Code No: 154DA **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech II Year II Semester Examinations, September/October - 2023
TEXTILE TESTING-II
(Textile Engineering)

Time: 3 Hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks

PART A

(25 Marks)

1.a) Given the results of some properties of fabrics. Classify the following as Subjective and Objective testing methods. [2]

Property	Measured value
Rubbing Fastness	4-5
Bending Length	3.55cm
Crease Recovery	186 ^{o}
Fabric surface	Rough
Tensile strength	110kg

b) A student measures the initial length of warp as 10 cm and records the extended length as 13cm. Find the Crimp and Take up %. [3]

c) You are given five fabrics as: Cotton, Polyester, Nylon, Jute and Wool. Arrange these in the order of Tensile strength. [2]

d) How Fabric tear is related to washing cycles? [3]

e) Write the formulae for calculating the G_o of fabric. [2]

f) A student selects Saree, Filament shirting, suiting, and Curtain cloth. Arrange these in the order of F, Drape co-efficient. [3]

g) A student records the rotometer reading as: 4500, 4650, 4680, 4750, 4650 calculate the rate of air flow in liters / hour. [2]

h) List the factors affecting the Moisture management property of a fabric. [3]

i) A student records the Rubbing fastness finds the gradings as: 3-4, 3, 4, and 2-3. How do you interpret? [2]

j) You are given set of fabrics like: Jute, Polyester, Cotton, Nylon, Wool, Silk, and Rayon. Arrange these in the order of B or G. [3]

PART B

(50 Marks)

2. Given a three sets of fabrics (Say A, B, & C), how do you measure the following in Laboratory
a) Count (Warp & Weft) b) GSM c) Length and Width d) Arial Density. [10]

OR

3. Given 20's Cotton Dyed Sheeting, 40's Combed Poplin Shirting, how do you measure the EMC at different loads starting from 50 grams to 350 grams? How do you tabulate the observations? How do you interpret the results? State the significance of this measurement. Define all the factors related to compressibility. How far this property is important for Apparel Production? [10]

4. Given Canvas (1's resultant Count) and Long cloth (30's Count) fabrics, without describing the Instrument, how do you proceed to measure (draw the sample dimensions and number of observations) the Tensile strength. [10]

OR

5. Given two plain fabrics A made from 10's cotton Casement and B made from 34's Long cloth. Explain how do you measure the Ballistic strength? How the observations are recorded? [10]

6. Without describing instrument, how do you proceed to measure (Giving sample sizes and number of observations) G_o, and F, in Laboratory? Explain the significance of these in real life situations. List the factors which affect these properties. [10]

OR

7. Without describing instrument, how do you proceed to measure (Giving sample sizes and number of observations) Shear rigidity and abrasion resistance in Laboratory? Explain the significance of these in real life situations. List the factors which affect these properties. [10]

8. Given a set of three fabrics namely A- 30x 34's Plain , B- 2/50s T/C suiting and C- 2/ 100's Cambric, how do You proceed to measure the Air permeability of fabrics in laboratory? [10]

OR

9. Referring to the fabric samples mentioned in Q. No. 8, explain how do you measure the Vertical wicking? [10]

10. Given the following data construct APPAEL QUALITY CONTROL CHART and SNAKE CHART and draw the interpretations.

Sample	X1	X2	X3	X4	X5	X6	X7	X8
A	210	7	75	185	5	24	18	590
B	170	5	60	195	6.8	28	24	370
C	100	3.9	50	205	7.3	31	32	230

Where X 1 to X 8 are properties: GSM, Bending Rigidity, Drape %, CRA, EMC %, Cover Factor, Air Resistance (lt/ Hr), SHF (Grams). [10]

OR

11. Given the sets of data, how do you construct the Ellipse diagrams? [10]

Property	Group – I					Group - II				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5
WT	3.2	3.5	3.8	3.8	3.9	4.8	4.85	4.89	5.89	5.58
RT	50	52	58	59	62	68	69	72	74	79
B	2.2	2.36	2.47	2.9	3.2	1.1	0.9	1.25	1.89	2.82
Tm	2.98	3.23	2.9	3.8	3.9	3.94	3.96	4.2	4.5	4.9
2HB	2.68	2.15	2.22	2.7	2.5	0.76	1.15	0.89	0.78	0.93
G	2.12	2.56	2.54	2.48	2.89	0.79	0.89	0.57	0.69	0.49
2HG	1.25	1.23	1.45	1.47	1.98	0.6	0.4	0.3	0.25	0.1
Saftosa	6.2	6.3	6.5	6.4	6.2	7.58	7.89	7.78	7.75	7.55
Kishimi	6	5.8	6.2	6.15	6.1	8.2	8.1	8.2	8.5	8.1

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