

Enrolment No./Seat No _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024

Subject Code:3162903

Date:15-05-2024

Subject Name:Physical Testing

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) Give the main objectives of textile testing.	03
(b) Classify sampling types. Explain any one type of statistical sampling.	04
(c) What are the different systems for measuring yarn size? Describe tex, denier, cotton, metric and worsted system. Find the relation between cotton and tex, tex and denier, cotton and metric.	07
Q.2 (a) What do you mean by CRT, CRE, and CRL?	03
(b) Write a brief note on “Measurement of maturity”.	04
(c) Describe the fibre length measuring method used in fibrograph. Give the detailed figure of a fibrogram and find the length parameters obtained from it. How is this parameter used for setting spinning machine?	07
OR	
(c) What do you mean by U%? Discuss the principle of measuring U% using Uster evenness tester.	07
Q.3 (a) What is CSP? Discuss the importance of CSP in weaving process.	03
(b) The grab strength of a fabric is higher than its strip strength. Explain why?	04
(c) With the help of neat sketch, explain the Drapemeter.	07
OR	
Q.3 (a) Define the terms: Crimp amplitude, Crimp %, Crimp interchange.	03
(b) With the help of neat sketch, explain the Electronic Wrap Reel.	04
(c) With the help of neat sketch, explain the airflow method for measuring fibre fineness.	07
Q.4 (a) Explain about the factors responsible for pilling.	03
(b) What is Hysteresis? Briefly explain with the help of graph.	04

- (c) What are methods to carry out strength tests on fibres? Describe the basic principle of Pressley fibre tester and method of expressing results of the strength. **07**

OR

- Q.4** (a) Briefly describe how the thickness of fabrics can be measured. **03**
(b) Define the terms: Air Permeability and Index of Irregularity. **04**
(c) Enlist the methods of measuring hairiness in the spun yarn. Also explain any one method in detail. **07**
- Q.5** (a) Write the parameters obtained by HVI testing system. What is the basic principle of fibre strength testing in HVI instrument? **03**
(b) With the help of neat sketch, explain any one twist tester. **04**
(c) Explain with neat diagram the spray test for fabric **07**

OR

- Q.5** (a) Distinguish between water proof and water repellent fabric. **03**
(b) What is AFIS? Which are the properties of fibre tested by AFIS? **04**
(c) With the help of neat sketch, explain the bursting strength tester. **07**
