INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

JODHPUR - 342001

April / May - 2024 Examination

ALL QUESTION PAPERS

R-2021

Registration Number | | | | | | | |

INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

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

Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 01 Time:3 Hours

Course Code & Title : **BS101 Mathematics - I** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Find the value of $\sin 32° \cos 28° + \cos 32° \sin 28°$, by using trigonometric formulae.
2. Find the value of $\frac{\tan 20° + \tan 25°}{1 - \tan 20° \tan 25°}$.
3. Evaluate $\lim_{x \to -2} (2x + 5)$
4. If $y = \frac{1}{2} + x^3$, find $\frac{dy}{dx}$
5. Find the total number of ways strings arranging by using letters in the word "HANDLOOM".
6. Find the value of $15C_{13}$.
7. State Baye's theorem.
8. If $P(A) = {}^1/_2$, $P(B) = {}^1/_3$, $P(A \cap B) = {}^1/_{18}$, Find $P(A \cup B)$.
9. Write formula to find the control limits of np- chart.
10. Find the average of 12,14,7,6,10,10,11,12,5,18,12,4,4,9,21,14,8,9,13,21.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Prove that $\frac{\sin 2A}{1 - \cos 2A} = \cot A$ (6)

    B. Prove that $\sin 3A = 3\sin A - 4\sin^3 A$. (10)

(OR)

    C. Prove that $\frac{1 - \cos 2A + \sin 2A}{1 + \cos 2A + \sin 2A} = \tan A$ (6)

    D. Find the value of $\tan 75°$ by using trigonometric formula and hence prove that $\tan 75° + \cot 75° = 4$ (10)

12. A. Evaluate : $\lim_{x\to -4}\left(\frac{\frac{1}{4}+\frac{1}{x}}{4+x}\right)$ (6)

B. Find $\frac{dy}{dx}$, If $y = (x^2+1)^3(x^2-1)^4$ (10)

(OR)

C. If $y = x^2 + 3x^{-4} - e^{5x} + cosx$ then find $\frac{dy}{dx}$ (6)

D. Differentiate $y = \sqrt{\frac{1+x}{1-x}}$ with respect to x. (10)

13. A. Prove that $10C_2$+(2 x$10C_3$) +$10C_4$=$12C_4$ (6)

B. Find the middle term in the expansion of $(x+y)^7$. (10)

(OR)

C. Find the co-efficient of x^6 in the expansion of $(3+2x)^{10}$ (6)

D. A committee of 7 people has to be formed from 8 men and 4 women. How many ways can it be done with following conditions: (i) exactly 3 women , (ii).Atleast 3 women , (iii)Atmost 3 women (10)

14. A. Two dice are rolled together ,find the probability of getting sum of faces as 4. (6)

B. A bag contains 4 blue colour yarns and 5 red colour yarns, two yarns are drawn at random : (i).What is the probability that, the first drawn yarn is red and second drawn yarn is blue, (ii). What is the probability that, the first drawn yarn is blue and the second drawn yarn is red , (iii). What is the probability that the first drawn yarn is red and second drawn yarn is also red. (10)

(OR)

C. If P(A) = $\frac{1}{4}$,P(B) =$\frac{1}{2}$ and P(A ∩ B) = $\frac{1}{8}$, Find (i).P(A∪B) , (ii). P($\bar{A} \cap \bar{B}$) (6)

D. In a bolt manufacturing factory there are three machines 'A, B and C' used. 0.25, 0.35 and 0.4 are the probability of bolt manufacture by A,B and C respectively. In their output the probability for defective is 0.05,0.04 and 0.02 respectively. A bolt is drawn from the product and it found to be defective. What is the probability that it was manufactured by machine A. (10)

15. A. In a factory 1000 products are examined 15days. Calculate *np* -chart control (6)

limits for the data: 9,10,12,8,7,15,10,12,10,8,7,13,14,15,16.

B. The following are the sample mean and range for 10 samples of size 5. (10)

Construct the control chart for mean and command on the process of control:

Sample number :	1	2	3	4	5	6	7	8	9	10
Mean $\overline{X}$:	52	50	50	51	47	52	49	54	51	54
Range R :	6	7	6	5	6	9	8	7	7	4

(OR)

C. Explain about control chart with type. (6)

D. 15 types of fabrics are examined for quality control test, The number of defects in each fabric are given below. Draw the appropriate control chart and comment on state of control (10)

Fabric	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No. of defects	2	4	3	1	1	2	5	3	6	7	3	1	4	2	1

Table : Quality Control - Chart Constants

Sample Size	Chart for average $\overline{X}$-chart			σ-chart — Chart for Standard Deviations					Chart for Ranges — R-chart				
	Factors for Control Limits			Factors for Central line	Factors for Control Limits				Factors for Central line	Factors for Control Limits			
n	A	A_1	A_2	C_2	B_1	B_2	B_3	B_4	d_2	D_1	D_2	D_3	D_4
2	2.121	3.760	1.880	0.5642	0	1.843	0	3.267	1.128	0	3.686	0	3.262
3	1.732	2.394	1.023	0.7236	0	1.858	0	2.568	1.663	0	4.358	0	2.575
4	1.500	1.880	0.729	0.7979	0	1.808	0	2.266	2.059	0	4.698	0	2.282
5	0.342	1.596	0.577	7.8407	0	1.756	0	2.089	2.326	0	4.918	0	2.115
6	1.225	1.410	0.483	0.8686	0.026	0.711	0.030	1.970	2.534	0	5.078	0	2.004
7	1.134	1.277	0.419	0.8882	0.105	1.672	0.118	1.882	2.704	0.205	5.203	0.076	1.924
8	1.061	1.175	0.373	0.9027	0.167	1.638	0.185	1.815	2.847	0.387	5.307	0.136	1.864
9	1.000	1.094	0.337	0.9139	0.219	1.609	0.239	1.760	2.970	0.546	5.394	0.184	1.816
10	0.949	1.028	0.308	0.9227	0.262	1.584	0.284	1.716	3.078	0.687	5.469	0.223	1.777
11	0.905	0.973	0.285	0.9300	0.299	1.561	0.321	1.679	3.173	0.812	5.534	0.256	1.744
12	0.866	0.925	0.266	0.9359	0.331	1.541	0.354	1.646	3.258	0.924	5.592	0.284	1.716
13	0.832	0.884	0.249	0.9410	0.359	1.523	0.382	1.618	3.336	1.026	5.646	0.308	1.692
14	0.802	0.848	0.235	0.9453	0.384	1.507	0.406	1.594	3.407	1.121	5.693	0.329	1.671
15	0.775	0.816	0.223	0.9490	0.406	1.492	0.428	1.572	3.472	1.207	5.737	0.348	1.652
16	0.750	0.788	0.212	0.9523	0.427	1.478	0.448	1.552	3.532	1.285	5.779	0.364	1.636
17	0.728	0.762	0.203	0.9551	0.445	1.465	0.466	1534	3.588	1.359	5.817	0.379	1.621
18	0.707	0.738	0.194	0.9576	0.461	1.454	0.482	1.518	3.640	1.426	5.854	0.392	1.608
19	0.688	0.717	0.184	0.9599	0.477	1.443	0.497	1.503	3.689	1.490	5.888	0.404	1.596
20	0.671	0.697	0.110	0.9619	0.491	1.433	0.510	1.490	3.735	1.544	5.922	0.418	1.586

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 01 Time:3 Hours

Course Code &Title : **HS101 Communication Skills in English** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define Communication.
2. What is Soft Skills?
3. What is 'Feedback' in communication process?
4. Explain 'Emotional Intelligence' as a life skill.
5. What is précis writing?
6. Write any one advantage of E-mail writing?
7. Who is the writer of the story Uncle Podger Hangs a Picture?
8. **Identify the following lines and name the poem from which these lines have been taken:-**

   The woods are lovely, dark and deep,
   But I have promises to keep,
   And miles to go before I sleep,
   And miles to go before I sleep.

9. **Fill in the blanks with appropriate verb forms:**
   a) The shop_____ (opens/open) at 9 o'clock in the morning.
   b) There _____ (was/were) too many people in the room.
10. **Fill in the blanks with suitable prepositions:**
   a) The cat is sitting_____ the table. (below/under)
   b) He resigned _____ his post last week. (from/of)

PART-B (6+10)×5=80 Marks)

Answer all the questions in detail

11. **A.** Explain types of communication. (6)

    B. Describe the art of effective communication. (10)

(OR)

C. Explain barriers to effective communication. (6)

D. Explain 7Cs for effective communication. (10)

12. A. Write a short note on the following life skills: (6)

a) Emotional Intelligence

b) Self Awareness

B. Explain the importance of Soft Skills. (10)

(OR)

C. How soft skill is different from hard skill? Explain. (6)

D. Explain the importance of 'Time Management' and Leadership' as an important life skill. (10)

13. A. **I watched the flame feeding on my mother.** (6)

I watched the holy man perform his rites to tame the poison with an incantation. After twenty hours it lost its sting.

i. Write the name of the poem from which the above lines have been taken.

ii. Who is 'I' in the above passage?

iii. After how many hours did the bite lost its sting?

B. **Read the passage given below and answer the questions that follow:-** (10)

R.K. Narayan is one of the most widely read and appreciated Indian writers of the 20th century. His creation of the fictitious town of Malgudi and the adorable prankster Swami has earned him many accolades. His stories hold up a mirror to his readers. R.K. Narayan was born on 10 October, 1906 in Madras (now Chennai). His father was a school teacher and his initial years were spent with his grandmother. He studied Tamil and English during the early years of his schooling and later moved to Mysore (now Mysuru) with his parents. He graduated from Maharaja College of Mysore.

As a writer R.K.Narayan started his literary career with the publication of short stories in the newspaper, The Hindu. His first novel was *Swami and Friends* which won the approval and patronage of another celebrated author, Graham Greene, who got it published. A succession of novels and stories followed in the wake of the success of Narayan's first novel. The most important R.K. Narayan's novels are *The Bachelor of Arts, The Financial Expert, The Guide,* which was made into a blockbuster Hindi movie, *The Man-Eater of Malgudi* and *The Talkative Man.* The most famous collection of his stories include *Malgudi days, An Astrologer's Day and other stories, Under the Banyan Tree and other stories* and *Grandmother's Tale* and

selected Stories. R.K.Narayan received the Sahitya Akademi Award in 1958, the Padma Bhushan in 1964 and the Padma Vibhushan in 2000. He passed away on 13 May, 2001.

i. When and where R.K. Narayan was born?

ii. From where R.K.Narayan did his schooling?

iii. Which was R.K.Narayan's first novel?

iv. Name the awards that were given to Narayan for his literary achievements.

v. When did R.K.Narayan died?

(OR)

C. **Where words come from the depth of truth;** (6)
Where tireless striving stretches its arm towards perfection;
Where the clear stream of reasons has not lost its way
Into the dreary sand of dead habit.

i. Who is the poet of the above mentioned lines?

ii. What does the line 'Where words come from the depth of truth' mean?

iii. What has the poet compared reason and dead habit with?

D. Read the passage given below and answer the questions that follow:- (10)

One dollar and eighty-seven cents. That was all. And sixty cents of it was in pennies. Pennies saved one and two at a time by bulldozing the grocer and the vegetable man and the butcher until one's cheeks burned with the silent imputation of parsimony that such close dealing implied. Three times Della counted it. One dollar and eighty-seven cents. And the next day would be Christmas.

There was clearly nothing left to do but flop down on the shabby little couch and howl. So Della did it. Which instigates the moral reflection that life is made up of sobs, sniffles, and smiles, with sniffles predominating?

i. Write the name of the story from which the above passage has been taken.

ii. Write the name of the writer of the passage.

iii. Why Della was sad?

iv. Write the meaning of the word 'sniffles'.

v. Identify the proper noun in the above passage.

14. A. **Read the passage given below and summarize it by giving appropriate title:-** (6)

Man first appeared on earth half a million years ago. Then he was little more than an animal. Even so, early man had certain advantages over animals. He had a large brain; he had an upright body with quick-moving hands. He invented a language to communicate with his fellow men. This ability to speak was of supreme value because it allowed men to share ideas and plan together: speech enabled ideas to be passed on from generation to generation. These special advantages put men far ahead of all other living creatures. Since those far-off times, when he first made his appearance, man has achieved a great deal.

B. Write a letter to the Director of your Institute requesting permission to go on an Industrial visit. (10)

(OR)

C. Write an email to your sister congratulating her on getting a new job. (6)

D. Write a letter to your brother advising him to work hard at his studies so that he may get a first class. (10)

15. A. **Pick out Nouns in the following sentences:** (6)

a) Cows are grazing.

b) Army marched forward.

c) He went to Kanpur

B. **Change the following sentences into their negative forms:** (10)

a) She speaks English.

b) I saw a dog in the street.

c) Mohan plays cricket.

d) Radha sings well.

e) She has written an article.

(OR)

C. **Pick out Pronouns in the following sentences:** (6)

a) They are good boys.

b) Trees shed their leaves in autumn.

c) She has completed her work.

D. Change the following sentences into passive voice: (10)

a) She wrote a letter.

b) Jacob always plays the guitar.

c) They are eating bananas.

d) The teacher called the student.

e) Astha was learning French.

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 01 Time:3 Hours

Course Code & Title : **BS105 Applied Chemistry** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define Heisenberg uncertainty principle. Write the mathematical expression for it.
2. What is the mole fraction of a solute? What will be its unit?
3. Name some salts that cause hardness of water. What is the unit of hardness?
4. What is Coagulation? Give one example of a coagulant?
5. Define ore and gangue.
6. Write the name and structure of the following polymers. a) PS b) PTFE
7. Differentiate between primary and secondary fuel with examples.
8. What are Octane numbers and Cetane numbers?
9. Define Faraday's law of electrolysis.
10. What are organic inhibitors?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Explain the anomalous properties of NH_3 and H_2O due to hydrogen bonding. (6)

    B. What are Quantum numbers? Elaborate principal quantum number, azimuthal quantum number & magnetic quantum number with two examples of each? (10)

(OR)

    C. State any four concentration terms that are used to express the concentration of a solution. Write their units. (6)

    D. What is Rutherford's atomic model? What are the primary observations and limitations of his model? (10)

12. A. Define the process of sedimentation, filtration and sterilization of water. (6)

    B. Elaborate the problems caused by the use of hard water in the boiler? (10)

(OR)

C. Explain the cause of poor lathering of soap in hard water. (6)

D. Describe the process of water softening technique using Zeolites method. How it is regenerated? (10)

13. A. What is the degree of polymerization? Differentiate between homopolymers and copolymers. (6)

B. Explain the preparation properties and uses of the Nylon 6,6 and PVC . (10)

(OR)

C. What is the difference between flux and slag? Name any two ores of iron and copper. (6)

D. Illustrate the general principles and processes of extraction of metals from its ores. (10)

14. A. A sample of coal has the following composition by mass C = 70 %, O = 8 %, H = 10 %, N = 3 %, S = 2%, Ash = 7 %. Calculate H.C.V. and L.C.V. using the Dulong's formula. (6)

B. What can be estimated using proximate analysis of coal and what are its significance? Elaborate. (10)

(OR)

C. State any three chemical properties of lubricants. (6)

D. Elucidate any three physical properties of lubricants. What are the functions and characteristics of good lubricants? (10)

15. A. What are the factors affecting the rate of corrosion? (6)

B. Differentiate between chemical and electrochemical corrosion with examples. (10)

(OR)

C. What is a redox reaction? Explain the electronic concept of Oxidation and reduction. (6)

D. What is Lead acid battery? Explain the construction, working and uses of it. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 02 Time:3 Hours

Course Code & Title : **BS102 Mathematics - II** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. If $A = \begin{bmatrix} 2 & 4 \\ 3 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} 8 & 9 \\ -1 & -4 \end{bmatrix}$, Find A+B and A – B
2. From the determinant $\begin{vmatrix} 2 & 5 & 1 \\ 1 & -2 & 3 \\ -4 & 1 & 0 \end{vmatrix}$, write the minor value of the element "5"?
3. Evaluate: $\int cos10x\, dx$
4. Evaluate : $\int e^{-5x} dx$
5. Find the type conic for the equation $2x^2 + xy - 4y^2 + 2x - 3y + 1 = 0$
6. Find the Centre and radius of the circle $x^2 + (y+2)^2 = 4$
7. Find the magnitudes of $\vec{a} = -2\vec{\imath} + 3\vec{\jmath} - 2\vec{k}$ and $\vec{b} = 3\vec{\imath} - 3\vec{\jmath} + \vec{k}$
8. If $\vec{a} = 2\vec{\imath} + \vec{\jmath} - \vec{k}$ and $\vec{b} = \vec{\imath} - 2\vec{\jmath} + 2\vec{k}$ find $3\vec{a}+2\vec{b}$
9. Write any two uses of t- test.
10. Define Type I error and Type II error.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. If $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ Prove that $A^2 - 4A - 5I = 0$ (6)

B. Find the inverse of the matrix $\begin{bmatrix} 1 & 1 & -1 \\ 2 & 1 & 0 \\ -1 & 2 & 3 \end{bmatrix}$ (10)

(OR)

C. If $\begin{vmatrix} 2 & 1 & 4 \\ 3 & x & -1 \\ 6 & -6 & 26 \end{vmatrix} = 0$, find the value of x. (6)

D. Solve the equations by using Cramer's rule : (10)

$3x + 2y - 2z = 3, x + y + z = 3, 2x - y + z = 2$

12. A. Evaluate : $\int (5x^2 + \frac{2}{x} - \frac{7}{x^4})dx$ (6)

B. Evaluate : $\int xe^x\,dx$ using integration by Parts method. (10)

(OR)

C. Evaluate : $\int_0^{\pi/2} sin^n x\,dx$ (6)

D. Evaluate : $\int \frac{x+2}{x^2+4x-3}\,dx$ using substitution method. (10)

13. A. Show that the points A $(0, -\frac{3}{2})$, $B(1,-1)$ and $C(2, -\frac{1}{2})$ are collinear. (6)

B. Find the eccentricity, Centre, foci and vertices and trace the curve of ellipse (10)

$\frac{(x-3)^2}{25} + \frac{(y-2)^2}{16} = 1$

(OR)

C. Find the equation of circle for which (3,4) and (2,-7) are the ends of it's diameter. (6)

D. Find the equation of straight line passing through the point (1,-1) and parallel to $x + 3y - 4 = 0$. (10)

14. A. Verify that $3\vec{\imath} + 4\vec{\jmath} + 5\vec{k}$ and $10\vec{\imath} + 6\vec{\jmath} - 8\vec{k}$ are Parallel vectors. (6)

B. A force $2\vec{\imath} + \vec{\jmath} + \vec{k}$ acting on the particle, if the particle is displaced from $4\vec{\imath} + \vec{\jmath} - 3\vec{k}$ to $5\vec{\imath} + 4\vec{\jmath} + 2\vec{k}$. Find Work done by the force and Moment of force. (10)

(OR)

C. Find the value of 'm',if two vectors $2\vec{\imath} - \vec{\jmath} + 3\vec{k}$ and $\vec{\imath} + m\vec{\jmath} + 4\vec{k}$ are perpendicular. (6)

D. Find the angle between vectors $3\vec{\imath} - 2\vec{\jmath} + 5\vec{k}$ and $2\vec{\imath} + \vec{\jmath} + 2\vec{k}$. (10)

15. A. A ball pen manufacturer claims that the mean writing life of pens have 400 pages with S.D 20 pages. A sample of 100 pens selected and found that the mean lifetime was 390 pages, test at 5% level of significance. (6)

B. A die is tossed and the following distribution of faces was observed: (10)

Face	1	2	3	4	5	6
Frequency	30	25	18	10	22	15

Can you say that the die is unbiased?

(OR)

C. The mean life time of 25 bulbs is found to be 1550 hours with S.D of 120 hours. The company manufacturing the bulbs, claims that the average life of their bulbs is 1600 hours. Is the claim acceptable at 5% level of significance? (6)

D. Two samples of sizes 9 and 8 give the sum of squares of deviations from their respective means equal to 160 and 91 respectively, can we conclude that the samples are from same population. (10)

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Values of $F_{0.05}$

ν_2 = Degrees of freedom for denominator	ν_1 = Degrees of freedom for numerator																		
	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	60	120	∞
1	161	200	216	225	230	234	237	239	241	242	244	246	248	249	250	251	252	253	254
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.41	19.43	19.45	19.46	19.46	19.47	19.48	19.49	19.50
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.74	8.70	8.66	8.63	8.62	8.59	8.57	8.55	8.53
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.91	5.86	5.80	5.77	5.75	5.72	5.69	5.66	5.63
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.68	4.62	4.56	4.52	4.50	4.46	4.43	4.40	4.37
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	4.00	3.94	3.87	3.83	3.81	3.77	3.74	3.70	3.67
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.57	3.51	3.44	3.40	3.38	3.34	3.30	3.27	3.23
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.28	3.22	3.15	3.11	3.08	3.04	3.01	2.97	2.93
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.07	3.01	2.94	2.89	2.86	2.83	2.79	2.75	2.71
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.91	2.85	2.77	2.73	2.70	2.66	2.62	2.58	2.54
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.79	2.72	2.65	2.60	2.57	2.53	2.49	2.45	2.40
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.69	2.62	2.54	2.50	2.47	2.38	2.38	2.34	2.30
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.60	2.53	2.46	2.41	2.38	2.34	2.30	2.25	2.21
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.53	2.46	2.39	2.34	2.31	2.27	2.22	2.18	2.13
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.48	2.40	2.33	2.28	2.25	2.20	2.16	2.11	2.07
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.42	2.35	2.28	2.23	2.19	2.15	2.11	2.06	2.01
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.38	2.31	2.23	2.18	2.15	2.10	2.06	2.01	1.96
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.34	2.27	2.19	2.14	2.11	2.06	2.02	1.97	1.92
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.31	2.23	2.16	2.11	2.07	2.03	1.98	1.93	1.88
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.28	2.20	2.12	2.07	2.04	1.99	1.95	1.90	1.84
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37	2.32	2.25	2.18	2.10	2.05	2.01	1.96	1.92	1.87	1.81
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.23	2.15	2.07	2.02	1.98	1.94	1.89	1.84	1.78
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32	2.27	2.20	2.13	2.05	2.00	1.96	1.91	1.86	1.81	1.76
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.18	2.11	2.03	1.97	1.94	1.89	1.84	1.79	1.73
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28	2.24	2.16	2.09	2.01	1.96	1.92	1.87	1.82	1.77	1.71
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.09	2.01	1.93	1.88	1.84	1.79	1.74	1.68	1.62
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.00	1.92	1.84	1.78	1.74	1.69	1.64	1.58	1.51
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.92	1.84	1.75	1.69	1.65	1.59	1.53	1.47	1.39
120	3.92	3.07	2.68	2.45	2.29	2.18	2.09	2.02	1.96	1.91	1.83	1.75	1.66	1.60	1.55	1.50	1.43	1.35	1.25
∞	3.84	3.00	2.60	2.37	2.21	2.10	2.01	1.94	1.88	1.83	1.75	1.67	1.57	1.51	1.46	1.39	1.32	1.22	1.00

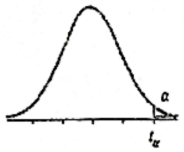
Values of $F_{0.01}$

ν_2 = Degrees of freedom for denominator	ν_1 = Degrees of freedom for numerator																		
	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	60	120	∞
1	4,052	5,000	5,403	5,625	5,764	5,859	5,928	5,982	6,023	6,056	6,106	6,157	6,209	6,240	6,261	6,287	6,313	6,339	6,366
2	98.50	99.00	99.17	99.25	99.30	99.33	99.36	99.37	99.39	99.40	99.42	99.43	99.45	99.46	99.47	99.47	99.48	99.49	99.50
3	34.12	30.82	29.46	28.71	28.24	27.91	27.67	27.49	27.35	27.23	27.05	26.87	26.69	26.58	26.50	26.41	26.32	26.22	26.13
4	21.20	18.00	16.69	15.98	15.52	15.21	14.98	14.80	14.66	14.55	14.37	14.20	14.02	13.91	13.84	13.75	13.65	13.56	13.46
5	16.26	13.27	12.06	11.39	10.97	10.67	10.46	10.29	10.16	10.05	9.89	9.72	9.55	9.45	9.38	9.29	9.20	9.11	9.02
6	13.75	10.92	9.78	9.15	8.75	8.47	8.26	8.10	7.98	7.87	7.72	7.56	7.40	7.30	7.23	7.14	7.06	6.97	6.88
7	12.25	9.55	8.45	7.85	7.46	7.19	6.99	6.84	6.72	6.62	6.47	6.31	6.16	6.06	5.99	5.91	5.82	5.74	5.65
8	11.26	8.65	7.59	7.01	6.63	6.37	6.18	6.03	5.91	5.81	5.67	5.52	5.36	5.26	5.20	5.12	5.03	4.95	4.86
9	10.56	8.02	6.99	6.42	6.06	5.80	5.61	5.47	5.35	5.26	5.11	4.96	4.81	4.71	4.65	4.57	4.48	4.40	4.31
10	10.04	7.56	6.55	5.99	5.64	5.39	5.20	5.06	4.94	4.85	4.71	4.56	4.41	4.31	4.25	4.17	4.08	4.00	3.91
11	9.65	7.21	6.22	5.67	5.32	5.07	4.89	4.74	4.63	4.54	4.40	4.25	4.10	4.01	3.94	3.86	3.78	3.69	3.60
12	9.33	6.93	5.95	5.41	5.06	4.82	4.64	4.50	4.39	4.30	4.16	4.01	3.86	3.76	3.70	3.62	3.54	3.45	3.36
13	9.07	6.70	5.74	5.21	4.86	4.62	4.44	4.30	4.19	4.10	3.96	3.82	3.66	3.57	3.51	3.43	3.34	3.25	3.17
14	8.86	6.51	5.56	5.04	4.69	4.46	4.28	4.14	4.03	3.94	3.80	3.66	3.51	3.41	3.35	3.27	3.18	3.09	3.00
15	8.68	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89	3.80	3.67	3.52	3.37	3.28	3.21	3.13	3.05	2.96	2.87
16	8.53	6.23	5.29	4.77	4.44	4.20	4.03	3.89	3.78	3.69	3.55	3.41	3.26	3.16	3.10	3.02	2.93	2.84	2.75
17	8.40	6.11	5.18	4.67	4.34	4.10	3.93	3.79	3.68	3.59	3.46	3.31	3.16	3.07	3.00	2.92	2.83	2.75	2.65
18	8.29	6.01	5.09	4.58	4.25	4.01	3.84	3.71	3.60	3.51	3.37	3.23	3.08	2.98	2.92	2.84	2.75	2.66	2.57
19	8.18	5.93	5.01	4.50	4.17	3.94	3.77	3.63	3.52	3.43	3.30	3.15	3.00	2.91	2.84	2.76	2.67	2.58	2.49
20	8.10	5.85	4.94	4.43	4.10	3.87	3.70	3.56	3.46	3.37	3.23	3.09	2.94	2.84	2.78	2.69	2.61	2.52	2.42
21	8.02	5.78	4.87	4.37	4.04	3.81	3.64	3.51	3.40	3.31	3.17	3.03	2.88	2.79	2.72	2.64	2.55	2.46	2.36
22	7.95	5.72	4.82	4.31	3.99	3.76	3.59	3.45	3.35	3.26	3.12	2.98	2.83	2.73	2.67	2.58	2.50	2.40	2.31
23	7.88	5.66	4.76	4.26	3.94	3.71	3.54	3.41	3.30	3.21	3.07	2.93	2.78	2.69	2.63	2.54	2.45	2.35	2.26
24	7.82	5.61	4.72	4.22	3.90	3.67	3.50	3.36	3.26	3.17	3.03	2.89	2.74	2.64	2.58	2.49	2.40	2.31	2.21
25	7.77	5.57	4.68	4.18	3.85	3.63	3.46	3.32	3.22	3.13	2.99	2.85	2.70	2.60	2.54	2.45	2.36	2.27	2.17
30	7.56	5.39	4.51	4.02	3.70	3.47	3.30	3.17	3.07	2.98	2.84	2.70	2.55	2.45	2.39	2.30	2.21	2.11	2.01
40	7.31	5.18	4.31	3.83	3.51	3.29	3.12	2.99	2.89	2.80	2.66	2.52	2.37	2.27	2.20	2.11	2.02	1.92	1.80
60	7.08	4.98	4.13	3.65	3.34	3.12	2.95	2.82	2.72	2.63	2.50	2.35	2.20	2.10	2.03	1.94	1.84	1.73	1.60
120	6.85	4.79	3.95	3.48	3.17	2.96	2.79	2.66	2.56	2.47	2.34	2.19	2.03	1.93	1.86	1.76	1.66	1.53	1.38
∞	6.63	4.61	3.78	3.32	3.02	2.80	2.64	2.51	2.41	2.32	2.18	2.04	1.88	1.77	1.70	1.59	1.47	1.32	1.00

t-Table

	Probability				
ν	0.9	0.1	0.05	0.02	0.01
1	0.158	6.314	12.706	31.821	63.657
2	0.142	2.920	4.303	6.965	9.925
3	0.137	2.353	3.182	4.541	5.841
4	0.134	2.132	2.776	3.747	4.604
5	0.132	2.015	2.571	3.365	4.032
6	0.131	1.943	2.447	3.143	3.707
7	0.130	1.895	2.365	2.998	3.496
8	0.130	1.860	2.306	2.896	3.355
9	0.129	1.833	2.262	2.821	3.250
10	0.129	1.812	2.228	2.764	3.169
11	0.129	1.796	2.201	2.718	3.106
12	0.128	1.782	2.179	2.681	3.055
13	0.128	1.771	2.160	2.650	3.012
14	0.128	1.761	2.145	2.624	2.977
15	0.128	1.753	2.131	2.602	2.947
16	0.128	1.746	2.120	2.583	2.921
17	0.128	1.740	2.110	2.567	2.898
18	0.127	1.734	2.101	2.552	2.878
19	0.127	1.729	2.093	2.539	2.861
20	0.127	1.725	2.086	2.528	2.845
21	0.127	1.721	2.080	2.518	2.831
22	0.127	1.717	2.074	2.508	2.819
23	0.127	1.714	2.069	2.500	2.807
24	0.127	1.711	2.064	2.492	2.797
25	0.127	1.708	2.060	2.485	2.787
30	0.127	1.697	2.042	2.457	2.750
40	0.126	1.684	2.021	2.423	2.704
60	0.126	1.671	2.000	2.390	2.660
120	0.126	1.658	1.980	2.358	2.617
∞	0.126	1.645	1.960	2.326	2.576

Values of t_α



ν	$\alpha = 0.10$	$\alpha = 0.05$	$\alpha = 0.025$	$\alpha = 0.01$	$\alpha = 0.00833$	$\alpha = 0.00625$	$\alpha = 0.005$	ν
1	3.078	6.314	12.706	31.821	38.204	50.923	63.657	1
2	1.886	2.920	4.303	6.965	7.650	8.860	9.925	2
3	1.638	2.353	3.182	4.541	4.857	5.392	5.841	3
4	1.533	2.132	2.776	3.747	3.961	4.315	4.604	4
5	1.476	2.015	2.571	3.365	3.534	3.810	4.032	5
6	1.440	1.943	2.447	3.143	3.288	3.521	3.707	6
7	1.415	1.895	2.365	2.998	3.128	3.335	3.499	7
8	1.397	1.860	2.306	2.896	3.016	3.206	3.355	8
9	1.383	1.833	2.262	2.821	2.934	3.111	3.250	9
10	1.372	1.812	2.228	2.764	2.870	3.038	3.169	10
11	1.363	1.796	2.201	2.718	2.820	2.981	3.106	11
12	1.356	1.782	2.179	2.681	2.780	2.934	3.055	12
13	1.350	1.771	2.160	2.650	2.746	2.896	3.012	13
14	1.345	1.761	2.145	2.624	2.718	2.864	2.977	14
15	1.341	1.753	2.131	2.602	2.694	2.837	2.947	15
16	1.337	1.746	2.120	2.583	2.673	2.813	2.921	16
17	1.333	1.740	2.110	2.567	2.655	2.793	2.898	17
18	1.330	1.734	2.101	2.552	2.639	2.775	2.878	18
19	1.328	1.729	2.093	2.539	2.625	2.759	2.861	19
20	1.325	1.725	2.086	2.528	2.613	2.744	2.845	20
21	1.323	1.721	2.080	2.518	2.602	2.732	2.831	21
22	1.321	1.717	2.074	2.508	2.591	2.720	2.819	22
23	1.319	1.714	2.069	2.500	2.582	2.710	2.807	23
24	1.318	1.711	2.064	2.492	2.574	2.700	2.797	24
25	1.316	1.708	2.060	2.485	2.566	2.692	2.787	25
26	1.315	1.706	2.056	2.479	2.559	2.684	2.779	26
27	1.314	1.703	2.052	2.473	2.553	2.676	2.771	27
28	1.313	1.701	2.048	2.467	2.547	2.669	2.763	28
29	1.311	1.699	2.045	2.462	2.541	2.663	2.756	29
inf.	1.282	1.645	1.960	2.326	2.394	2.498	2.576	inf.

Values of χ^2_α

ν	$\alpha = 0.995$	$\alpha = 0.99$	$\alpha = 0.975$	$\alpha = 0.95$	$\alpha = 0.05$	$\alpha = 0.025$	$\alpha = 0.01$	$\alpha = 0.005$	ν
1	0.0000393	0.000157	0.000982	0.00393	3.841	5.024	6.635	7.879	1
2	0.0100	0.0201	0.0506	0.103	5.991	7.378	9.210	10.597	2
3	0.0717	0.115	0.216	0.352	7.815	9.348	11.345	12.838	3
4	0.207	0.297	0.484	0.711	9.488	11.143	13.277	14.860	4
5	0.412	0.554	0.831	1.145	11.070	12.832	15.056	16.750	5
6	0.676	0.872	1.237	1.635	12.592	14.449	16.812	18.548	6
7	0.989	1.239	1.690	2.167	14.067	16.013	18.475	20.278	7
8	1.344	1.646	2.180	2.733	15.507	17.535	20.090	21.955	8
9	1.735	2.088	2.700	3.325	16.919	19.023	21.666	23.589	9
10	2.156	2.558	3.247	3.940	18.307	20.483	23.209	25.188	10
11	2.603	3.053	3.816	4.575	19.675	21.920	24.725	26.757	11
12	3.074	3.571	4.404	5.226	21.026	23.337	26.217	28.300	12
13	3.565	4.107	5.009	5.892	22.362	24.736	27.688	29.819	13
14	4.075	4.660	5.629	6.571	23.685	26.119	29.141	31.319	14
15	4.601	5.229	6.262	7.261	24.996	27.488	30.578	32.801	15
16	5.142	5.812	6.908	7.962	26.296	28.845	32.000	34.267	16
17	5.697	6.408	7.564	8.672	27.587	30.191	33.409	35.718	17
18	6.265	7.015	8.231	9.390	28.869	31.526	34.805	37.156	18
19	6.844	7.633	8.907	10.117	30.144	32.852	36.191	38.582	19
20	7.434	8.260	9.591	10.851	31.410	34.170	37.566	39.997	20
21	8.034	8.897	10.283	11.591	32.671	35.479	38.932	41.401	21
22	8.643	9.542	10.982	12.338	33.924	36.781	40.289	42.796	22
23	9.260	10.196	11.689	13.091	35.172	38.076	41.638	44.181	23
24	9.886	10.856	12.401	13.484	36.415	39.364	42.980	45.558	24
25	10.520	11.524	13.120	14.611	37.652	40.646	44.314	46.928	25
26	11.160	12.198	13.844	15.379	38.885	41.923	45.642	48.290	26
27	11.808	12.879	14.573	16.151	40.113	43.194	46.963	49.645	27
28	12.461	13.565	15.308	16.928	41.337	44.461	48.278	50.993	28
29	13.121	14.256	16.047	17.708	42.557	45.772	49.588	52.336	29
30	13.787	14.953	16.791	18.493	43.773	46.979	50.892	53.672	30
40	20.706	22.164	24.433	26.509	55.758	59.342	63.691	66.766	40
50	27.991	29.707	32.357	34.764	67.505	71.420	76.154	79.490	50
60	35.535	37.485	40.482	43.118	79.082	83.298	88.379	91.952	60
70	43.275	45.442	48.758	51.739	90.531	95.023	100.425	104.215	70
80	51.172	53.540	57.153	60.391	101.879	106.629	112.329	116.321	80
90	59.196	61.754	65.646	69.126	113.145	118.136	124.116	128.299	90
100	67.328	70.065	74.222	77.929	124.342	129.561	135.807	140.169	100

* This table is based on Table 8 of *Biometrika Tables for Statisticians*, Vol. 1, by permission of the *Biometrika* trustees.

Registration Number | | | | | | | |

INDIAN INSTITUTE OF HANDLOOM TECHNOLOGY

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

Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 02 Time:3 Hours

Course Code & Title : **BS103 & APPLIED PHYSICS** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the unit of mass in CGS and FPS system.
2. Define least count with example.
3. Define elasticity.
4. Define moment of inertia.
5. Convert 0 °C into Fahrenheit scale.
6. Define coefficient of thermal conductivity.
7. Define wave velocity.
8. Write down the lens formula.
9. State Ohm's law
10. What are conductors? with example.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. What are the limitations of dimensional analysis? (6)

    B. Check the dimensional analysis whether the given equation is correct or not: (10)

    $= mgh + \frac{1}{2}mv^2$, where E is the energy, m is the mass, g is the acceleration due to gravity, h is the height & v is the velocity.

    (OR)

    C. Explain the Significant figures and their examples. (6)

    D. Explain the different types of errors in measurement with suitable examples. (10)

12. A. State the Stokes's law. Write down its applications. (6)

B. Explain stress-strain curve with a neat sketch. (10)

(OR)

C. Find the moment of inertia of a solid sphere of mass 18 kg and radius 6 meter rotating about an axis passing through its Centre and perpendicular. (6)

D. Define Friction. Explain different types of Friction in details. (10)

13. A. A material rod is 64.522 cm long at 12 °C and 64.576 cm at 90 °C. Find the coefficient of linear expansion of its solid materials. (6)

B. Explain the different modes of heat transfer with diagram. (10)

(OR)

C. Explain the expansion of liquids. (6)

D. Derive the expression for coefficient of linear, surface and volume expansion of solids. (10)

14. A. Define the terms (a) Amplitude (b) Frequency and (c) Wavelength. (6)

B. What are the free, damped and forced vibrations? Give examples for each. (10)

(OR)

C. Explain the total internal reflection and Critical angle. (6)

D. Explain the Laser and its characteristics (a) Stimulated absorption (b) Spontaneous emission and (c) Stimulated emission. (10)

15. A. Derive the equations for total resultant resistance when resistances connected in series and parallel. (6)

B. Derive the equation for equivalent capacitance, when the capacitors are connected in series and parallel. (10)

(OR)

C. Distinguish between Intrinsic and Extrinsic Semiconductor. (6)

D. Describe the working of N-P-N transistor with neat diagram. (10)

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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

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 02 Time:3 Hours

Course Code & Title : **ES102 Introduction to IT System** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define hardware and software with example.
2. What is translator?
3. How CLI is different from GUI.
4. Explain portal with suitable example.
5. Write the full form of LAN, URL, WWW, and ALU.
6. Define webpage.
7. What is motherboard?
8. Explain Kernel.
9. Who invented C programming language? Also mention the year of invention.
10. Define keyword in C programming language.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Explain Memory? Differentiate between web browser and search engine. (6)

    B. What is computer? Discuss its characteristics. What are the different components of computer system? (10)

    (OR)

    C. Describe peripheral devices with example. Write the difference between input device and output device with suitable example. (6)

    D. What is CPU? Compare and contrast internet and intranet. (10)

12. A. Define UNIX operating system. How UNIX is different from LINUX? Explain. (6)

B. What is operating system? Discuss the types and functions of operating system. (10)

(OR)

C. Explain UNIX Shell and its types. (6)

D. What are UNIX commands? Write the commands name with purpose used in UNIX operating system. (10)

13. A. Elaborate HTML with example. What are the features of HTML? (6)

B. What is heading tag? Briefly discuss all the versions and building block of HTML. (10)

(OR)

C. Briefly explain CSS with syntax? Why we use CSS with HTML documents? Also discuss its advantages. (6)

D. What are the ways of inserting/adding CSS in HTML documents? Explain with example. (10)

14. A. Elaborate MS Publisher. What are the difference between Open Office and MS-Office? (6)

B. Explain Microsoft word. Prepare/Make a resume of yourself. Also write the procedure of preparing a resume. (10)

(OR)

C. Define MS Excel. Also mention the applications of MS Excel. (6)

D. What is Microsoft office? Explain. (10)

15. A. What is program? Write a program in C programming language to perform subtraction of two numbers. (6)

B. Explain C language. How high level language is different from low level language. (10)

(OR)

C. Explain data types used in C programming language. (6)

D. What are the conditional statements used in C programming language? Discuss its types with example. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 02 Time:3 Hours

Course Code & Title : ES104 Fundamentals of Electrical, Electronics Engineering Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Draw the V-I characteristics of diode.
2. Draw the symbol of NAND & NOR Gate.
3. Mention the applications of Op-Amp.
4. Define CMRR.
5. What is reluctance?
6. Define power and energy.
7. Define form factor and peak factor.
8. Draw a phasor diagram of R-L circuits.
9. What are the types of transformer?
10. Mention the applications of Motor in Textile Industries.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Differentiate MOS and CMOS. (6)

    B. Explain the working principle and characteristics of FET. (10)

(OR)

    C. Discuss about the Digital ICs. (6)

    D. Construct the state table and explain the operation of D-Flip Flops. (10)

12. A. Compare the ideal and practical Op-Amp. (6)

    B. Explain in details about adder and differentiator. (10)

(OR)

    C. Compare Open loop and Closed loop configuration of Op-Amp. (6)

D. What do you mean by inverting amplifier? Derive the expression for its output voltage. *(10)*

13. A. Explain in detail about the B-H curve. (6)

B. Explain the Statically and Dynamically induced EMF. (10)

(OR)

C. Brief the following terms i) MMF ii) Current iii) Energy. (6)

D. Differentiate Electric and Magnetic circuit. (10)

14. A. Define i) RMS Value ii) Form Factor iii) Peak factor. (6)

B. Determine the Voltage and Current relationship in Star and Delta Connection with neat sketch. (10)

(OR)

C. Draw and explain the power triangle. (6)

D. Explain series R-L circuit with phasor diagram and derive equation of impedance & phase angle. (10)

15. A. Draw the characteristics curves of various types of DC shunt Motors. (6)

B. Explain the construction and working principle of Squirrel Cage Induction Motor. (10)

(OR)

C. Derive the EMF equation of Transformer. (6)

D. Explain the construction and working principle of Transformer. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 02 Time:3 Hours

Course Code &Title : **ES106 Engineering Mechanics** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1 . Write short notes of Varignon's Theorem.

2 . Two concurrent forces are 12N and 18N are acting at an angle of 60^0 to each other. Determine the resultant in magnitude and direction.

3 . What are the different types of supports and their reactions?

4 . What are the Types of beam?

5 . Define Co-efficient of friction.

6 . Define Angle of repose.

7 . What is meant by the Centre of gravity of an object?

8 . Write down the formula for Centroid of semi-circle with figure.

9 . What is the efficiency of the simple machine?

10 . Define ideal machine with example.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. If $\vec{P} = 6i + 12j - 5k$ and $\vec{Q} = -3i + 4j - 2k$ find (i) $\overrightarrow{4P} + \overrightarrow{3Q}$ (6)
(ii) $\overrightarrow{2P} \times \overrightarrow{3Q}$.

B. Five forces acting on a particle is shown in fig. 11(b). Locate the resultant force. (10)

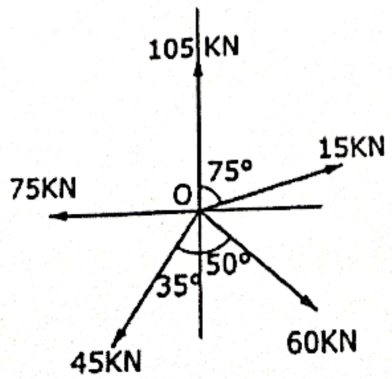

Fig.11(b)

(OR)

C. Two concurrent forces acting at an angle of 30^0. The resultant force is 15 N and one of the forces is 10N. Find the other force. (6)

D. Four coplanar concurrent forces are acting at a point as a shown in fig.11 (d). One of the forces is unknown and its magnitude is shown by P. The resultant force is having a magnitude 520 N and is acting along Y axis (negative direction). Determine the unknown force P and its inclination with X axis. (10)

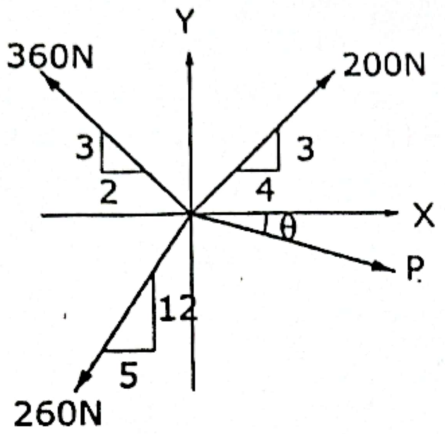

Fig.11(d)

12. A. An electric light fixture weighing 150 N hangs from a point C, by two strings AC and BC as shown in fig.12(a). Determine the forces in the string AC and BC. (6)

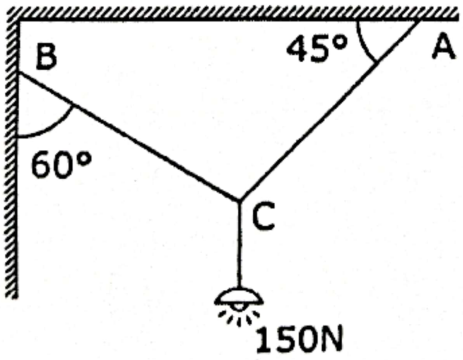

Fig. 12(a)

B. State and prove Lami's Theorem. (10)

(OR)

C. Find the support reactions at the fixed end of the cantilever beam shown in fig. 12(c). (6)

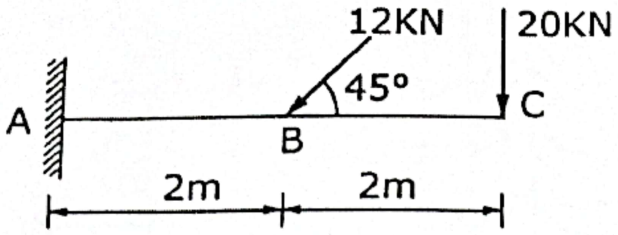

Fig. 12(c)

D. Find the reactions at the supports A and B of the beam shown in fig. 12(d). (10)

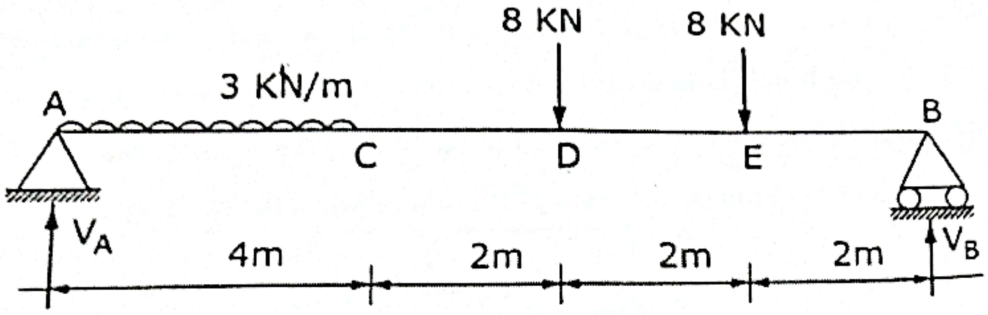

Fig. 12(d)

13. A. A man can pulled horizontally with a force of 450 N. A mass of 350 kg is resting on a horizontal surface for which the co-efficient of friction is 0.20. The vertical cable of a crane is attached to the top of the block as shown in fig. 13(a). What will be the tension in the cable is the man is just able to start the block to the right? (6)

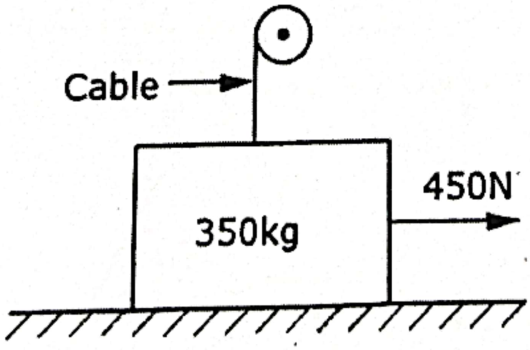

Fig. 13(a)

B. A block of weight 1290 N on a horizontal surface and supports another block if weight 570 N on top of it as shown in fig.13(b). Find the force P applied to the lower block that will be necessary to cause slipping to impend. Coefficient of friction between block (1) and (2) is 0.25. Coefficient of friction between block (1) and surface is 0.40. (10)

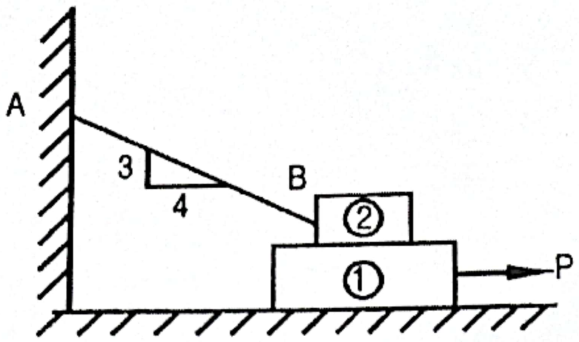

Fig. 13(b)

(OR)

C. A block of weight 150 N is resting on a rough inclined plane as shown in fig.13(c). The block is tied up by a horizontal string, which has a tension of 50 N. Find (i) the frictional force on the block (ii) the normal reaction of the inclined plane (iii) the co-efficient of friction between the surfaces of contact. (6)

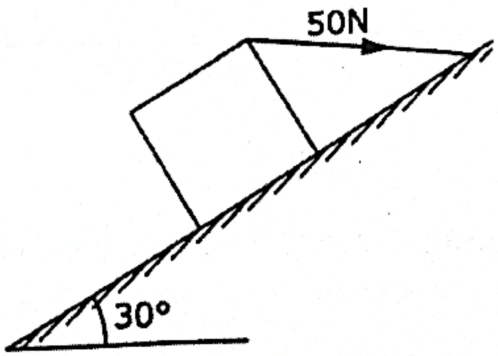

Fig. 13(c)

D. What should the value of the angle θ of inclined plane in fig. 13(d) below which will make the motion of 390 N block down the plane to impend? The co-efficient of friction for all contact surfaces is 1/3. (10)

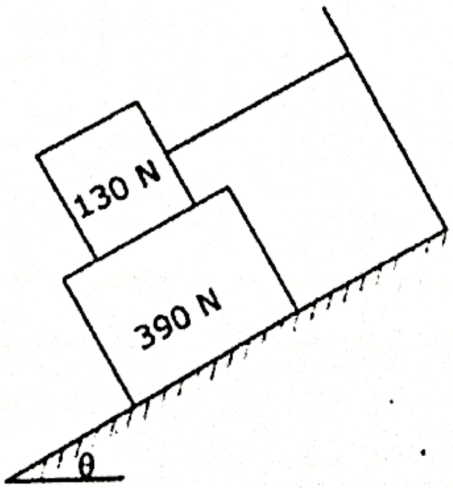

Fig. 13(d)

14. A. Locate the centroid of the cross-section area as shown in fig. 14(a). (6)

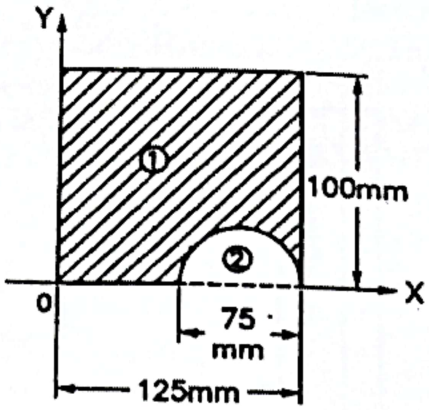

Fig. 14(a)

B. Locate the centroid of area shown in fig. 14(b). (10)

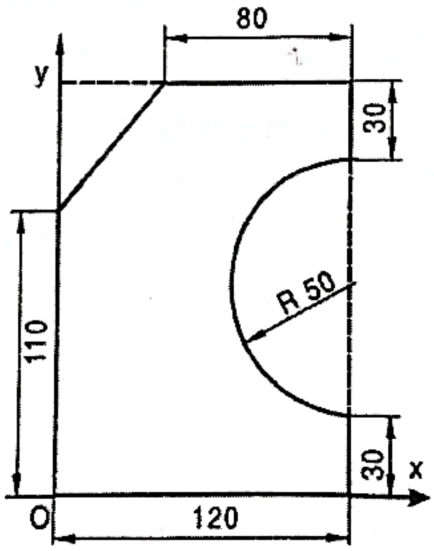

Fig. 14(b)

(OR)

C. Locate the Centre of gravity of the given fig. 14(c). Assume the materials to be homogenous. (6)

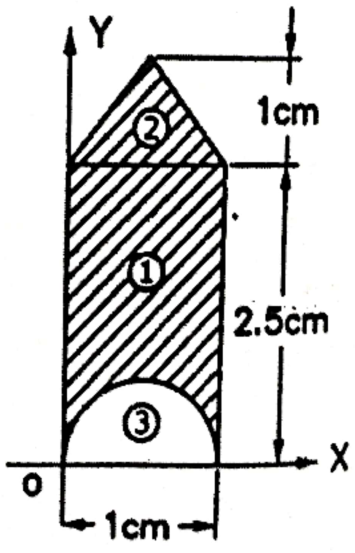

Fig. 14(c)

D. Find the centroid of the unequal angle 120x80x10 mm, as shown in fig. 14(d). (10)
(All dimensions are in mm)

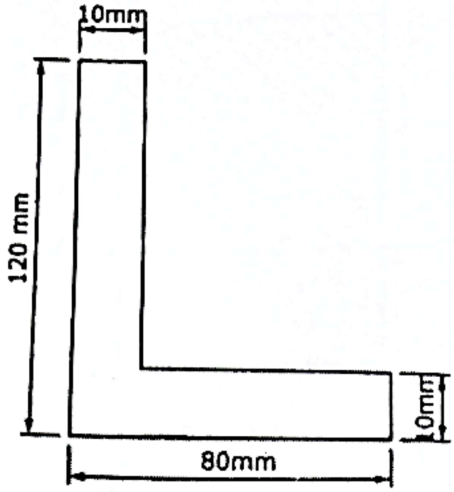

Fig. 14(d)

15. A. The efficiency of a lifting machine is 70 % when an effort of 10 N is required to a raise a load of 500 N. Determine the mechanical advantage and velocity ratio of the machine. (6)

B. Describe simple screw jack with M.A, V.R and efficiency. (10)

(OR)

C. A single threaded worm and worm wheel, the number of teeth on worm wheel are 50. The diameter of effort wheel is 20 cm and that of the load drum is 10 cm. Find the effort required to lift a load of 300 N at an efficiency of 20 %. (6)

D. Explain about differential axle and wheel with neat sketch and write the short notes of M.A, V.R and efficiency. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03 Time:3 Hours

Course Code & Title : **HTPC201 Textile Fibers** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define degree of polymerization.
2. Highlight the objective of drawing and heat setting process.
3. Why the crystallinity and orientation are very important for textile fibres?
4. Differentiate ply and cabled yarn.
5. List the physical properties and end uses of hemp fibres.
6. Write the importance of ageing and xanthation in viscose fibre production.
7. Identify the important amino acids presence in the silk fibre.
8. Enlist the chemical properties of Nylon 66 Fibers.
9. Differentiate acrylic and mod acrylic fibre based on their raw material.
10. Why the aramid fibers are mainly used for bullet proof clothing?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Write the classification of polymers with suitable examples. (6)

    B. Explain the important working principles of wet spinning with suitable diagrams. (10)

(OR)

    C. Differentiate the working principles of draw and air jet texturizing techniques. (6)

    D. Explain the spin finish composition and application techniques in detail. (10)

12. A. Identify the requirements to produce UDY, POY and FOY. (6)

    B. Classify the natural, organic and inorganic fibres with suitable charts. (10)

(OR)

    C. Enlist any three important essential and desirable properties of Textile fibers with suitable details. (6)

D. How the morphological structure can be related to the luster properties and explain the delustered fibre production and importance of the same. (10)

13. A. Compare the physical and chemical properties of cotton and flax (linen) fibres. (6)

B. Discuss in detail about the jute fiber cultivation, harvesting and production. (10)

(OR)

C. Identify the function of spin bath chemicals used in the viscose fiber production. (6)

D. Highlight the physical and chemical properties required to use normal and high modulus polynosic rayon in technical textiles applications. (10)

14. A. Classify the various varieties of wool fiber and grading of the same. (6)

B. Analyse the importance of throwing and weighing in silk filament production. (10)

(OR)

C. Discuss the chemical composition and properties of wool fibre. (6)

D. Enumerate in detail about the raw material requirements and manufacturing process of Nylon 6 fibre. (10)

15. A. Highlight the important physical and chemical properties of polyester fibre. (6)

B. Discuss in detail about the steps involved in the manufacturing process of polyethylene fibre (10)

(OR)

C. Enlist the important physical and chemical properties of polypropylene fibre. (6)

D. Differentiate the raw material and manufacturing process details involved in the meta and para- aramid fiber production. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03 Time:3 Hours

Course Code & Title : **HTPC202 Yarn Manufacturing Technology** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Mention any two blending machines employed in blow room process.
2. Write the formula to calculate cleaning efficiency of blow room.
3. State the objectives of carding machine.
4. Write any two web doffing devices employed in carding machine.
5. State the objectives of combing process.
6. What is noil in comber?
7. State the functions of autoleveller.
8. Calculate the draft applied on roving machine to produce 1.5^s Ne roving from 0.14^s Ne draw frame sliver.
9. State the objectives of ring frame.
10. Write the formula to calculate number of twists introduced per inch of the yarn if spindle speed and delivery speed are known.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Write the process flow chart for a carded yarn manufacturing process. (6)

    B. Explain the working principle of any one ginning machine with neat sketch. (10)

(OR)

    C. What is chute feed system?. Mention its advantages and disadvantages. (6)

    D. Calculate the production of blow room machine in kg per shift of 8 hours running at 86% efficiency producing 0.0012^s Ne lap hank with speed and diameter of lap roller are 15 rpm and 9" respectively. (10)

12. A. Compare carding action and stripping action in carding machine. (6)

B. Explain the working of autoleveller commonly employed in a carding machine with suitable diagram. (10)

(OR)

C. Write the functions of coiler and mention its types employed in carding. (6)

D. With a neat sketch, explain the passage of material through high production carding machine. (10)

13. A. Write short notes on forward feed and backward feed in comber. (6)

B. With a neat sketch, explain the working of super lap former machine with its technical specifications. (10)

(OR)

C. Write short notes on various comber preparatory techniques. (6)

D. Explain combing cycle of operations with neat diagrams. (10)

14. A. Draw neat diagram of modern draw frame and mention its parts and technical specifications. (6)

B. Calculate the production of a roving frame in kg per shift of 8 hours running at 90% efficiency with spindle speed – 1400 rpm, twist factor – 1.2, roving hank – 1.8^s Ne and number of spindles – 120. (10)

(OR)

C. Calculate the production of a draw frame in pounds per hour running at 90% efficiency with delivery speed - 500 meters per minute and draw sliver hank – 0.14^s Ne. (6)

D. Explain the passage of material through speed frame with neat sketch. (10)

15. A. Write brief notes on bundling process. (6)

B. With a neat sketch, explain the passage of material through ring spinning machine. (10)

(OR)

C. Write brief notes on reeling process. (6)

D. Calculate the production of a ring frame in kg per shift of 8 hours running at 88% efficiency with spindle speed – 20000 rpm, twist per inch – 22, yarn count – 40^s Ne and number of spindles – 1080. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03 Time:3 Hours

Course Code & Title : **HTPC203 Handloom Weaving Technology** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What are the Limitations of peg warping?
2. Differentiate between winding and warping.
3. What are the advantages of center closed shed over bottom closed shed?
4. Differentiate between pit loom and frame loom.
5. Mention the specifications of shuttles that are suitable for cotton and silk saris.
6. Write the limitations of barrel dobby.
7. Define the term of millitex and kilotex.
8. Give the conversion factor for Ne to Denier.
9. Calculate the count of 2 fold yarn twisted from 2 singles of 40^s yarn.
10. How do you express the reed particulars? Give the example.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Write the essential characteristics required for weaving of warp and weft yarns. (6)

    B. Identify the type of yarn packages suitable for handloom weaving process and explain their characteristics and uses with suitable illustrations. (10)

(OR)

    C. Formulate the size recipe for combed cotton and polyester/cotton blended yarns. (6)

    D. What are the objectives of sizing? Summarize the ingredients used in size mixture for the handloom industry and their functions. (10)

12. A. Differentiate between throw shuttle and fly shuttle handlooms with respect to process and products. (6)

    B. With neat sketch Discuss in detail about the various parts of the handloom and their functions. (10)

(OR)

C. Explain jack and lam rod system shedding mechanism on handloom with neat diagram (6)

D. Discuss in detail about the position and movement of warp layers in different types of sheds with suitable sketch. (10)

13. A. What are the various types of reed? Explain the suitability and characteristics for various types of handloom fabrics with suitable illustrations. (6)

B. Explain the construction, working principle and limitations of barrel dobby in handloom with neat sketch. (10)

(OR)

C. Explain the working mechanism of fly shuttle picking mechanism of the handloom along with its advantages. (6)

D. Describe the functions and working mechanism of poker rod and ratchet wheel take up motion with neat diagram. (10)

14. A. If 2800 yards of cotton yarn weigh 40 grams, Calculate the count of the yarn in New English System. (6)

B. (i) If 7900 yards of jute yarn weighs 3 pounds. Calculate the count of the yarn?
(ii) Calculate the length of a skein of flax yarn whose weight is 0.5 lb. and the count is 16 pounds per Spyndle. (10)

(OR)

C. If 1550 metres of Silk yarn weighs 7.5 grams. Calculate the count of the yarn in Denier system. (6)

D. Deduce the conversion factors for converting yarn count from New English system to metric system and Convert 80^s Ne cotton count to metric system. (10)

15. A. Calculate the resultant count of the three fold cotton yarn composed of 12^s, 15^s and 20^s single yarn. (6)

B. The take-up of one of the component threads in a loop yarn is 90%. The count of this component yarn is 40s. If the count of the other component yarn is 80s, calculate the length and weight of component threads are there in 5 pounds of the resultant yarn. (10)

(OR)

C. Calculate the average count of 10 tex, 15 tex, and 20 tex yarns. The length of yarn in each case is same in 1Km. (6)

D. Calculate the total number of ends in the reed from the following particulars: (10)
Count of the reed : 48s ST
Denting : 2 ends per dent for body & 4 ends per dent in selvedge
Reed width : 52 inch (including one inch selvedge on each side)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03 Time:3 Hours

Course Code &Title : **HTPC205 Chemical Processing of Textiles - I** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the object of spotting in preparatory process of Textiles.
2. Write the function of tri sodium phosphate in bleaching.
3. Write two examples of ingrain dyes/colour.
4. What is the M:L ratio of padding mangle.
5. Write the name of bond formed between reactive dye & cotton.
6. Write two commercial names of Direct dyes.
7. Write the coupling reaction in azoic dyeing of cotton.
8. Write the name of chemicals used in reduction of Sulphur dyes.
9. Define Milling.
10. Write the decatising process for wool.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. What is the need of preparation of grey fabric for dyeing. (6)

    B. Explain the saponification and emulsification process of scouring cotton. Write the method of bleaching cotton with hydrogen peroxide. (10)

    (OR)

    C. Write the objectives of Mercerisation. Discuss in short about parameter of Mercerization. (6)

    D. Explain the working of Gas singeing machine with neat diagram. (10)

12. A. Write in detail the classification of dyes. (6)

    B. Explain the working of J box with neat diagram. What are the advantages of J box machine? (10)

(OR)

C. Write in brief shade percentage, affinity and percentage expression. (6)

D. Explain with diagram the working of Soft Overflow Jet dyeing machine with its advantages. (10)

13. A. Define direct dyes. Explain the after treatments of direct dyed goods. (6)

B. Write about various types of Reactive dyes. Explain the method of dyeing using H brand reactive dyes with recipe and functions of chemicals used. (10)

(OR)

C. Write the method of application of cationic dye fixing agent on direct dyed cotton. (6)

D. What do you know about Vinyl sulphone reactive dyes? Write the method of dyeing with VS dyes on cotton. (10)

14. A. Write about classification of Vat dyes according to application method. (6)

B. Explain in detail the development of Azoic color on cotton with objectives of chemical used. (10)

(OR)

C. Define solubilized vat dyes. Write the details of dyeing process using Solubilized vat dyes on cotton. (6)

D. Write in detail about defects such as tendering and bronziness in Sulphur dyed goods and their remedies. (10)

15. A. Explain degumming of Silk. Write the method of degumming. (6)

B. What do you know about Setting of Wool? Explain the working of Milling machine with neat diagram? (10)

(OR)

C. Write in detail the dyeing of Silk using Acid dyes with recipe and objectives of chemicals used. (6)

D. What are metal complex dyes? Explain the classification of acid dyes. (10)

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

Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 03 Time:3 Hours

Course Code &Title : **HTPC204 Fabric Structure - I** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Give the names of different types of draft.
2. Give the names of two derivative structure of plain weave.
3. What do you understand by warp faced twill weave?
4. How many minimum ends and picks required for 3/1 twill weave.
5. Write the possible moves number for 5 thread satin weave.
6. Name the draft order used for sateen weave.
7. Give the names of two weaves that can produce toweling effect.
8. Write the drafting order of 8 x 8 ordinary honey comb weave.
9. Define the hounds tooth effect.
10. Define the Bird's Eye effect.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Give the classification textile fabrics. (6)

    B. What are the derivatives of plain weave? Mark a weave for each derivative. (10)

    (OR)

    C. Explain the methods of representing design/weave on graph paper. (6)

    D. Explain the arrangement and working of a catch cord technique with suitable diagram. (10)

12. A. Construct one repeat of warp and weft face twill weave on 5 ends and 5 picks. (6)

    B. Construct one repeat weave, draft and peg plan of a herring bone twill on 16 x 8 with 4/4 twill base. (10)

(OR)

C. Write the factors that influence the angle of twill. (6)

D. Construct design, draft and peg plan of a wavy twill along the cloth on 8 x 16 with 4/4 twill base weave. (10)

13. A. Differentiate regular / irregular satin and sateen weaves. (6)

B. Construct a diamond weave with suitable drafting order. (10)

(OR)

C. Construct diaper weave with 2/2 base twill. (6)

D. Construct the design, draft, peg plan for (10)

(i) 2/2 twill base diamond weave on 6 x 6 (ii) 5 thread sateen weave.

14. A. Construct a mock leno design on 6 x 6. (6)

B. Construct a Huck-a-Back design on 10 x 10 and furnish drafting and peg plan. (10)

(OR)

C. Construct honey comb weave on 6 threads. (6)

D. Construct brighton's honey comb suitable for weaving with 8 heald shaft. (10)

15. A. What are the different methods for constructing crepe fabric? (6)

B. Construct the design, draft, peg plan by combining mock-leno and plain weave to produce a check fabric (10)

(OR)

C. Name any four colour and weave effects. (6)

D. Construct the design, draft, peg plan by combining honey comb and plain weave to produce a check fabric. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 04 Time:3 Hours

Course Code &Title : **HTPE202 Garment Manufacturing Technology** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define the term Garment Manufacturing Technology.
2. List out the various departments in an apparel industry.
3. Write the formula of marker efficiency.
4. List out the important pattern making tools.
5. Mention the different types of cutting machine.
6. State the common defect in spreading.
7. List the types of seams.
8. Mention the basic parts of sewing machine.
9. What is bartack?.
10. Mention the different types of specialized sewing machine.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Write the status of apparel industry in India. (6)

    B. Briefly Explain the various departments in garment industry. (10)

    (OR)

    C. With the help of flowchart classify and explain the different types of garments. (6)

    D. Briefly explain the different types of fabric and state their functional properties. (10)

12. A. Define the term Anthropometry and state the sequence of taking body measurements. (6)

B. Explain different type of pattern making tools and their applications. (10)

(OR)

C. Explain various types of pattern making. (6)

D. Briefly explain eight head theory of Anthropometry. (10)

13. A. Define the term Spreading and briefly explain various methods of spreading. (6)

B. Briefly explain the working principle of computerized cutting machine, State the advantages and disadvantages. (10)

(OR)

C. State the objectives of cutting and describe requirements of cutting. (6)

D. Briefly explain the working principle of Straight knife cutting machine and state the advantages. (10)

14. A. Define the term Stitching and classify the Stitching types. (6)

B. Briefly explain the role of trims and accessories with respect to their applications. (10)

(OR)

C. Briefly explain the functions of various parts of sewing machine. (6)

D. Describe in detail about superimposed seam and bound seam. (10)

15. A. Define the term sewing. Classify the sewing machine based on their application. (6)

B. Describe the importance of Special purpose sewing machines in an apparel industry. (10)

(OR)

C. Explain the following. (6)

a) Sewing needle b) Sewing thread.

D. With a neat line diagram explain the process of stitch formation on Single needle lock stitch machine. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 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. Differentiate nonwovens with other basic fabric structures.
2. Name any two fibres preferred for polymer laid nonwoven process.
3. List the limitations of parallel laid web formation systems.
4. State the advantages of air-laying process.
5. What is meant by punch density of needle punching process?
6. State the principle of stitch-bonded nonwoven techniques.
7. List the properties of Spunbond nonwovens.
8. Give the polymers that can be used for meltblown nonwoven process.
9. State any four mechanical finishing techniques for nonwovens.
10. Which type of finishing technique is used to improve the dimensional stability of nonwoven fabric?

PART-B

((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Give the classification of nonwoven based on production techniques and structures. (6)

    B. Give a detailed note on application of nonwoven in different areas. (10)

    (OR)

    C. Discuss the steps involved in preparation of fibres for the production of nonwoven fabric. (6)

    D. Explain the characterisation of various nonwoven produced from different techniques. (10)

12. A. Compare parallel and cross-laid webs with respect to principle of web formation, limitations and characteristics of webs. (6)

B. Describe the working principle of cross lapper with sketch and also mention the characteristics of the webs. (10)

(OR)

C. Give a brief note on influence of web laying methods on nonwoven fabric properties. (6)

D. Describe the principle and features of air laid web formation method with diagram. (10)

13. A. Give a brief note on manufacturing of calendar thermal-bonded fabric. (6)

B. Describe the hot air oven thermal bonding method with suitable diagram. (10)

(OR)

C. Discuss the types of needles used for bonding and structuring of nonwovens in needle punching. (6)

D. Explain the formation of stitch bonded nonwovens systems with sketch. (10)

14. A. Compare spun bond and melt blown process. (6)

B. With suitable diagram, explain the nonwoven manufacturing process for spun bonded nonwoven fabric. (10)

(OR)

C. Give a brief note on special features of meltblown & spunbond nonwoven. (6)

D. Elaborate the requirement and purpose of various components of meltblowing process with suitable sketches. (10)

15. A. Discuss in detail, the various application methods used for chemical finishing of nonwovens. (6)

B. List the any five types of mechanical finishing of nonwoven and explain its influences on the properties of nonwovens. (10)

(OR)

C. Describe the various parameters need to be tested for nonwoven fabrics meant for any two applications (6)

D. Elaborate the techniques used to evaluate the quality of nonwovens for geo-textile applications. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 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. What are the objectives of tensioning device in winding machine?
2. State the advantages of splicing process over knotting process.
3. Write the formula to calculate the number of sections required to be made in sectional warping machine.
4. Write the formula to calculate the size pick up percentage.
5. Enlist the various auxiliary motions in weaving process.
6. Write the advantages of early picking.
7. What is sley eccentricity?
8. Differentiate loose reed and fast reed motions.
9. What is the purpose of employing drop box motion in power loom?
10. Write the formula to enumerate the length of fabric delivered in inches per minute in powerloom.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Differentiate the precision winding process and drum winding process. (6)

    B. With line diagram, explain any one type of electronic yarn clearer mechanism with its advantages and disadvantages. (10)

(OR)

    C. Write briefly about the anti-ribboning device employed in winding machines. (6)

    D. Calculate the number of drums required to wind 900 pounds of cotton yarn of 32 Ne in 8 hours. The actual rate of winding is 1080 yards per minute. (10)

12. A. Draw the line diagram of modern warping machine and indicate the important functional parts. (6)

B. With line diagram, explain the working principle of multi cylinder sizing machine. (10)

(OR)

C. Calculate the number of sections to be made and number of ends in each section to be split for uniform distribution, if the total number of ends required to be in the warp sheet is 2700 and the maximum creel capacity is 500 bobbins. (6)

D. The speed of the warp drum is 45 and its diameter is 20 inches. What is the length of warp delivered in hanks per warper per day of 8 hours, if the efficiency of the machine is 65% (10)

13. A. Explain about the early shedding and late shedding with their advantages and disadvantages. (6)

B. Explain the working mechanism of climax dobby with suitable diagram. (10)

(OR)

C. Differentiate early shedding and late shedding. (6)

D. Explain the working mechanism of cone over pick with suitable diagram. Also explain about the various settings to be altered to change the picking force. (10)

14. A. Write the advantages and disadvantages of negative let-off motions. (6)

B. Explain the loom timing diagram by indicating the timings of the all primary motions and their synchronization. (10)

(OR)

C. Discuss in brief about the various temples used in weaving process. (6)

D. With neat sketch, explain the working of center weft fork motions. (10)

15. A. Explain about the drop wires used in mechanical warp stop motion. (6)

B. With neat sketch, explain the working of any one type of multiple drop box motion. (10)

(OR)

C. Prepare a lay-out for a loom shed suitable for accommodating 25 powerloom. (6)

D. Explain the working principle of shuttle changing mechanism with its advantages and disadvantages. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 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. What are the main characteristics of bed ford cord weave?
2. How many series of warp threads are required to produce welt structure and why?
3. Write the stitching method followed in warp centre stitched double cloth?
4. Draw the line diagram of a thread interchanging double cloth?
5. What are the objectives of producing treble cloth?
6. Which type of backed cloth can be produced economically & why?
7. What is face to face weaving technique?
8. What is anchoring of piles & name the main two ways of anchoring of piles?
9. Indicate lifting plan for cross shed in cross weaving using bottom loop.
10. Name the factors that influence the selection of proper count of graph paper?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Construct the design & draft of a 2/2 twill face bed ford cord weave. (6)

    B. Construct the design, draft & interlacement diagram of a wadded plain face Bedford cord repeats on (14 x 4), taking 2 wadding threads in a repeat. (10)

(OR)

    C. Differentiate between Bedford cord & welt structure. (6)

    D. Construct the design, draft & interlacement diagram of a fast back welt structure repeats on (6 x 8), keeping the 3rd, 4th as wadding picks in a repeat. (10)

12. A. Differentiate double width cloth, tubular cloth & two ply cloth. (6)

    B. Construct a self stitched double cloth design by taking face weave as 2/4 twill weave & back weave as 3/3 twill weave using any one stitching method. (10)

(OR)

C. Construct a weft center stitched double cloth design by taking 2/2 twill weave as face & back weave. (6)

D. With proper illustration, showing the stripe effects produced in both thread interchanging double cloth & cloth interchanging double cloth. (10)

13. A. Construct a reversible warp backed cloth design using 3/1 twill weave. (6)

B. Construct a warp wadded weft backed cloth by taking 5 thread satin/sateen weave on face & back by taking warp : wadding warp = 1 : 1 & Face pick : Back pick = 1:1. (10)

(OR)

C. Construct a design of a 2/2 twill imitation warp backed on 9 end and 9 picks. (6)

D. Construct a treble cloth design by using 3/3 twill weave on face, center & back weave. Mention the stitching methods followed. (10)

14. A. Write the salient features of terry piles. (6)

B. Construct the design and interlacement diagram of the followings (10)

i) 3 pick terry pile produced both sides

ii) 5 pick terry pile produced on face side only

(OR)

C. Construct one repeat of twill back velveteen by taking Ground weave – 2/1 twill, pile weave – 1/2 twill & Ground : pile pick = 1 : 3 (6)

D. Explain the method of production of warp pile fabrics with aid of wires and taking a suitable example, construct a design and interlacement diagram. (10)

15. A. Draw the neat diagram showing the formation of open shed formed in leno weaving. (6)

B. Taking 36 ends and 36 picks indicate the structure of a figured single cloth using any two weave for straight tie and straight draft arrangement. (10)

(OR)

C. Differentiate extra warp and extra weft design. (6)

D. Take a motif of 10 X 10 for extra weft figure, the complete structure in 10 ends & 20 picks in the graph paper, keeping the proportion of ground to extra weft 1: 1 & plain weave for ground. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 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. What is the object of Heat Setting?
2. Give examples of carriers used in dyeing.
3. Write the name of traditional styles of printing.
4. Write the curing after treatment of printing.
5. What are the various styles of printing?
6. Write the recipe for printing of cotton with reactive dyes.
7. What is raising treatment in finishing?
8. Write a note on sueding treatment.
9. Write about mechanism of creasing.
10. What are the chemicals used to impart crease recovery finish in cotton?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Write about moiré defect. (6)

    B. Explain the dyeing of polyester with disperse dyes by thermosol method with neat diagram. (10)

(OR)

    C. Describe carrier method of dyeing polyester with disperse dyes. (6)

    D. Write the method of scouring polyester. Explain the bleaching of polyester with sodium chlorite. (10)

12. A. Explain ageing and steaming after treatments of printing. (6)

    B. Describe the various printing paste ingredients and their function. (10)

(OR)

C. Explain kalamkari, tie & dye and batik styles of printing. (6)

D. Explain the rotary screen printing method with its advantages over other printing methods. What are the merits and demerits of transfer printing? (10)

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

B. Explain the method of printing of cotton with direct dyes in direct style with recipe and after treatments. (10)

(OR)

C. Write the method of printing of silk with acid dyes. (6)

D. Describe the method of printing of polyester by disperse dyes with recipe and after treatments. (10)

14. A. What are the objects of textile finishing? (6)

B. Explain the sanforizing process with neat diagram of machine used. (10)

(OR)

C. Classify the mechanical and chemical finishes. What are the temporary and permanent finishes? (6)

D. What are the objects of calendaring? Explain friction calendaring with neat diagram of machine used. (10)

15. A. Write difference between water proof and water repellency with examples of finishes used. (6)

B. What is crease recovery finish for cotton? Write the process and recipe of wrinkle resistant finish on cotton. (10)

(OR)

C. Explain soil release finish with mechanism of soiling. (6)

D. Explain softening, stiffening, antistatic and flame retardant finishing on cotton fabric. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 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. What is meant by random sample?
2. List the process of Squaring technique for fibre sampling.
3. List the importance of the conditioning of sampling before testing?
4. Define relation humidity.
5. How the fibre fineness is termed? and what is the importance of it.
6. What is the maturity ration?
7. What is CRL?
8. List the factors affecting the result of a Single yarn strength tester.
9. Give the significance of the yarn Twist.
10. List out the count measuring systems.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Explain the importance of testing on Textiles. (6)

    B. Elaborate the selection of fibre samples using Squaring and Zoning Techniques with suitable examples. (10)

(OR)

    C. Differentiate the random sampling and Bias sampling technique with suitable example. (6)

    D. What kind of sampling technique used for selection of silk fibre. Explain the technique in detail. (10)

12. A. What is RH%?. Give the process of identifying the RH parameters using Hygrometer. (6)

    B. Discuss the importance of atmospheric condition on textile testing and explain the effect of moisture on textile materials. (10)

(OR)

C. Explain the relationship between the Moisture Content and Moisture Regain. (6)

D. Discuss in detail any two methods of identifying the moisture regain properties of cotton fibre. (10)

13. A. What is spinnability of Fibres?. What are all the basic requirements and properties for a fibre to be spinnable?. (6)

B. Explain in detail the measurement of fibre length and its distribution using Baer sorter. (10)

(OR)

C. Elaborate the method of identifying the maturity of cotton fibre. (6)

D. How does the fineness supports in yarn parameters?. Explain with neat diagram the measurement of fibre fineness using any one fineness tester. (10)

14. A. Discuss on CRE, CRT and CRL principles and give the type of tensile testing instruments working on the principles. (6)

B. Evaluate the fibre strength using Stelometer and explain the working of Stelometer with neat diagram. (10)

(OR)

C. List the parameters and factors influencing the results of the tensile properties of textile fibres and yarns. (6)

D. Explain with neat sketch the construction and working principle of a Lea strength tester. (10)

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

B. Explain the method of measurement of yarn count using Beesley's balance along with its merits and demerits. (10)

(OR)

C. Discuss the relationship of the following. (6)
a) Twist and yarn strength b) Twist and fabric properties

D. Explain the method of measuring the evenness of the yarn and discuss the different classification of yarn faults. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code & Title : **HTPE303 Fashion Designing** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define FAD.
2. State the reasons for the change in fashion.
3. What is hue, value and intensity in fashion designing?
4. List the basic elements of design.
5. Differentiate formal, informal and radial balance
6. What is proportion in design?
7. Illustrate any two collars and necklines.
8. Classify the different types of sleeves.
9. Brief the term "wardrobe planning"
10. Name and Illustrate any four types of silhouettes

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Explain the designers' role in styling and production of costumes (6)

    B. Illustrate and outline the various stages of fashion cycle with suitable example (10)

    (OR)

    C. Classify the different fashion theories with example. (6)

    D. Explain different fashion cycle with suitable example and discuss the reason for the same. (10)

12. A. Discuss the term texture and its types & applications in clothing with illustration. (6)

    B. Outline the various elements of design and their application in apparel with illustration (10)

(OR)

C. Illustrate and explain the Prangs colour chart. (6)

D. State and explain the psychology of colour and its impact on the apparel design selection. (10)

13. A. Explain the various ways through which rhythm can be created with illustration (6)

B. Illustrate and explain how the "emphasis and harmony" can be achieved in a garment design (10)

(OR)

C. Detail the concept of balance with suitable sketch. (6)

D. Enumerate the role of scale or proportion in planning the shapes in apparel design. (10)

14. A. Classify the different types of skirts with their design features. (6)

B. .Illustrate and explain the various designs of trousers. (10)

(OR)

C. Evaluate the different application of tucks in kids frock with neat illustration. (6)

D. Discuss in detail the various types of collar design and their application in different garments with suitable sketch. (10)

15. A. What do you mean by tend forecast? State their impact on garment design. (6)

B. State the purpose of portfolio and elucidate in detail the steps involved in developing a portfolio? (10)

(OR)

C. State the necessity of the wardrobe planning. (6)

D. Analyse in detail about the methods used in performing the fashion forecasting process (10)

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APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code & Title : **HTPE302 Advanced Fabric Structure** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Name the four dress materials woven with Extra Warp and Extra Weft figuring.
2. When are the plain cards required to weave figured Extra Weft fabric?
3. Indicate the warp and weft series used in the Patent Satin structure.
4. What is the use of the Working Comber Board?
5. Write the salient features of Traditional Tapestry.
6. Define the structure of the Warp Backed cloth.
7. How is the figure produced using the Double cloth structure?
8. Mark 4 pick Terry weave indicating the warp series and weft used.
9. List the different sheds formed in Leno weaving.
10. How does the Chenille pile differ from other pile structures?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Table the difference between Extra Warp and Extra Weft figuring structures. (6)
    B. Using the guide graph on 20 x 20, develop the figured Extra Warp graph on 60 x 20 taking the 2 ground ends: 1 extra warp figure end ratio. (10)

    (OR)

    C. Explain the method of weaving Extra Warp figured fabric using the jacquard and healds setup. (6)
    D. Taking the guide graph on 24 x 24, explain the punching, lacing, and weaving method to produce figured Extra Weft fabric using only jacquard (without healds). (10)

12. A. Draw the drafting order followed in the loom set with working comber board and healds to weave Patent Satin. (6)
    B. Develop the complete structure of the Fast Back Figured pique on 48 x 48 using the guide graph on 16 x 12. (10)

(OR)

C. Explain the method of weaving Fast Back Pique figured fabric using the jacquard and healds setup. (6)

D. Develop the complete structure of the Figured Patent Satin on 48 x 48 using the guide graph on 16 x 12. (10)

13. A. Table the difference between Warp Backed and Weft Backed figured cloth structures. (6)

B. Mark the four weaves of 4 picks reversible Contemporary Tapestry. Also, draw the picks interlacing diagram for the same. (10)

(OR)

C. Mark the three weaves of 3 picks reversible Contemporary Tapestry. Also, draw the picks interlacing diagram for the same. (6)

D. Develop the complete structure of the Warp Backed cloth on 48 x 24 using the guide graph on 24 x 24. (10)

14. A. Explain the method of weaving Figured Terry fabric using the jacquard with sectional harness – sectional draft and healds setup. (6)

B. Using the 24 x 24 guide graph develop the complete structure of Figured Interchanging Double Cloth on 48 x 48. (10)

(OR)

C. Explain the method of weaving Figured Interchanging Double Cloth using the jacquard with straight harness – sectional draft setup. (6)

D. Using the 12 x 16 guide graph develop the complete structure of Figured 3 pick Terry on 48 x 48. (10)

15. A. Table the difference between Gauze and Leno (6)

B. Draw the Draft and Interlacing Diagram of the Leno Stripe effect formed by combining straight draft Leno with plain weave. (10)

(OR)

C. Explain the method of manufacturing Chenille pile fabric (6)

D. Draw the Draft and Interlacing Diagram of the Leno Cord effect formed by combining straight draft Leno over cord ends with plain weave. (10)

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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

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code & Title : **HTPE301 Knitting Technology** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1 . What is stitch length?

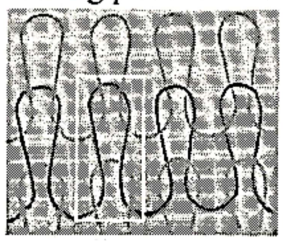
2 . In knitting industry, combed hosiery yarn is preferred than carded yarn- Justify your answer.

3 . Draw the diagram of sinker and mention its parts.

4 . Differentiate between top creel and side creel of knitting.

5 . What are the reasons for the curling behavior of the single jersey fabric?

6 . Identify the number of intermeshing points from the highlighted structure.



7 . State the principles of flat knitting.

8 . Mention the basic structures produced by flat knitting machine.

9 . What is closed lap and open lap?

10 . Differentiate tricot and raschel warp knitting machine with respect to needle.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Identify the reasons for the growth of knitting industry. (6)

B. Infer the properties and characteristic difference between the knit, woven and nonwoven fabrics. (10)

(OR)

C. Compare warp knitting and weft knitting process (6)

D. Describe the staple spun yarn selection and yarn quality requirement for efficient running of knitting. (10)

12. A. Explain the knitting actions and show the various positions of latch needle with neat sketch. (6)

B. Illustrate the knitting needles which are considered to be the best, explain your answer by comparing other types of needles. (10)

(OR)

C. Describe the elements of knitted loop structures with suitable illustration. (6)

D. With necessary sketch explain the passage of material through weft knitting machine along with its functional elements and its importance (10)

13. A. Explain the effect of loop length and shape on knitted fabric properties. (6)

B. Describe the structures, diagrammatic, symbolic representations and properties of plain weft knit structure. (10)

(OR)

C. Explain the factors affecting the formation of knitted loop structures in knitted fabrics. (6)

D. Analysis the structures, diagrammatic, symbolic representations and properties of purl weft knit structure. (10)

14. A. Explain the classification of flat knitting machines. (6)

B. Explain the working mechanism of computer control flat knitting machine with suitable sketch. (10)

(OR)

C. Describe the basic elements and its functions of flat knitting machine. (6)

D. Discuss in detail how various structures produced by using flat knitting machines with suitable structure. (10)

15. A. Describe the basic elements and its functions of warp knitting machine with suitable sketch. (6)

B. Compare Tricot and Rachel warp knitting machine and its loop forming sequences with suitable diagrams. (10)

(OR)

C. Discuss in detail about the various applications of warp knitted fabrics in technical applications (6)

D. With suitable diagram explain the construction and working of guide bar movement mechanism and chain link in warp knitting. (10)

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

Diploma in Handloom & Textile Technology

APR/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code &Title : **HTPC301 Weaving Technology – II** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1 . Give the classification of jacquard loom.

2 . What is casting out in jacquard?

3 . State the importance of quick style change.

4 . Give the weft insertion rates of various types of shuttleless looms

5 . List the various yarn insertion configurations in air-jet loom.

6 . State the limitations of water jet loom.

7 . Give the Pierce's formula for calculating diameter of cotton yarn in inch.

8 . Define the term 'Fabric cover factor'.

9 . Define the terms thread density and areal density.

10 . Give the formula for calculating EPI and PPI in a fabric.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Give the classification of types of shedding in jacquard loom and mention their advantages and limitations. (6)

B. With a neat diagram, explain the working mechanism of Double Lift Single Cylinder Jacquard weaving. (10)

(OR)

C. Discuss the advantages and limitations of Single Lift Single Cylinder Jacquard. (6)

D. Explain the working mechanism of Electronic Jacquard machine with suitable sketch. (10)

12. A. Give a detailed account of weft accumulators with diagram. (6)

B. With suitable sketch, explain the functioning of torsion bar picking mechanism. (10)

(OR)

C. Give a brief note on the techno-economics of shuttleless looms over shuttle looms. (6)

D. Describe the various rapier drive arrangements with neat diagrams. (10)

13. A. Discuss the selvedge formation in shuttleless loom. (6)

B. Elaborate on weft insertion mechanism in water jet loom and developments in the same with suitable sketch. (10)

(OR)

C. Give a brief note on loom monitoring systems and their advantages. (6)

D. With neat sketch, discuss the principle of multiphase weaving and compare it with multi layer weaving. (10)

14. A. Calculate the yarn diameter in inches for the following yarns as per Pierce formula. (6)

(i) 2/80 Ne (ii) 20 Tex

B. Derive the Pierce's formula for estimation of diameter of yarns. (10)

(OR)

C. Derive the formula for cloth cover factor. (6)

D. A plain cotton fabric is woven to the following details: warp: 20 tex, 28 ends/cm; Weft: 35 tex, 25 picks/cm (density of cotton 1.52 g/cm^3). What is the total fractional cover factor? (10)

15. A. Distinguish between fabric cover factor and fractional cover factor. (6)

B. Calculate the warp weight and weft weight in kgs to produce 4000m of the fabric with the given particulars. (10)

- Number of warp ends – 400
- Warp count – 40 Ne
- EPI - 60

- Fabric width – 58 inches
- PPI – 50
- Weft count – 30 Ne
- Warp crimp – 8%
- Weft crimp – 8%

(OR)

C. A cloth is made with 40 ends per inch of 20 Ne yarn. Calculate the EPI of cloth to be used, if a cloth of the same compactness is to be produced with 40 Ne. (6)

D. Calculate the amount of yarn to produce 100 yds fabric with the given particulars. (10)

- No. of warp yarn per cm = 90
- No. of weft yarn per cm = 85
- Count of warp yarn = 70 denier
- Count of weft yarn = 70 denier
- Fabric width = 60 inch
- Warp yarn crimp = 4%
- Weft yarn crimp = 6%

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code &Title : **HTPE306 Advances in Textile Processing** Maximum Marks:100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the mechanism of enzyme action on textile?
2. How the scouring process of cotton is performed using enzymes? Explain.
3. Can Sodium Hypochlorite be used for combined scouring and bleaching? Justify.
4. Write the process sequence steps involved in the pretreatment of Polyester/Cotton fabrics.
5. Enlist the methods used to produce Flock printing in textiles.
6. What are the demerits of digital printing?
7. What are the various methods used for preparation of microcapsules in textiles?
8. What is meant by Solar Protection Factor? Explain with formula.
9. State the problems in using formaldehyde in textile finishing with acceptable limits of formaldehyde content in clothing.
10. Define BOD.

PART-B

((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Describe in detail about the use of enzymes for degumming and bleaching of Silk with mechanism, recipe and application procedure. (6)
    B. Brief about the Biopolishing process on cotton with mechanism, recipe and application procedure. (10)

(OR)

    C. Enumerate in detail about the process conditions for activating enzymes and factors effecting the enzyme treatment on textiles. (6)
    D. Brief about the Denim washing process in detail. (10)

12. A. Brief about the combined desizing and scouring process performed on cotton goods. (6)
    B. Explain in detail about pretreatment and dyeing process of Polyester/Wool blends. (10)

(OR)

C. Brief about the pretreatment and dyeing processes of Cotton/Spandex blends. (6)

D. Explain in detail about pretreatment and dyeing process of Polyester/Viscose blends. (10)

13. A. Brief about the Crepon style of printing. (6)

B. Describe in detail about the Khadi printing and Metallic powder printing. (10)

(OR)

C. Brief about the pretreatment done for the substrates used in Digital printing. (6)

D. Explain in detail about the mechanism of Drop on demand digital printing with advantages. (10)

14. A. Brief about the chemistry and mechanism of antimicrobial finishing on textiles. (6)

B. Describe in detail about the definition, concept and application of Nanotechnology in textiles. (10)

(OR)

C. Brief about the applications of Plasma Technology in Textile Processing. (6)

D. Enumerate in detail about the Rotary garment dyeing machine with neat sketch. (10)

15. A. Brief about the list of banned dyes and its alternatives. (6)

B. Enumerate in detail about the pollution in textile processing with tolerance level of effluents. (10)

(OR)

C. Brief about the characteristics of waste water. (6)

D. Describe in detail about the design and working of Effluent Treatment Plant. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code & Title : **HTPE305 Apparel Marketing and Merchandising** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. State the purpose of advertising.
2. Why market research need to be done before launching any product?
3. List the functions of merchandising department.
4. List the role of visual merchandiser.
5. Classify the different sourcing methods used in apparel industry
6. Mention the role of merchandiser in sourcing process
7. State the functions of Shipping bill.
8. What do you mean by clean bill of lading?
9. How time and action plan will help the merchandiser in achieving milestones?
10. Provide the advantages of Gantt chart.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Mention various marketing strategies used in apparel product sales. (6)

    B. Outline the importance of market research in positioning an apparel product in the market. (10)

(OR)

    C. Classify different sales promotion methods used for textile products (6)

    D. Summarise the different types of advertising methods and various medias used to advertise fashion products with suitable example. (10)

12. A. Differentiate retail merchandising and visual merchandising. (6)

    B. Discuss in detail the various roles and responsibilities of an apparel merchandiser. (10)

(OR)

C. Enlist the responsibilities of fashion merchandiser. (6)

D. Explain the necessity and importance of merchandiser to interact with other departments of apparel manufacturing firm. (10)

13. A. Illustrate and explain the various steps involved in sourcing process. (6)

B. Analyse and report the importance of "make to stock or make to order" decision in apparel industry (10)

(OR)

C. How will you evaluate the performance of the vendor? (6)

D. List out the various factors that influence the sourcing process in detail. (10)

14. A. Differentiate pre-shipment and post-shipment process (6)

B. Discuss in detail the functions, components and importance of various principal documents used in export process (10)

(OR)

C. Classify the different types of invoices used in apparel export. (6)

D. Outline the importance of different regulatory documents used in apparel export. (10)

15. A. State the importance production scheduling process in managing time. (6)

B. Analyse and report the advantages and disadvantages of computerizing the marketing and merchandising activities. (10)

(OR)

C. Illustrate and explain the functions of route card and its components. (6)

D. Develop a scheduling chart for sewing process using graph method. Assume necessary data to showcase the buffer time and bottle neck point. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code & Title : **HTPE304 Technical Textiles** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. How are technical textiles different from fashion apparel?
2. Give any two properties of carbon fibres.
3. List the fibres suitable for manufacturing tyrecord.
4. Name the processes in conveyor belt manufacturing.
5. Mention the various areas where textile filters are used.
6. What is the theory behind dust collection?
7. What are the various fibres used in protective clothing.
8. State the need for protective clothing.
9. List the different materials used in bio textiles.
10. What are implantable medical textiles? Give an example.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Write a brief note on the various raw materials used for technical textiles. (6)

    B. Explain the twelve sectors of technical textiles in detail. (10)

(OR)

    C. Highlight the various applications of technical textiles. (6)

    D. Discuss the properties, structure and applications of glass fibre in detail. (10)

12. A. Explain the characters of a fiber that would be required for tyre-cord manufacturing. (6)

    B. Detail the process of manufacturing tyre-cords. (10)

(OR)

C. Briefly state the requirements of seat belt and air bags. (6)

D. Elucidate the physical and mechanical properties of conveyor belts along with their construction. (10)

13. A. Brief the process of cleaning of filters. (6)

B. Elucidate the role of textiles in liquid filtration in detail. (10)

(OR)

C. Discuss the various types of filtration. (6)

D. Elaborately discuss the principles of filtration. (10)

14. A. Write a note on the requirements of protective clothing. (6)

B. Discuss the principle behind ballistic protection and also detail the characteristics of fabrics used for it. (10)

(OR)

C. How are chemical protective textiles made? State their usage. (6)

D. Explain the significance of flame-resistant protective clothing and detail how they are manufactured. (10)

15. A. Discuss the various types of materials used in geotextiles. (6)

B. Explain the classification of medical textiles in detail with their characteristics and usage. (10)

(OR)

C. Explain the various types of sutures used and state the processes behind their development briefly. (6)

D. Describe the applications of geotextiles in detail. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code & Title : **HTOE310 Renewable Energy Technologies** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. List the types of Renewable Energy (RE) sources.
2. Discuss the role of renewable source.
3. Define solar radiation.
4. List the different types of PV Systems.
5. Classify different types of Wind power plant.
6. List main components of Wind power plant.
7. What is Biomass?
8. Point out the factors affecting biogas generation.
9. What is tidal energy?
10. List methods of Hydrogen Energy Storage.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Write short note on Reserves of Energy Resources in India. (6)

    B. Explain about the different types of Renewable energy (RE) sources. (10)

(OR)

    C. Write short note on World Energy Use. (6)

    D. Explain the Energy Scenario around the World. (10)

12. A. Explain the in detail about the solar radiation phenomena. (6)

    B. With a neat sketch explain the construction and the principle operation of solar photovoltaic system (10)

(OR)

C. Differentiate the Flat plate and Concentrating collectors. (6)

D. Explain in detail about the construction of solar cell, solar module and solar array. (10)

13. A. What are the advantages of wind power systems? (6)

B. Explain in details about the various components present in the wind power plant with neat sketch. (10)

(OR)

C. Discuss principle used in the measurement of speed of the wind. (6)

D. Generalize the factors to be consider for the site selection to install the wind power plant. (10)

14. A. What are the types of dome and drum type biogas digesters? (6)

B. List out the classification of biogas plants and explain any two with neat sketch. (10)

(OR)

C. Write down the applications of Bio-energy. (6)

D. Explain the impacts of biomass construction, production and operation. (10)

15. A. Write a short note on Fuel cell systems. (6)

B. Explain the operation of hydrogen energy system with schematic diagram. (10)

(OR)

C. Discuss about the Electrical Energy Generation from Geothermal Energy. (6)

D. Explain with a neat sketch the operation of OTEC plants. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code &Title : **HTOE301 Product Design** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is NPD?
2. Define Kaizen Model.
3. Define Introductory Stage.
4. What do you mean by Consumerism?
5. What is called Innovation?
6. Define Decision making.
7. Why the product designs depend on Concepts?
8. What is called simulation?
9. Define Re-Engineering.
10. What is Benchmarking?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Briefly Explain the types of product and its Level? (6)

    B. Illustrate the NPD process with suitable Examples. (10)

    (OR)

    C. How does the Brainstorming can apply by the Production Manager? (6)

    D. Explain the steps involved in Design Process with the Diagram. (10)

12. A. What are the Characteristics of Successful Product Development? (6)

    B. Do you agree Product life cycle can change the Business Strategy? Discuss. (10)

    (OR)

    C. Describe the need of Customer Identification for the Product Design. (6)

D. What are the phases of Generic Product Development Process? (10)

13. A. Difference between decision making and iteration method. (6)

B. What are factors affecting from design Innovation to design Imitation? (10)

(OR)

C. Explain the evolution and it types of Product Design. (6)

D. Write down the different phases of Morphology Design. (10)

14. A. Explain the role of Computers in design. (6)

B. How the economic factor and financial feasibility does work in design? (10)

(OR)

C. Differentiate the Product Development Vs Product Design. (6)

D. What do you understand by RPD (Rapid Prototyping Design)? (10)

15. A. Explain the role of Weaver in the Design Technology. (6)

B. Do you agree design evaluation is done by Research? Write down the steps. (10)

(OR)

C. What is the role of Designer in the product module? (6)

D. Product design is a "Boon or Bane" to the Handloom sector – Discuss. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 05 Time:3 Hours

Course Code & Title : **HTPC302 Textile Testing - II** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Name any four instrument used for measurement of yarn count.
2. Write the formula to calculate the cover factor of a fabric.
3. When does the grab test method be preferred in tensile strength test?
4. What are the samples to be inducted for bursting strength test?
5. What is the sample size used for fabric stiffness testing?
6. Name any two products that would require to be tested for water repellency.
7. Name any two products required to be tested for colour fastness against light.
8. What are the two methods of rubbing in colour fastness test against rubbing?
9. Mention any two packing defects in garment industry.
10. What are all the fabric inspection systems followed in the garment industry?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Explain the procedure to be followed with precautionary measures during the measurement of length and width of a fabric (6)

    B. With neat sketch, explain the process of measurement of thickness of a fabric. (10)

    (OR)

    C. Discuss about the yarn crimp measurement. (6)

    D. Explain the features of a random sampling technique and explain the selection of random fabric sample from the bulk. (10)

12. A. Discuss in brief about the preparation of fabric sample for tensile strength test. (6)

    B. Explain the process of measurement of tear strength using elemendorf tear strength tester. (10)

(OR)

C. Clarify the requirement of bursting strength over tensile strength for certain fabric. (6)

D. Discuss in detail on principle of working and measurement of tensile properties in universal tensile testing equipment. (10)

13. A. Briefly discuss the process of testing of wrinkle recovery of a fabric. (6)

B. With schematic diagram, explain the sample preparation and testing of fabric crease recovery (10)

(OR)

C. Briefly discuss the process of testing of fabric shrinkage. (6)

D. With schematic diagram, explain the sample preparation and assessment of fabric pilling resistance. (10)

14. A. Discuss the importance of grey scale and its usage in colour fastness testing. (6)

B. Discuss in detail about the sample preparation, washing solution formulation and testing of colour fastness against washing process. (10)

(OR)

C. Write the importance of measurement of colour fastness against perspiration. (6)

D. Discuss in detail about the sample preparation and assessment process involved in testing of colour fastness against light. (10)

15. A. Discuss on different fabric inspection instruments used in garment industry. (6)

B. Explain the procedure of determination of quality of a fabric using 4-point system. (10)

(OR)

C. Write short notes on AQL. (6)

D. Eloborate the process of ensuring the quality of garment during its preparation from fabric to packing stage. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 06 Time:3 Hours

Course Code &Title : **HS303 Entrepreneurship and Start-Ups** Maximum Marks:100

PART-A

(10×2=20 Marks)

Answer all the questions within two to three sentences

1. What does Entrepreneur mean?
2. What is the ATUFS scheme for textile industry?
3. How do you visualize a business idea?
4. Write about the nature of the textile business.
5. What do you mean by textile marketing?
6. Give the CLCSS's full name and purpose.
7. List out the focus areas of textile.
8. Write the importance of management.
9. Define patent and licensing.
10. What is exit strategy for entrepreneurs?

PART-B

((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. "A successful entrepreneur must have some important characteristics". Elaborate. (6)

    B. In what ways does the Government assist Indian textile industry startups? Explain. (10)

(OR)

    C. Describe how an Entrepreneur and Managers are different. (6)

    D. Explain the Government's initiatives and insights to promote handloom weavers of India. (10)

12. A. Discuss the important elements to be considered when visualizing the (6)

business ideas.

B. Describe the different types of Entrepreneurs in textile industry. (10)

(OR)

C. Define business plan. Prepare a business plan of your own textile business with neat diagram. (6)

D. Explain the factors influencing while implementing business ideas. (10)

13. A. What is target market analysis? Why is identifying target market is important? (6)

B. Describe how competitiveness and strategy play a part in entrepreneurial invention. (10)

(OR)

C. Discuss the challenges faced by the Entrepreneurs in textile business start ups. (6)

D. Explain methods of entrepreneurial marketing with suitable examples. (10)

14. A. What is talent management? Describe the steps involved in effective talent management. (6)

B. Explain the common forms of business ownership. And how to find the best form of ownership for small businesses? (10)

(OR)

C. Discuss the financial management functions performed by an Entrepreneur. (6)

D. Explain the different types of recruitment techniques for talent acquisitions. (10)

15. A. Explain the significance of financial planning and control in Entrepreneurship. (6)

B. What are the major financing options available for entrepreneurs in India? Discuss. (10)

(OR)

C. Describe the benefits and drawbacks of Patent licensing. (6)

D. Explain the various types of exit strategies available for entrepreneurs with examples. (10)

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APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 06 Time:3 Hours

Course Code &Title : **HTPE307 Technological Developments in Handlooms** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the limitation of Hand operated pirn winding charka used in preparatory process?
2. Write down the merits of placing looms in systematic/organized way.
3. Write down the importance of angle iron pillars and cross bars used in place of wooden pillar and cross bars in pit loom.
4. Mention 2 advantages of improved frame loom.
5. Define take-up motion.
6. Classify the Drop box motions used in Handlooms.
7. What are the advantages and disadvantages of multiple butta weaving sley?
8. Mention 2 advantages of using multiple jacquards on handlooms.
9. Define the semi-automatic handloom.
10. Write down the name of any 2 types of semi-automatic handloom.

PART-B (6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Explain the objectives of technological developments on handlooms. (6)

    B. With the help of suitable diagram discuss the advantages of single spindle winding machine over hand operated charkas. (10)

    (OR)

    C. Discuss the merits and demerits of placing looms in systematic/organized way with suitable diagram. (6)

    D. Write down the advantages of multiple spindle winding machines over hand operated charkas. (10)

12. A. List out the importance of iron cross bars and iron angle pillars used in place of wooden cross bars and pillars in pit loom. (6)

B. Explain about improved frame loom along with diagram. Discuss its advantages. (10)

(OR)

C. Discuss the main advantages of in-house beaming machine operated by power for long length of warp. (6)

D. Explain in detail about power operated in-house beaming machine to be used for long length of warp. (10)

13. A. With suitable diagram explain the working principle of worm and worm wheel take-up motion. (6)

B. Explain 5 wheel take up motion with neat sketch used in handlooms. (10)

(OR)

C. Discuss the main advantages and disadvantages of Drop box motions used in handlooms. (6)

D. Explain about the mechanism and working principle of vertical handloom dobby with its merits and demerits. (10)

14. A. Discuss about weaving on handloom with the help of multiple jacquards. (6)

B. Explain about the mechanism and working principle of solid boarder weaving sley and mention the advantages and disadvantages of this mechanism. (10)

(OR)

C. Discuss the technique of solid boarder weaving with catch cord technique. (6)

D. What is improved pit loom? Discuss its advantages over normal pit loom. (10)

15. A. Write down short notes on Nepali pedal loom. (6)

B. Compare the merits & demerits of Nepali pedal loom, Banaras semi-automatic loom and itchalkaranchi loom. (10)

(OR)

C. Write short notes on chittaranjan loom. (6)

D. Explain the merits and demerits of pneumatic lifting mechanism for jacquard weaving. (10)

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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

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 06 Time:3 Hours

Course Code & Title : **HTPE308 Traditional Handloom Textiles of India** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What are the raw materials (yarns) used in bomkai saree?
2. What kinds of yarns are used for producing border, pallu and body in Gadwal saree?
3. Name any two unique characters of kota Doria saree.
4. What is the use of "Tojis" (wooden stick) in kani shawl production.
5. Mention a typical warp yarn and weft yarn specification for Tanchoi silk sarees.
6. List any two important properties of venkatagiri cotton sarees.
7. State the objetcives of India Handloom Brand.
8. What is meant by GOTS?
9. Write the definition of handloom as per the Handloom Act 1985.
10. To whom under what circumstances the power is entrusted for search and seizes the items under the Handloom Act 1985?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. How baluchari silk saree can be differentiated from banaras silk saree? (6)

    B. Explain the product specification, production technique and uniqueness of banaras brocade saree. (10)

(OR)

    C. Write the product specification and uniqueness of Jamdani cotton saree. (6)

    D. Explain the product specification, production technique and uniqueness of ilkal saree. (10)

12. A. Write short notes on special features of a paithani sarees. (6)

B. Explain the product specification, production technique and uniqueness of kancheepuram silk saree. (10)

(OR)

C. Write short notes on special features of a gollabama saree. (6)

D. Explain the product specification, production technique and uniqueness of kancheepuram silk saree. (10)

13. A. Discuss the characteristics of shantipuri cotton sarees. (6)

B. Explain the product specification, production technique and uniqueness of Tangail cotton sarees (10)

(OR)

C. Write short notes on special features of a Tanchoi silk saree. (6)

D. Explain the product specification, production technique and uniqueness of balarampuram cotton sarees. (10)

14. A. Discuss the various benefits available for the firms after registered with Indian Handloom brand. (6)

B. Explain in detail about the standard operating procedure to be followed for registration of new firm under Indian handloom Brand. (10)

(OR)

C. Discuss the role of Weavers' service center in IHB registration. (6)

D. Explain in details about the objectives and scheme procedure of Handloom Mark. (10)

15. A. Write short notes on power to specify the articles for exclusive production by handloom. (6)

B. Discuss in detail about the range reserved for exclusive production in Handloom for the following products under the Handloom reservation Act 1985. **i. Saree** **ii. Dhoti** (10)

(OR)

C. Discuss in brief about the penalty for contravention under the Handloom reservation Act 1985. (6)

D. Discuss in detail about the range reserved for exclusive production in Handloom for the following products under the Handloom reservation Act 1985. **i. Jamakkalam Durry or Durret** **ii. Lungi** (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 06 Time:3 Hours

Course Code &Title : **HTPE309 Home Textiles** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Define home textiles.
2. List out any four examples of upholstery materials.
3. Enlist any four commercial fabrics used in draperies.
4. What are the essential properties required for towel fabrics?
5. Define bolster with neat sketch.
6. What is meant by comforter?
7. Indicate any two fibres name suitable for carpet manufacturing process and justify it.
8. What are the functions of secondary backing material used in carpets?
9. Mention any two examples of cleaning and caring methods of home textiles.
10. Justify the bleaching process suitable for stain removal of home textile materials.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Classify the different types of home textiles with examples. (6)

    B. Mention the various fibres used in home textiles and explain it advantages, disadvantages and applications. (10)

(OR)

    C. Discuss the various factors influencing on the selection of home furnishing. (6)

    D. Elaborate the different types of table linen products used in home furnishing with neat sketches. (10)

12. A. Explain the different types of kitchen linen material with neat sketches. (6)

    B. Summarize about the various types of pleats used for making curtains with suitable diagrams. (10)

(OR)

C. Define drape and mention the properties required for draperies fabrics. (6)

D. Explain in detail about the different types of accessories used for draperies constructions. (10)

13. A. Define thread count and explain the specification of bed linen structure based on thread count. (6)

B. Discuss in detail about the absorption test (ASTM D4772 – 14) for bath towel. (10)

(OR)

C. Mention the different types of pile weave fabric structure and any one of explain it. (6)

D. Describe about the various care labeling used for bed linen structures. (10)

14. A. Elaborate the following carpet manufacturing techniques. (6)
a) Needle felting b) stitch bonding c) Flocking

B. Explain in detail about the carpet manufacturing process with neat sketch. (10)

(OR)

C. Explain the different types of rugs. (6)

D. Discuss the tufting cycle of carpet production with neat sketch. (10)

15. A. Summarize about the identification of stains. (6)

B. Explain in detail about the general procedure for stain removal. (10)

(OR)

C. Write short notes on the optical brightener used in home textile materials. (6)

D. Describe about the various test used for home textile materials. (10)

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APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 06 Time:3 Hours

Course Code & Title : **HTOE305 Project Management** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. Differentiate the project from routine work carried out in an organization.
2. What is a priority matrix in project management?
3. Discuss the concept of demand analysis.
4. State the meaning of technical analysis in project management.
5. List the components of cost of project
6. Calculate the break-even point in accounting.
7. Define project risk.
8. What is social benefit cost?
9. What is the concept of project administration?
10. Compare the PERT and CPM in project management.

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. What is the work breakdown structure in project management? Explain with an example. (6)

    B. Describe the project management process. List the few projects you see in day today life. (10)

(OR)

    C. Brief the obstacles in project management. (6)

    D. Explore the phases of the project management life cycle with a diagram and example. (10)

12. A. Explain the task involved in the generation and screening of project ideas. (6)

B. Analyze the common weaknesses in capital budgeting. (10)

(OR)

C. Explain the steps in the marketing research process. (6)

D. Discuss in detail the various methods of demand forecasting (10)

13. A. What are the four major components of the cost of production? Explain. (6)

B. How do you estimate sales in small business? Analyze. (10)

(OR)

C. What is a cash flow statement? Explain. (6)

D. What factors determine the working capital requirement? Write the formulas to calculate working capital. (10)

14. A. What do you mean by economic rate of return? Explain. (6)

B. Explain the various techniques of capital budgeting. (10)

(OR)

C. What are the non-financial criteria for project management? (6)

D. How do you measure the social benefits and costs of a public project? Explain. (10)

15. A. How to shorten the project time? Comment. (6)

B. Why time-cost trade-off is necessary for project management? Explain. (10)

(OR)

C. How are progress payments calculated? Explain. (6)

D. Explain the several terms used in the PERT chart and discuss their advantages and disadvantages. (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 06 Time:3 Hours

Course Code &Title : **HTOE307 Internet of Things** Maximum Marks:100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What is the Internet of Things (IoT)?
2. Mention the features of IoT.
3. Which network does IoT use?
4. What is messaging protocol in Internet of Things?
5. How Arduino is used in IoT?
6. How the different components of IoT integrated?
7. Mention the applications of Raspberry Pi in IoT.
8. Define Data Handling Analytics.
9. Give some applications of IoT.
10. What are the opportunities of IoT in healthcare?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. What is the role of sensors in Internet of Things? (6)

    B. Explain the types of sensors used in IoT. (10)

(OR)

    C. Write the difference between sensing and actuation. (6)

    D. Mention the use of actuator in devices. (10)

12. A. How many protocols are there in communication? (6)

    B. Explain the networking model of IoT. (10)

(OR)

    C. What is the use of WSN in IoT? (6)

D. Explain the topology of the sensor network. (10)

13. A. What are the objectives of Arduino programming? (6)

B. How sensors are connected in IoT? Explain in detail. (10)

(OR)

C. Describe the connection of Arduino to actuators. (6)

D. What are the ways to connect sensors and actuators to the Arduino Uno board? (10)

14. A. Mention the applications of Rapberry pi. (6)

B. How we build IoT solutions with managed Raspberry pi? (10)

(OR)

C. What are the data analytics techniques used in IoT? (6)

D. Explain the uses of data handling analytics. (10)

15. A. Mention the smart agriculture system using IoT in India. (6)

B. Explain the use of IoT in structural health monitoring. (10)

(OR)

C. Write the key benefits of IoT in agriculture and farming. (6)

D. Describe the benefits of IoT in healthcare. (10)

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APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 06 Time:3 Hours

Course Code & Title : **HTOE311 Disaster Management** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. What are the effects of natural disasters on the environment?
2. What is Hazard and disaster mapping?
3. What are the consequences of disaster?
4. What are the types causes and effects of disaster?
5. What are the 5 stages of the disaster management cycle?
6. What is the national disaster management framework in India?
7. How are disasters managed in India?
8. How can we reduce disasters?
9. What is the application helps in the disaster management process?
10. What is the role of science in a disaster?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. What are the different types of natural disasters? Explain in detail (6)

    B. What is to be done during and after the earthquake? (10)

    (OR)

    C. Draw the disaster management cycle and explain every stage in it (6)

    D. Disaster impacts differential groups at various levels. Justify. (10)

12. A. Explain the roles and responsibilities of various agencies in disaster mitigation and management (6)

B. Develop the conceptual framework for disaster risk reduction. (10)

(OR)

C. Write down the types of Urban local bodies (6)

D. Describe early warning system with suitable examples. (10)

13. A. Explain the importance of indigenous knowledge. How is it helpful in disaster management? (6)

B. Summarize the adoption of Kyoto Protocol in 1997 (10)

(OR)

C. Explain and list the impact of development projects and Embankments. (6)

D. Explain the International Decade for Natural Disaster Reduction (10)

14. A. Briefly explain the significance of India's National Policy on Disaster Management. (6)

B. How does the Disaster Management Act of 2005 contribute to establishing institutional mechanisms for disaster management? (10)

(OR)

C. How do non-governmental organizations (NGOs) contribute to disaster management efforts in India? (6)

D. What is the role of inter-governmental agencies in supporting disaster management initiatives in India? (10)

15. A. Explain the role of a disaster communication system, particularly in early warning dissemination (6)

B. Briefly discuss the concept of disaster-safe designs and constructions and their importance in mitigating disaster impacts. (10)

(OR)

C. What are the key components of Geo-informatics used in disaster management, and how do they contribute to disaster response? (6)

D. How do land use planning and development regulations contribute to disaster risk reduction? (10)

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Diploma in Handloom & Textile Technology

APRIL/MAY-2024 SEMESTER EXAMINATION

(Regulation-2021)

Semester : 06 Time:3 Hours

Course Code & Title : **HTOE312 Marketing Management and Foreign Trade** Maximum Marks: 100

PART-A (10×2=20 Marks)

Answer all the questions within two to three sentences

1. How marketing is creating greater impact on society?
2. Enumerate the importance of marketing mix.
3. Why social factors are important to predict consumer behaviour?
4. How motivation of consumers are affecting sale of a product?
5. Differentiate between skimming pricing and penetration pricing.
6. Mention any four techniques for data collection in marketing research.
7. What are quota restrictions in international trade?
8. What are various types of imports in foreign trade?
9. Why duty drawbacks are important in imports and exports?
10. How export management risk will affect international trade?

PART-B ((6+10)×5=80 Marks)

Answer all the questions in detail

11. A. Describe various targeting strategies followed by organizations. (6)

    B. Explain the importance of marketing research towards developing new products. (10)

(OR)

    C. Distinguish between products and services with appropriate examples. (6)

    D. Discuss various types of market segmentation with fair examples. (10)

12. A. Describe the interrelationship between consumer behavior and marketing. (6)

    B. Bring down the relevancy of Nicosia model of consumer behaviour towards buying decision process. (10)

(OR)

C. Explain how psychology factors are influencing consumer behaviour . (6)

D. Consumers in India become more conscious of their impact on the environment – Discuss. (10)

13. A. Brief about various types of marketing channels with fair illustrations. (6)

B. Explain various formats of retail stores in India with suitable examples. (10)

(OR)

C. Describe the firm-specific factors that impact pricing decision of a company. (6)

D. The "Message" component is very important for successful Advertisements - Discuss. (10)

14. A. Bring down the objectives of WTO with reference to developing nations. (6)

B. Elucidate the salient features of foreign trade with relevant examples. (10)

(OR)

C. Discuss the role MFA in reducing conflicts in international trade. (6)

D. Explicate the goals of GATT towards the development of nations. (10)

15. A. Deliberate about the important documents required for exports. (6)

B. Explain in detail about the necessary documents needed for pre-shipment and post-shipment of goods. (10)

(OR)

C. Discuss the importance and benefits of duty entitlement pass book (DEPB) for exporters in India. (6)

D. Explore the important provisions and features of foreign exchange regulation act (FERA) with a neat sketch. (10)

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