

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3132906

Date:29-06-2024

Subject Name: Textile Materials

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) State the properties required in the fibres to make it suitable for textile application.	03
	(b) Write briefly about the morphological structure of cotton.	04
	(c) Explain the sericulture process.	07
Q.2	(a) State the applications of jute fibres.	03
	(b) Write briefly about pineapple fibres.	04
	(c) Explain the melt spinning process with a neat sketch of passage of materials.	07
	OR	
	(c) Write in detail about any one solution spinning process.	07
Q.3	(a) What is crystallinity?	03
	(b) Write briefly about the chemical properties of wool.	04
	(c) Explain about the types of cotton, applications and organic cotton.	07
	OR	
Q.3	(a) Define worsted wool.	03
	(b) Write briefly about the fibre forming processes.	04
	(c) Explain the physical and chemical structure of silk.	07
Q.4	(a) State the physical properties of ramie fibre.	03
	(b) Write briefly about the viscose fibres.	04
	(c) Explain the properties with applications of polyester fibres.	07
	OR	
Q.4	(a) State the advantages of manmade fibres.	03
	(b) Write briefly about the chemical properties of hemp fibres.	04
	(c) Discuss about the sources and application of coir, bamboo and sisal fibres.	07
Q.5	(a) Write briefly about the carbon fibres.	03
	(b) What are the properties that make spandex fibres suitable for its respective applications?	04
	(c) Explain the manufacturing of nylon fibres.	07
	OR	
Q.5	(a) State the advantages of aramid fibres.	03
	(b) Write briefly about glass fibres.	04
	(c) Explain the physical and chemical properties of acrylic and polypropylene fibres.	07
