

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2024****Subject Code: 3172913****Date: 30-05-2024****Subject Name: Modern Fibre Technology****Time: 02:30 PM TO 05:00 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 uses of manufactured fibres for non-conventional applications.	03
	(b) What is texturing?	04
	(c) Explain the molecular orientation and crystallinity in fibres.	07
Q.2	(a) Write briefly about the spin finish components.	03
	(b) Which are the important properties of the principal manufactured fibres?	04
	(c) Explain about the variables and conditions for continuous spinning in melt spinning process.	07
OR		
Q.3	(c) Compare dry spinning and wet spinning.	07
	(a) Write briefly about the extruder in melt spinning.	03
	(b) Which are the different types of quenching in spinning process?	04
	(c) Discuss the development of structure and morphology during solution spinning.	07
OR		
Q.3	(a) How is the dope prepared in dry spinning?	03
	(b) What is glass transition temperature?	04
	(c) State the properties of spin finish and explain any one spin finish application technique.	07
Q.4	(a) What is knit-de-knit texturing?	03
	(b) Write briefly about the gear crimping.	04
	(c) State and explain the process variables in air-jet texturing.	07
OR		
Q.4	(a) What is chemical texturing?	03
	(b) Write briefly about stuffer box texturing?	04
	(c) How does the feed material characteristic have profound effect on properties of textured yarn?	07
Q.5	(a) Write briefly about the principle of loop formations formation in air-jet texturing.	03
	(b) State the advantages of draw textured yarns over conventional false twist textured yarns.	04
	(c) Write in detail about the heat setting of thermoplastic fibres.	07
OR		
Q.5	(a) Write briefly about sequential and simultaneous draw texturing.	03
	(b) Draw the flow diagram of sequential draw texturing process.	04
	(c) Discuss in detail about the process variables in false twist texturing.	07
