

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019****Subject Code: 2172308****Date: 30/11/2019****Subject Name: Speciality Plastics & applications****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.

		MARKS
Q.1	(a) What are high performance plastics? List some high performance plastics.	03
	(b) List the structure and properties of ABS.	04
	(c) What is sterilization? List methods of sterilization and explain steam sterilization.	07
Q.2	(a) While selecting additives for plastics in medical devices, what care should be taken?	03
	(b) List the properties and applications of PTFE.	04
	(c) State the advantages of using plastics in medical device applications.	07
	OR	
	(c) Explain about the chemical resistance for plastics in medical devices	07
Q.3	(a) State the properties and applications of PMMA with its structure.	03
	(b) Explain briefly about Liquid Crystal Polymers.	04
	(c) Describe about Radiopaque additives.	07
	OR	
Q.3	(a) Define i) Nanoadditives ii) Biocompatibility iii) Medical Device	03
	(b) List the properties and applications of PET.	04
	(c) State the properties and applications of Epoxy with its structure.	07
Q.4	(a) Explain about plasticizers used as additives in medical devices.	03
	(b) Write the structure, properties and applications of PEEK.	04
	(c) List methods of joining & welding plastics & explain Ultrasonic Welding.	07
	OR	
Q.4	(a) What is laser marking?	03
	(b) What are antimicrobial additives used in medical devices.	04
	(c) List the names of plastics and its applications in construction industry.	07
Q.5	(a) Write structure & properties of Polysulphones.	03
	(b) List the properties & applications of Nylon 66 with its structure.	04
	(c) Write the structure, properties and applications of PAI.	07
	OR	
Q.5	(a) Briefly explain about ethylene oxide sterilization.	03
	(b) Explain about wear resistant and lubricious additives used for plastics in medical devices.	04
	(c) List the names of plastics and its applications in automotive industry.	07
