the cloth with 3 up 3 down twill as a base. (8)

(OR)

- C. What is the difference between wavy twill across & along the cloth.(4 points) (4)
D. Construct design, draft, peg plan and tie up for broken twill on 10 X 10. (8)

13. A. What is the difference between sateen & satin.(4 points) (4)
B. Construct design, draft, peg plan and tie up for twill dice check on 8 X 8. (8)

(OR)

- C. What is the difference between diamond & diaper.(4 points) (4)
D. Construct any 02 possible sateen designs on 8 threads. (8)

14. A. What is the difference between Mock Leno & Huck a Back.(4 points) (4)
B. Construct Brighton Honey Comb Weave on 12 X 12. (8)

(OR)

- C. What is the difference between Honey Comb & Brighton Honey Comb.(4 points) (4)
D. Construct Mock Leno Weave on 10 X 10. (8)

15. A. Construct sponge weave. (4)
B. Construct warp (or) weft Cork Screw Weave on 11 X 11. (8)

(OR)

- C. Construct crepe weave. (4)
D. Make colour & weave effect with the following particulars. (8)

Weave : 3 up 3 down twill weft way

Warp colour pattern : 1 dark 1 light 1 dark

Weft colour pattern : 1 dark 1 light 1 dark

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : THIRD SEMESTER

Time:3 Hours

Course Code & Title : 3.1 Weaving Technology & Textile
Calculations -II

Maximum Marks:80

PART - A

Answer all the questions within two or three sentences:

(2x10=20 Marks)

1. Name the device used in handloom to maintain the fabric width. Give one example.
2. Which type of handloom is preferable for light weight fabrics?
3. What are the objectives of pirn winding?
4. Name any four important fabrics woven in frame loom.
5. What is the dwell period of tappet?
6. Name the wheel used in 7 wheel take up motion of which not used in 5 wheel take up motion.
7. What is the resultant count of $2/20^s$ cotton yarn?
8. Calculate the ends per inch in the reed if the denting order is 2 ends per dent and 3 ends per dent alternate and count of reed is 40^s ST.
9. Why cloth width is lesser than the warp width in reed?
10. Name the wheels involved in a simple gear.

PART - B

Answer all the question in details:

(4+8) x5= 60 Marks

11. a) Write down the advantages of fly shuttle pit loom over a primitive loom.
b) Prepare a layout for accommodating 50 frame looms and also explain the minimum facilities required for Industrial handloom unit.

OR

- c) Brief the importance of tension maintained in warp / cloth in handloom weaving.
d) With a neat sketch, explain the working of barrel dobbie.
12. a) Discuss the merits and demerits of early shedding and late shedding.
b) Write a brief note on loom motions of a plain power loom.

OR

- c) What are the types of creels used in warping?
d) What is meant by the term 'Reversing Motion'? With suitable line sketch, explain the working principle of single acting Reversing Motion.
13. a) Compare over pick and under pick mechanism.
b) With a neat sketch explain the working of cone over pick mechanism.

OR

- c) Discuss the merits and demerits of early picking and late picking.

- d) With a neat sketch explain the working principle of chain, lever and dead weight let – motion in plain power loom.
14. a) Calculate the count of 3 folded cotton yarn composed of 10^s , 15^s and 20^s .
- b) A warp is composed of 20^s , 30^s and 40^s Ne cotton yarn of the following weight:
- | | | |
|-------------|---|---------|
| 20^s yarn | : | 1 pound |
| 30^s yarn | : | 3 pound |
| 40^s yarn | : | 2 pound |
- Calculate the average count

OR

- c) Calculate the count of 2 folded Nylon yarn if the count of its 2 component threads 28 denier and 30 denier.
- d) Calculate the total numbers of ends of the following particulars:
- | | | |
|---------------|---|--|
| Count of Reed | : | 40^s ST |
| Ends per dent | : | 2 |
| Reed with | : | 52 inch (Including selvedge) |
| Selvedge | : | $\frac{1}{2}$ inch on both side drawn 4 ends per dent. |
15. a) Write a brief note on simple spur gear.
- b) A spur gear M of 80 teeth drives another spur gear N having 40 teeth through a career wheel of 75 teeth. If the gear M makes 40 rpm, what is the speed of gear N?
- OR
- c) If a line shaft of a weaving shed makes 130 rpm. The diameter of the line shaft drum is 14 inches. If the diameter of loom pulley is 10 inches, find out the rpm of the loom.
- d) A wheel of A 40 teeth is driven by a wheel B of 60 teeth. A wheel C of 100 teeth is fixed on the other end of a shaft in which wheel B is fixed. The wheel C is driven by a wheel D of 30 teeth, fixed on a shaft making 320 rpm. Find out the speed of wheel A.

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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

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : THIRD SEMESTER

Time:3 Hours

Course Code & Title : - **3.2 FABRIC STRUCTURE-II**

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . What is distorted thread effect?
- 2 . Name any two suitable weave combination to produce prominent check effect.
- 3 . Classify Bedford cord weave.
- 4 . Why Wadding threads are used in Bedford cord weave?
- 5 . Differentiate between Loose back Pique and Fast back Pique?
- 6 . In which weave horizontal cord effect is produced.
- 7 . ~~The Differentiate between tubular cloth and 2 ply cloth?~~
- 8 . How many minimum shuttles are used for producing double width cloth?
- 9 . Mention two types of interchanging double cloth.
- 10 . Mention two purpose for producing wadded double cloth.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Construct a stripe design using 5 end satin and 2/3 twill weave combination, also indicate the draft and peg plan. (4)
- B. Construct Warp distorted thread effect in 18 x 18 repeat size. Also indicate the Draft and peg plan. (8)
- (OR)
- C. Combine the 8 x 8 honey comb and plain weave to form check effect. Indicate the draft & peg plan. (4)
- D. Construct Weft distorted thread effect in 14 x 14 repeat size. Also indicate the Draft and peg plan. (8)
12. A. Construct a Crepon Bedford cord. Also indicate the draft and peg plan. (4)
- B. Construct Wadded Twill face Bedford cord. Also indicate the draft and peg plan thread interlacement diagram. (8)
- (OR)
- C. Show the difference between Regular and alternate pick principle Bedford cord design. (4)
- D. Construct Wadded Plain face Bedford cord. Also indicate the draft and peg plan thread interlacement diagram. (8)

13. A. Differentiate Welt and Pique Weave. (4)
 B. Construct fast back wadded welt structure in repeat 6 x 24 with 6 wadding picks per repeat. Also indicate the draft and peg plan thread interlacement diagram. (8)
- (OR)**
- C. Construct Loose back welt structure 6 x 10. (4)
 D. Construct a pique design on 24 x 20 by suitable motif 8 x 10 (8)
14. A. Classify Double cloth with proper diagrams. (4)
 B. Construct 3/1 twill Double width cloth and indicate the required Draft, peg plan, and thread interlacement diagram. (8)
- (OR)**
- C. Construct plain Tubular cloth and indicate the required Draft and peg plan, tie-up plan and thread interlacement diagram. (4)
 D. Construct a center warp stitched double cloth as per the following particular (8)
 Face Weave: 2/4 Twill; Back Weave: 3/3 Twill; Repeat Size: 13 x 12.
15. A. Construct a weft wadded double cloth by using 2/2 twill weave for both face and back cloth. (4)
 B. Construct cloth interchange plain double cloth for check effect; Face weave 2/4 Twill and back Weave 3/3 Twill. (8)
- (OR)**
- C. Explain warp wadded double cloth using 3/1 Twill weave for both face and back cloth. (4)
 D. Explain the construction of stripe effect and cross over effect in thread interchanging double cloth using plain weave in both face and back fabric. (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : THIRD SEMESTER

Time:3 Hours

Course Code & Title : **3.3 Chemical Processing of Textiles-1**

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Draw the morphological structure of cotton.
- 2 . List the merits of Enzyme Desizing.
- 3 . Short note on Auxochrome and chromophore.
- 4 . How will you analyze the bleaching efficiency?
- 5 . List the auxiliaries used in Azoic dyeing process.
- 6 . Mention the chemical properties of sulphur dyes.
- 7 . Define Vatting.
- 8 . Write the reduction process recipe for vat dyes.
- 9 . State about hydrolysis in reactive dyeing process.
- 10 . How salt play a major role in reactive dyeing process?

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Discuss about Shearing and Cropping process. (4)
B. Explain the need for preparation of grey goods for dyeing process. (8)
- (OR)**
- C. Compare the Hypochlorite and Hydrogen peroxide bleaching. (4)
D. Explain in details about various types of desizing process. (8)
12. A. List the banned dyes and explain the reason. (4)
B. Illustrate the working principle of yarn singeing with a neat sketch. (8)

(OR)

- C. Describe the basic concepts involved in the dyeing process. (4)
- D. Explain the working of Kier with neat diagram also write merits and demerits of Kier. (8)
13. A. Explain the effect of M:L ratio for various dyeing process. (4)
- B. Discuss in detail about effect of electrolyte and temperature in dyeing process. (8)
- (OR)**
- C. Explain the functions of chemicals used in azoic dyeing process. (4)
- D. Illustrate the various after treatments carried out for direct dyeing process. (8)
14. A. Classify the vat dyes based on the application. (4)
- B. Explain in detail about dyeing of cotton with Vat dyes. (8)
- (OR)**
- C. Compare the properties of Vat and Solubilized vat dye. (4)
- D. Illustrate the dyeing process of cotton with solubilized vat dyes. (8)
15. A. Compare continuous & exhaust method of reactive dyeing process. (4)
- B. Discuss the dyeing procedure for vinyl sulphone reactive dyes. (8)
- (OR)**
- C. Describe the process conditions applicable for reactive dyeing. (4)
- D. Explain in detail about application procedure for bi-functional reactive dyes. (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : THIRD SEMESTER

Time:3 Hours

Course Code & Title : **3.4 MATERIAL SCIENCE & ENGINEERING MECHANICS**

Maximum Marks:80

PART-A

Answer all the questions within two to three sentences

(2×10=20 Marks)

- 1 . What are the names of Ferrous and Non Ferrous Metals?
- 2 . Write down composition of Gun Metal.
- 3 . Define Laws of Triangle of Forces.
- 4 . What are Scalar quantities and give some examples of Scalar quantities?
- 5 . Define Stress and write its SI units.
- 6 . Define Hooke's Law.
- 7 . What are the different types of welding?
- 8 . Define Friction.
- 9 . Write down the advantages of planning Machine.
- 10 . Write down any two power transmitting devices.

PART-B

Answer all the questions in detail

(4+8) ×5=60 Marks

11. A. Explain any two defects in Timber. (4)
- B. What are Plastics and explain its types. (8)

(OR)

- C. What are non ferrous metals and explain briefly explain aluminum and its applications. (4)
- D. Discuss the structure of wood with neat sketch. (8)

12. A. State and prove Lami's Theorem. (4)
- B. State the Newton's three law of motion with suitable examples. (8)

(OR)

- C. What is law of conservation of momentum and explain with examples. (4)
D. Explain the three stages of Equilibrium. (8)

13. A. Differentiate Elasticity and Plasticity. (4)
B. If a crane lifts a mass of 150 kg to a height of 50 m in 20 KW power. Calculate the time required. (8)

(OR)

- C. What is Young's Modulus and why is it important? (4)
D. An object has a kinetic energy of 600 J and a mass of 25 kg. Calculate the velocity of an object. (8)

14. A. Differentiate between Soldering and Brazing. (4)
B. Explain the different parts of a lathe with diagram. (8)

(OR)

- C. What is the difference between Smithy and Forging? (4)
D. Explain the Arc Welding Process with neat sketch. (8)

15. A. Define coefficient of friction. (4)
B. Find the speed of shaft driven with the belt by an engine running at 150 rpm, diameter of the engine pulley is 58 cm and that of shaft is 25 cm. (8)

(OR)

- C. Differentiate between open and cross belt drive. (4)
D. Describe the three classes of levers with diagrams. (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FOURTH SEMESTER

Time:3 Hours

Course Code & Title : **4.1 WEAVING TECHNOLOGY &
TEXTILE CALCULATIONS-III**

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Which mechanism of the power loom helps to avoid the impact of shuttle trap inside the shed? Give its classification.
- 2 . Write the working principle of double lift doobby
- 3 . Which mechanism of automatic power loom is used for weft mixing?
- 4 . How to differentiate automatic power loom with ordinary power loom?
- 5 . Why the production planning is so important in mill warping?
- 6 . Write the formula for calculating the efficiency of a mill warping machine.
- 7 . Write the formula for calculating percentage of size on warp.
- 8 . Calculate the total number of sections of a sectional warp comprising 3000 ends. The creel capacity of sectional warper is 500.
- 9 . Calculate production per hour in yards of a loom running at a speed of 300 rpm with an efficiency of 80 percent. The number of pick inserted per inch in the cloth is 80?
- 10 . Find out the calculated production of a cone winder, if the actual production is 1400 meter/minute and efficiency is 80%.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Compare the features of different types of weft detection motions? (4)
 - B. Explain the working of a loose reed mechanism with a neat sketch. (8)
- (OR)**
- C. Draw the diagram of pegged lattices suitable for Right handed & Left handed climax doobby by taking 1 up 2 down twill? (4)

D. Explain the working of a side weft fork mechanism with neat sketches. (8)

12. A. Compare the features of different types of weft replenishment mechanisms? (4)

B. Explain the working of mechanical warp stop motion with neat sketches. (8)

(OR)

C. What are all the features required for an automatic power loom? (4)

D. Explain the working and mechanism of drop box mechanism with neat sketch (8)

13. A. A beam warping machine runs at a speed of 120 RPM and its drum diameter is 24". (4)
If the efficiency is 80% what is the length of warp prepared per day of 8 hours in yards?

B. A super speed beam warper with a warping speed of 960 yards per minute is (8)
preparing a standard warp of 600 ends. If the count of the yarn is 40^s cotton and the overall efficiency is 84%, calculate the following. The length of warp on each beam is required to be 48384 yards. Ignore waste

- i. Total length of warp produced per day of 8 hours in yards
- ii. Number of beams produced per day of 8 hours
- iii. The total weight of yarn in pounds warped per day of 8 hours
- iv. The weight of warp on a beam?

(OR)

C. Calculate the 'beam count' of a warpers beam which weighs 360 pounds and has (4)
14000 yards of warp on it. The total number of ends in the warp is 420 and the weight of the empty beam is 60 pounds.?

D. A set of 6 back beams, each containing 32,000 meters of warp is to be produced on (8)
3 high speed warping machines. If the calculated rate of warping in meter per warper per minute is 480 and the efficiency is 80 percent, calculate the time required for preparing the set?

14. A. A warp containing 3000 ends of 60^s Ne count is sized to 10%. If the sized warp (4)
weigh 150 lbs, calculate the length of sized warp.

B. A stripe warp has 40 stripes of 40 ends each, 40 extra pattern ends on each side (8)
near selvedge and selvedge ends 14 on each side. Find the number of sections and the number of ends on each sections. The creel capacity is 500 bobbins.

(OR)

- C. The calculated rate of production of a slasher sizing machine was found to be 22000 yards per hour. Find out the efficiency of a slasher, if the actual production is 280 meter per minute. (4)
- D. A warp containing 2600 ends is required to be sized to 20%. The length of the sized warp on the beam is required to be 1200 yards. If the count of warp is 60^s cotton, Calculate: (8)
- i) The weight of size to be put on warp of the given length
 - ii) The weight of sized warp
 - iii) The count of sized warp yarn.
15. A. Calculate the time required in hours to wind 500 Kgs of 10^s cotton yarn on 10 drums. The calculated production per drum per minute is 600 yards and the efficiency is 75%? (4)
- B. A weaving shed contains looms of the following particulars: (8)
- 140 looms of 34 inch reed space
 - 220 looms of 36 inch reed space
 - 180 looms of 40 inch reed space
 - 50 looms of 48 inch reed space
- What is the average reed space of the loom shed?

(OR)

- C. The time taken for winding a full pirn on a super speed automatic pirn winding machine without any stoppages is 3 minutes. The weight of the yarn on the pirn is 60 gms and the count of the yarn is 30 Tex. Calculate the actual production of a machine with 6 spindles per day of 8 hours, if the efficiency is 80%.? (4)
- D. A cloth is to be woven with 40 picks per cm on a loom having a rpm of 300. The total length of warp on the beam is 1200 metres and the warp take up in weaving is 5 percent. If the efficiency of the loom is 80 percent, calculate the time required to weave the warp on the loom beam. Take 6 meters as waste of warp? (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FOURTH SEMESTER

Time:3 Hours

Course Code & Title : **4.2 FABRIC STRUCTURE-III**

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . What is the end uses of treble cloth.
- 2 . Draw thread interlacement diagram for Treble Width Cloth.
- 3 . Names 02 types of wadding.
- 4 . How many ends and picks are required to construct Imitation Weft Backed Cloth with 3 up 3 down twill 2:1 style.
- 5 . Construct 3 pick non reversible terry pile.
- 6 . Write the possible ratios of ground & pile warp to produce terry fabric.
- 7 . Cut piles are called true pile, why.
- 8 . Where the twin shed formation technique is used.
- 9 . How many looms are required for weaving Chenille pile carpet.
- 10 . What is the specialty of Corded velveteen.

PART-B

(4+8)×5=60 Marks

Answer all the questions in detail

11. A. Name the 04 methods of stitching used to make treble cloth. (4)
- B. Construct design, draft and peg plan for 6 thread reversible warp backed cloth. (8)

(OR)

- C. Differentiate between double cloth & treble cloth.(4 points) (4)
 - D. Construct treble cloth with suitable stitching by taking 3 up 3 down twill for face, 4 up 2 down twill for center and 2 up 4 down twill for back. (8)
12. A. Differentiate between Warp backed cloth & Weft backed cloth.(4 points) (4)

- B. Construct design & interlacement diagram for 8 thread warp backed cloth with weft wadding. (8)

(OR)

- C. Construct design & interlacement diagram for Imitation weft backed weave on 17 X 17 (2:1) style. (4)

- D. Construct design & interlacement diagram for 8 thread weft backed cloth with warp wadding. (8)

13. A. Define neat sketch reversible & non reversible terry pile. (4)

- B. Explain in detail method of production of 3 pick terry with neat sketch. (8)

(OR)

- C. Draw the design & interlacement diagram 6 pick terry weave pile on one side. (4)

- D. Construct design, draft, peg plan & interlacement diagram a terry weave to produce 2 colour check effect with 3 pick reversible terry. (8)

14. A. Differentiate between warp pile & weft pile.(4 points) (4)

- B. Explain with neat sketch production technique of velvet fabric pile produced with aid of wire. (8)

(OR)

- C. Define Cut pile, Loop pile, Terry pile and Plush pile. (4)

- D. Explain with neat sketch simultaneously insertion of pick & wire. (8)

15. A. Explain the production technique of chenille pile with neat sketch. (4)

- B. Construct design, draft, peg plan and interlacement diagram (before cutting & after cutting) for corded velveteen on 12 X 10. (8)

(OR)

- C. Construct design and interlacement diagram (before cutting & after cutting) for plain back velveteen on 10 X 12 (4)

- D. Explain in details production technique of velveteen fabric. (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FOURTH SEMESTER

Time:3 Hours

Course Code & Title : **4.3 Chemical Processing of Textiles – II**

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Define boiled off.
- 2 . Write the chemical composition of silk.
- 3 . Write the objectives of Decatising.
- 4 . Define crabbing process.
- 5 . Differentiate between Acid dye and premetalised Acid dye?
- 6 . Why metal complex dyes are preferred to chrome dyes?
- 7 . Write the working principle of Hydro – Extractor.
- 8 . Why jigger is not preferred for processing of knitted fabrics?
- 9 . Give any two examples of mordants used for natural dyes dyeing.
- 10 . Name five harmful chemicals.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Draw a neat diagram showing morphological structure of silk & mention various important parts. (4)
 - B. Explain the various methods of Degumming silk in detail. (8)
- (OR)**
- C. Define felting of wool. (4)
 - D. Explain Scouring of wool by using Dolly Scouring machine. (8)
12. A. Write the objects of setting process for woollen materials. (4)
 - B. Explain bleaching of wool using Hydrogen peroxide with suitable recipe. (8)

(OR)

- C. Describe potting process of woolen material. (4)
- D. Compare crabbing and Decatising process. (8)

13. A. How to classify acid dyes. (4)
- B. Explain the dyeing of silk with acid dye and write the function of used chemicals. (8)

(OR)

- C. Write the advantage of 1:2 metal complex dyes. (4)
- D. Explain the selection of Reactive dyes for wool fibre and write its dyeing procedure in detail. (8)

14. A. List out the common machines used for wet processing of Textiles? (4)
- B. Explain the working of cabinet Hank dyeing machine in detail. (8)

(OR)

- C. Why winch dyeing machine is mostly used for dyeing of finer & delicate fabric? (4)
- D. Explain the working of Jigger dyeing machine with neat diagram. (8)

15. A. What is a grey scale standard? (4)
- B. Explain how the washing fastnesses of dye fabric are determined? (8)

(OR)

- C. Write any four draw backs of Natural dyes. (4)
- D. Explain in detail the criteria for selection Natural dyes. (8)

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SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : **FOURTH SEMESTER**

Time:3 Hours

Course Code & Title : **4.4 & Ecology & Pollution Control in Textile Industry**

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Write any four sources of radioactive pollution.
- 2 . Define soil pollution.
- 3 . Write the air quality standard in India.
- 4 . Define primary and secondary air pollutant. Give an example.
- 5 . Write any four sources of wastewater in textile industries.
- 6 . Give the full form of SS, TDS, and DO.
- 7 . What is coagulant? Write the any two coagulating reagents.
- 8 . What is sludge?
- 9 . Define noise pollution. Give the unit used to measure noise level.
- 10 . Define Eco-Standards.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Explain global warming and its consequences. (4)
 - B. Explain the various types of pollution in textile industry. (8)
- (OR)**
- C. Write briefly about acid rain and its effects on human being and environment. (4)
 - D. What are the different segments of environment? (8)
12. A. Name any four air pollutants and explain their effects on human being and environment. (4)
 - B. Explain the air quality standards for indoor and outdoor air pollutants. (8)

(OR)

- C. Define air pollution. Explain the types of air pollutant with examples. (4)
- D. Give the various sources of air pollution in textile industry. (8)
13. A. What are steps to reduce water consumption in textile industry? (4)
- B. Give the characterization of water from textile industries (SS, TDS & DO). (8)
- (OR)**
- C. How will you determine BOD & COD? (4)
- D. Explain the various sources of wastewater in textile processing. (8)
14. A. Write a short note on activated sludge treatment. (4)
- B. What are the methods of removal of colour from dye house effluent? Explain them. (8)
- (OR)**
- C. Give the tolerance level of effluent in wet processing of textile. (4)
- D. Briefly describe the design and working of effluent treatment plant. (8)
15. A. Give the objectives of ISO 14000. (4)
- B. Define noise pollution. Explain the ill effect and control measures of noise pollution. (8)
- (OR)**
- C. Write short notes on Eco-Labels for textile. (4)
- D. Explain the new challenges towards achievements of rigid standard in textile effluents. (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FOURTH SEMESTER Time:3 Hours

Course Code & Title : **4.5 Professional Ethics & Personality Development.** Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Define 'Professional Ethics'.
- 2 . Why is integrity of an employee important in an organization?
- 3 . What is 'Moral Dilemma'? Give one example.
- 4 . What is the meaning of Work place Spirituality?
- 5 . Explain the term 'Consensus' and 'Controversy'.
- 6 . Differentiate between 'Risk' and 'Safety'.
- 7 . Define 'Code of Ethics'.
- 8 . What is meant by perception?
- 9 . Explain the term 'SMART' goals.
- 10 . What is the difference between 'Listening' and 'Hearing'?

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Write short notes on: (4)
(i) Civic virtue (ii) Roles of Employee in an organization.
 - B. What are the different types of Ethics? Explain each one in detail. (8)
- (OR)**
- C. Explain the term Service learning. Bring out any four important characteristics of service learning. (4)
 - D. What is profession? Explain the six characteristics that a professional must possess in order to be successful. (8)

12. A. How does a positive workplace create a Win-Win situation for both the employer and the employees? (4)

B. Write short notes on: (8)

(i) Humility and Empathy (ii) Respect of self and Respect for others.

(OR)

C. What are the character traits required for Self-Development and growth of an individual? (4)

D. What is "Moral Autonomy"? What are the factors influencing Moral Autonomy? What are the skills to improve Moral Autonomy? (8)

13. A. Explain relationship between 'Law' and 'Ethics' with a suitable example. (4)

B. Explain the levels of moral development proposed by Lawrence Kohlberg and Carol Gilligan. (8)

(OR)

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

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

14. A. What are the Internal and External set factors that affect perception? (4)

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

(OR)

C. Explain the steps towards active Career Planning. (4)

D. Explain the steps that one can take to achieve Self-Development. (8)

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

B. Define communication. Explain the model of communication process. (8)

(OR)

C. Write few tips to improve memory. (4)

D. 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

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FIFTH SEMESTER

Time:3 Hours

Course Code & Title : **5.1 Weaving Technology & Textile Calculations -IV**

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 Write the objective of relay nozzle in air jet weaving.
- 2 Write the difference between shuttleless looms and shuttle looms in respect of depth of shed.
- 3 What is "Pitch" of jacquard?
- 4 Write the number of hooks and needles for Double lift double cylinder jacquard to weave a pattern on 400 ends.
- 5 Write the advantages of Inverted Hook jacquard.
- 6 Write the name of fabric produced by self twilling jacquard.
- 7 Calculate the diameter of 40s cotton yarn using pierce formula.
- 8 If the diameter of worsted yarn is 1/80 inch, find out the count of yarn.
- 9 Define cloth cover and cover factor.
- 10 Write the formula for maximum setting of cloth.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Explain the shed formation technique in multiphase looms. (4)
- B. Explain the weft insertion technique of Projectile loom with neat diagram. (8)

(OR)

- C. Write the parameters on which weft insertion time depends in Air jet looms. (4)
 - D. Explain the weft insertion technique of Water jet loom with neat diagram. (8)
12. A. Compare between the single lift single cylinder and double lift double cylinder jacquard (4)

- B. Explain the working principle of double lift double cylinder jacquard with neat diagram (8)

(OR)

- C. Write the working principle of open shed jacquard mechanism. (4)

- D. Explain the working principle of double lift single cylinder jacquard with neat diagram. (8)

13. A. Write the working principle of leno jacquard briefly. (4)

- B. Explain the mechanism and working principle of self twilling jacquard. (8)

(OR)

- C. Write short notes on inverted hook jacquard. (4)

- D. Explain the mechanism and working principle of cross border jacquard. (8)

14. A. Calculate the count of the yarn in Ne cotton system having 1/160 inch diameter. (4)

- B. Calculate the diameter of the following yarn using Ashen Hurst's formula. (8)

- i) 60s cotton yarn, ii) 60s worsted yarn, iii) 3/60s cotton,
iv) 2/120s cotton yarn

(OR)

- C. Write short notes on Pierce's formula for estimation of diameter of yarn. (4)

- D. Find the diameter of the following yarns using Pierce formula (8)

- i) 30s linen, ii) 40s worsted yarn, iii) 36s cotton yarn, iv) 30 denier metric silk yarn

15. A. Establish the following equation : Cover factor $K = \frac{n}{\sqrt{N}}$ where 'n' is threads per inch and 'N' is count (4)

- B. Calculate the warp cover and weft cover in percentage for a fabric woven with following particulars. (8)

Count of warp – 60s Ne cotton ends per inch -72

Count of weft – 50s Ne cotton picks per inch- 60

Weave- plain

(OR)

- C. Find out the maximum setting for a warp of 60s cotton yarn that can be woven into a plain square cloth. (4)

- D. Compare the relative closeness of warp yarns in the following two plain clothes. (8)

i) warp: 20s cotton; 60 ends per inch

ii) warp: 30s cotton : 80 ends per inch

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FIFTH SEMESTER

Time:3 Hours

Course Code & Title : **5.2 FABRIC STRUCTURE - IV**

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

1. Why two warp beams are necessary to produce an extra warp figure?
2. Name two products produced with extra weft figuring principle.
3. What is the beaming technique used for weaving Patent Satin fabric?
4. Differentiate between reversible & non-reversible Tapestries?
5. What is the purpose of using different count of graph paper in figured design?
6. What are the two different jacquard set ups used for weaving figured double cloth?
7. How can the four different coloured effect be produced in double cloth?
8. Calculate the size of punching graph for 200 hooks jacquard set with sectional draft to produce figured double cloth of 80 picks.
9. Draw the interlacing diagram of gauze structure.
10. What are the special mechanisms used in leno weaving.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Differentiate extra warp & extra weft design. (4)
- B. Draw a spot figure in 10 X 10. Arrange the spot in 20 X 40 taking 1 ground : 1 Extra warp keeping the spot in 10 picks and ground in 30 picks. Anchor the extra warp threads in ground area. Mention its draft and peg plan. (8)

(OR)

- C. What are the different styles of arranging figures in Extra weft figuring technique? (4)
 - D. With suitable line illustrative diagram, explain the spot, Intermittent and continuous styles of extra weft figuring? (8)
12. A. Indicate two weaves of patent satin. (4)

- B. Indicating three weaves of reversible 3 pick weft tapestry. Draw its weft interlacing diagram. (8)

(OR)

- C. Compare the structural difference between Patent satin & Modern Tapestry. (4)
- D. Draw four weaves of reversible 4 pick weft tapestry. (8)
13. A. What count of point paper should be used for producing a fabric with 80 EPI & 72 PPI without any distortion on a 400 hooks jacquard loom? (4)
- B. Taking a part of figure in 24Ends X 24Picks as guide graph, develop the complete structure of warp backed in 48 ends X 24 picks with suitable binding point. (8)

(OR)

- C. Differentiate between warp backed cloth & weft backed cloth. (4)
- D. Taking a part of figure in 24Ends X 24Picks as guide graph, develop the complete structure of weft backed in 24 ends X 48 picks with suitable binding point. (8)
14. A. Sketch the drafting diagram of straight ties - sectional draft jacquard set up. (4)
- B. Indicate the structure of figured two color double cloth on 48 ends X 48 picks. (8)

(OR)

- C. Sketch the drafting diagram of sectional ties - sectional draft jacquard set up. (4)
- D. Indicate the structure of figured four colour double cloth on 40 ends X 40 picks. (8)
15. A. Differentiate gauze & leno structure. (4)
- B. Draw the neat diagram showing the formation of any two sheds in leno weaving. (8)

(OR)

- C. Differentiate Easer and shaker motion. (4)
- D. Sketch the drafting and interlacing diagram to produce stripe effect of leno with plain weave. (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
SEMESTER EXAMINATION - APRIL/MAY-2022
(Regulation-2014)

Semester : FIFTH SEMESTER Time:3 Hours
Course Code & Title : 5.3 Chemical Processing of Textiles-III Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences.

1. What are the advantages of Thermosol method of dyeing?
2. What are the chemicals used as Carriers?
3. What are the advantages of Soft flow dyeing machine?
4. Write the differences between Jet dyeing and Soft overflow Jet dyeing principles.
5. Why it is difficult to dye Acrylic fibres?
6. Briefly explain the method of dyeing 1:2 Metal complex dyes on Nylon.
7. What are the methods of printing?
8. Write the demerits of Block printing.
9. Explain ageing fixation method used in printing.
10. What is the role of thickeners in printing?

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. What is the need of heat setting Polyester? (4)
B. Explain the Thermosol method of dyeing Polyester with neat sketch. (8)
- (OR)
- C. Describe the structural parameters of Polyester making it difficult to dye. (4)
D. What is the role of carrier in dyeing of Polyester? Explain the carrier dyeing method of dyeing Polyester. (8)

12. A. What are the common defects while dyeing Polyester on Beam dyeing machine? (4)
B. Explain the working of HTHP Beam dyeing machine with neat diagram. (8)

OR

- C. Soft flow dyeing machine is suited to the dyeing of light weight knitted fabric. Why? (4)
D. Describe the working of Jet dyeing machine with neat diagram. (8)

13. A. Explain the dyeing of Polyamide fibres with Disperse dyes. (4)
B. Explain the method of dyeing Nylon with Acid dyes with function of levelling agents. (8)

OR

- C. Explain the dyeing of Nylon with Reactive dyes. (4)
D. Describe the method of dyeing of Acrylic with Cationic dyes with function of retarders used in Acrylic dyeing. (8)
14. A. Differentiate between dyeing and printing. (4)
B. Explain the Flat bed screen printing method. Write the merits of Rotary screen printing method. (8)

OR

- C. Write the merits and demerits of Transfer printing. (4)
D. Explain the Direct, Discharge and Resist styles of printing. (8)
15. A. Explain the steaming method of fixation commonly used in printing of textiles. (4)
B. Describe the preparation of printing screens by photographic method. (8)

OR

- C. Write the curing method of fixation used in printing of textiles. (4)
D. Explain the important printing paste ingredients with their function. (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FIFTH SEMESTER

Time: 03 Hours

Course Code & Title : 5.4 PRINCIPLES OF TEXTILE TESTING - I

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . State the importance of textile testing.
- 2 . What is the formula to find out the co-efficient of variation?
- 3 . Write the standard atmospheric condition in textile testing.
- 4 . What is the instrument used to record humidity?
- 5 . What is direct yarn numbering system?
- 6 . Convert 62^s Nec in to Tex count.
- 7 . Why twist is important in yarn manufacturing?
- 8 . Which instruments are used to measure twist?
- 9 . Give any two terms used to express yarn irregularity.
- 10 . List out any two major yarn faults.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. What are various objectives of textile testing? (4)
- B. Explain the random and biased method of sample selection. (8)
- (OR)
- C. Define the following terms: mean, median and mode. (4)
- D. Calculate the co-efficient of variation and standard deviation for the following values: 13, 35, 56, 35, 77, 68, 65, and 46. (8)
12. A. What are the main factors affecting the moisture regain of textile materials? (4)

B. Explain the working principle of Shirley moisture meter with neat sketch. (8)

(OR)

C. Write the definition of moisture regain and moisture content. (4)

D. Explain the working principle of wet and dry bulb hygrometer with sketch. (8)

13. A. What care should be taken during yarn count measurement in testing laboratory? (4)

B. Explain the working principle of quadrant balance with the help of sketch. (8)

(OR)

C. Explain the Direct and Indirect of yarn numbering system with examples. (4)

D. Describe the method of yarn count measurement by using beesley's balance with help of neat sketch. (8)

14. A. What is the twist untwist method of twist testing in folded yarn? (4)

B. Explain the straightened fibre method of twist measurement. (8)

(OR)

C. Describe the effects of twist on fabric properties. (4)

D. Explain the method of yarn twist measurement by twist contraction method. (8)

15. A. Write about the capacitance principle of measurement of yarn evenness. (4)

B. Explain the method of visual assessment of yarn evenness. (8)

(OR)

C. What is meant by cutting and weighing method of yarn irregularity assessment. (4)

D. Explain the classification of yarn faults in uster yarn classmate. (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : FIFTH SEMESTER

Time:3 Hours

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

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Write two functions of primary handloom co-operative society
- 2 . Write two historic events related to handloom industry in India.
- 3 . Write two major scope of handloom exports in India .
- 4 . Write any two functions of WSCs.
- 5 . What is the difference between "Micro" and "Macro" Marketing.
- 6 . Differentiate between wholesale and retail Marketing.
- 7 . What is Marketing Mix?
- 8 . What are data sources?
- 9 . What is Fabian Entrepreneur?
- 10 . What is B2B Model?

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Discuss the SWOT Analysis of Handloom Industry. (4)
- B. Elaborate the history of Indian Handloom Industry. (8)
- (OR)
- C. Explain the objectives of Apex Co-operative Society. (4)
- D. Explain Socio Economic importance of Handloom Industry. (8)
12. A. Explain the significance of product diversification in modern market. (4)
- B. Scope of Handloom Exports from India and why it is important? (8)

(OR)

- C. Write in detail about objectives of IIHT. (4)
- D. Explain the cluster development initiative of Government of India for Handloom industry. (8)
13. A. What is Market planning? Explain the contents of market Plan. (4)
- B. What are the modern approaches in Marketing? (8)
- (OR)**
- C. Distinguish between Marketing and Selling. (4)
- D. Explain in detail about Classification of Market. (8)
14. A. What is the difference between single pricing and variable pricing? (4)
- B. What are the different types of Market Research? (8)
- (OR)**
- C. Explain the importance of Pricing. (4)
- D. What are the steps involved in Formulating Pricing Policies? (8)
15. A. Explain the role of commercial banks in promoting entrepreneurship. (4)
- B. Define E-Business. Explain Various types of E-Business. (8)
- (OR)**
- C. Explain about international Marketing. (4)
- D. What is entrepreneurship? Explain the qualities of successful entrepreneur. (8)

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INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : SIXTH SEMESTER

Time:3 Hours

Course Code & Title : **6.1 Weaving Technology & Textile Calculations –V.** Max. Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 What is the specialty of Kancheepuram saree?
- 2 Give names of any two states where IKAT fabrics are produced.
- 3 Name any four harness design ties used in Jacquard weaving?
- 4 What is meant by casting out?
- 5 What is meant by cloth compactness?
- 6 State the factors that are responsible for the change in weight of a fabric.
- 7 What is meant by Fabric Linear Density & Fabric Areal Density?
- 8 Write the formula to calculate the tape length, if details of cloth length and percentage of warp crimp are given.
- 9 What is the difference between cost price and selling price of fabric?
- 10 If the selling price of the cloth is Rs.60/- per meter and the profit margin is 20%, what may be the product cost per meter of the cloth?

PART-B

(4+8) ×5=60 Marks.

Answer all the questions in detail

11. A. Difference between warp IKAT & weft IKAT technique. (4)
B. What is Jala? How to introduce the designs in weaving using Jala System? (8)
(OR)
C. Write short notes on characteristics of Jamdani Saree? (4)
D. Explain in detail about various stages in Double IKAT weaving technique in Handloom. (8)
12. A. Using line sketch, Explain Norwich system of harness building. (4)
B. A warp with 64 Ends per Inch in the reed has to be woven in a 400 tie with 80 harness cords per inch in the comber board. Ascertain the no. of hooks to be cast-out and in what manner. (8)
(OR)
C. What count of point paper should be used for producing a design with 80 EPI and 60 PPI, without any distortion on a 400 hooks Jacquard? (4)
D. In a 400 hook Jacquard loom, it is proposed to build straight harness tie-with harness set of 40. Width of the body harness to be built up is 50 inches. How many harness cards are to be tied on each hook? (8)
13. A. A fabric is woven with 40 EPI of 30^s Ne cotton. What count of yam is to be used (4)

- to produce the fabric to have same compactness and to have 60 EPI?
- B. A plain cloth woven with 40^s Ne Spun silk is required to change the weave into (8)
 (i) 4 Thread Twill (ii) 6 thread sateen
 What count of Spun silk yarn is required to keep same level of compactness

(OR)

- C. A cotton saree is woven with 72 EPI of 80^s cotton yarn. Calculate number of (4)
 Ends per Inch required to keep same level of compactness, if the 60^s cotton yarn issued
- D. A cotton cloth is made with 40^s x 30^s having 60 EPI x 48 PPI. It is required to (8)
 produce a fabric with same compactness but 15% heavier. What count of yarn and threads per inch should be used in the new fabric?
14. A. 100 mtr of 48" Inches width fabric weight is 20kgs. What will be the approximate (4)
 gsm of the fabric?
- B. A cloth 44.5 inches wide on 72^s ST reed is woven with 30^s Cotton warp and 40^s (8)
 Cotton weft and 64 picks per inch. Selvedge – ¼ inch on each side, drawn 4 ends per dent. The count of the selvedge yarn is same as the warp yarn. The length of the piece is 40 yards and regain of warp is 5%.
 Calculate;
 (i) Tape length and total number of Ends in warp.
 (ii) Total weight of fabric in the piece in Kgs.

(OR)

- C. Find out the GSM of the following fabric. (4)
 Count of warp : 20s Ne. Cotton
 Count of weft : 30 Tex. Polyester
 Ends per inch : 52
 Picks per inch : 48
 Warp Crimp : 3%
 Weft Crimp : 5%
- D. Calculate the weight of bed sheet having the 2.1 meters length and 60" Inches (8)
 width with the following particulars;
 Count of Warp and Weft : 2/17^s NF x 10^s Ne
 EPI & PPI : 60 x 48
 Warp & Weft crimp : 4% x 7%
 Selvedge drawn 4 ends / dent on each side – ½" inches.
15. A. Calculate the selling cost per meter of the following fabric details: (12)
 Length of fabric : 520 yards
 Width of fabric : 48" Inches
 Reed : 80^s stockport
 PPI : 76
 Selvedge : 0.5 inches on each side (4 Ends / dart)
 Warp & weft count : 40^s cotton x 120 Denier polyester
 Warp & weft crimp : 5% x 8%
 Warp & weft waste : 3% x 2%
 Cost of 40^s cotton yarn : Rs. 1000 per bundle

Cost of 120 Denier polyester	: Rs.150 per Kg
Warping charge	: Rs.3 per meter
Sizing charge	: Rs.20 per Kgs
Weft winding charge	: Rs.10 per Kgs.
Weaving charge	: Rs.15 per meter
Over head charge	:10% of Base cost / Production cost
Profit	: 20% of Production cost

(OR)

B. If a fabric is constructed as per the following (12)

Count of warp & weft yarn	: 15 Tex X 12 Tex
Ends and picks per Cm	: 25 x 30
Width of Cloth	: 120 Cm
Length of Cloth	: 100 mtrs
Warp and weft crimp	: 5% & 8%
Weight of warp including waste	: 4.95 Kgs
Weight of weft including waste	: 4.759 Kgs
Waste in warp & weft	: 3% & 2%
Selvedge	: 1 Cm on each side.
Cost of Raw materials:	
Warp Yarn	: Rs.400 per Kg
Weft Yarn	: Rs.450 per Kg
Warp preparation charge	: Rs.40 per Kgs.
Weft preparation charge	: Rs.10 per Kgs.
Weaving charge	: Rs.15 per meter
Processing charge	: Rs.6 per meter
Transport charge	: 50 paise per meter
Overhead charge	: 15% of the total cost

Calculate:

- (i) GSM of the fabric
- (ii) Selling price per meter of the fabric allowing 20% margin as profit.

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : SIXTH SEMESTER

Time:3 Hours

Course Code & Title : 6.2 FABRIC STRUCTURE-V

Maximum Marks:80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Mention the name of traditional fabric by using extra warp method.
- 2 . How many warp beams required for preparing extra weft figuring.
- 3 . Name the ends and picks used in patent satin designing.
- 4 . Name the special harness used to produce Damask fabric.
- 5 . Mention the different warp tension used to produce Pique fabric.
- 6 . How many series of warp and weft used in the traditional tapestry.
- 7 . How many series of warp and weft used in the terry fabric production.
- 8 . Mention the fabrics produced by using terry pile weave.
- 9 . Mention the place of origin of Himroo.
- 10 . Name the fabric tie and dye from Rajasthan.

PART-B

(4+8) × 5 =60 Marks

Answer all the questions in detail

11. A. Differentiate extra warp and extra weft (4)
- B. Taking guide graph in 20 x20, enlarge its complete structure of extra warp figuring with 1:1 order (8)

(OR)

- C. How to control the lengthy floats for preparing extra warp and extra weft designing? (4)
- D. Taking guide graph in 20 x20, enlarge its complete structure of extra weft figuring with 1:1 order (8)

12. A. Draw two weaves of patent satin. (4)
B. Explain the method of producing patent satin structure using suitable jacquard mount. (8)

(OR)

- C. Draw two weaves of figured pique. (4)
D. Draw the harness building and heald arrangement used for weaving figured pique. (8)

13. A. Define Damask. (4)
B. By taking 8 x 8 guide graph, develop the complete structure of damask fabric on 24 x 24 woven with the pressure harness of set 3 decked mail eye and 8 heald shaft. (8)

(OR)

- C. Differentiate reversible and non reversible tapestry. (4)
D. Mark 4 weaves of 4 pick weft non reversible tapestry with interlacement diagram. (8)

14. A. Construct the 4 pick terry reversible and non reversible designs on point paper. (4)
B. Explain the method of producing figured terry with sectional tie and draft by using healds and jacquard. (8)

(OR)

- C. Explain the advantages of using inverted hook jacquard for producing terry fabric. (4)
D. By taking 12 x 12 guide graph, enlarge the complete design of 4 pick figured terry on 48 x 48. (8)

15. A. Explain the special techniques used to produce traditional Kanchipuram sarees (4)
B. Write salient features of Chanderi sarees and pochampalli tie & dye sarees (8)

(OR)

- C. Explain the different type of brocades. (4)
D. Explain the features and production method of Himroo and Paithani fabrics. (8)

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Diploma in Handloom & Textile Technology

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : SIXTH SEMESTER

Time:3 Hours

Course Code & Title : 6.3- Chemical Processing of Textiles-IV

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Write note on wet developing process.
- 2 . Mention the fixation method used in pigment printing and give reason.
- 3 . Give the recipe for printing of silk with metal complex dyes.
- 4 . Name two traditional Tie & Dye printing styles.
- 5 . List the factors affecting the selection of finishes.
- 6 . State the working of frictional calendar.
- 7 . Write the process parameters used for mercerization.
- 8 . What do you mean by anti-crease finish?
- 9 . Define Bio-finishing.
- 10 . List any two harmful chemicals used in pretreatment process.

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Discuss on the silicate padding method of reactive dye printing technique. (4)
B. Explain the process of printing cotton fabric with direct dyes. (8)
- (OR)
- C. Write a short note on the advantages and disadvantages of pigment printing. (4)
D. Describe in detail the process of printing with pigments. (8)
12. A. Give a brief note on Tie and Dye style of printing. (4)
B. Explain with recipe and procedure for printing of polyester with disperse dyes. (8)

(OR)

- C. Write a note on Batik style of printing. (4)
- D. Explain the printing of silk with acid dyes with recipe. (8)

- 13. A. Classify textile finishing with example for each class. (4)
- B. Explain the process of sanforising with neat sketch. (8)

(OR)

- C. Discuss in short about the factors affecting selection of finishes. (4)
- D. Describe the process of chasing calendaring and schriener calendaring with neat sketch. (8)

- 14. A. Write a note on the changes taking place in the structure of cotton during mercerization. (4)
- B. Explain the process of fabric mercerization with neat sketch. (8)

(OR)

- C. Differentiate water proof and water repellent finish. (4)
- D. Explain with recipe and procedure to obtain wrinkle free finish in cotton fabrics. (8)

- 15. A. Write a note about the harmful chemicals used in pretreatment process. (4)
- B. Explain the process of enzyme desizing, enzyme scouring. (8)

(OR)

- C. Suggest the alternatives for harmful chemicals used in dyeing process. (4)
- D. Describe the process of identification of water soluble dyes in powder form. (8)

Registration Number

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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

SEMESTER EXAMINATION - APRIL/MAY-2022

(Regulation-2014)

Semester : SIXTH SEMESTER

Time:3 Hours

Course Code & Title : **6.4 Principles of Textile Testing - II**

Maximum Marks: 80

PART-A

(2×10=20 Marks)

Answer all the questions within two to three sentences

- 1 . Define the term tenacity of a textile material.
- 2 . Differentiate elastic extension and plastic extension.
- 3 . What is the meaning of CSP in textile testing?
- 4 . What is CRL in textile testing?
- 5 . What are the two standard methods of sample preparation for tensile testing of fabrics?
- 6 . State any four factors affecting the abrasion test result.
- 7 . Write down the formula for calculating the bending modulus of a fabric.
- 8 . What is GREY scale rating in colour fastness?.
- 9 . Mention any four fabric defects for which weaving is the cause.
- 10 . What is the difference between quality control and quality assurance?

PART-B

(4+8) ×5=60 Marks

Answer all the questions in detail

11. A. Draw a typical Load-Elongation curve of textile material and specify the important parameters. (4)
- B. Explain the different methods of application of load and elongation to observe the effect of tensile forces. (8)

(OR)

- C. Explain the instantaneous and time dependent extension of textile materials. (4)
 - D. Explain the various factors affecting the tensile properties of a textile yarns. (8)
12. A. Compare single yarn strength testing and lea strength testing. (4)

- B. With principle diagram, explain the single yarn strength testing machine working under pendulum lever principle (8)

(OR)

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

- D. With neat diagram, explain the working principle of ballistic strength tester. (8)

13. A. Explain the fabric sampling methods for tensile testing. (4)

- B. Explain the working principle and method of assessment of fabric abrasion using Martindale abrasion tester. (8)

(OR)

- C. What are the causes for pilling in fabrics? (4)

- D. Explain the method of assessment of pilling resistance of a fabric in ICI pill box tester. (8)

14. A. Explain the standard procedure for measurement of crimp of yarn in a fabric. (4)

- B. Explain the method of measurement of drape coefficient of a fabric using drape meter. (8)

(OR)

- C. Explain the measurement of fabric shrinkage using standard procedure. (4)

- D. With suitable diagram, explain the method of measurement of rubbing fastness of a dyed fabric sample. (8)

15. A. Mention various factors to be considered while framing quality policy of an organization. (4)

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

(OR)

- C. What are the principles of TQM? (4)

- D. Explain the importance of six-sigma in quality and its advantages and disadvantages. (8)