

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2172308****Date: 03/12/2018****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)	Define 1) Medical Device 2) ISO 10993 3) Biocompatibility	03
	(b)	Write the structure and properties of ABS.	04
	(c)	List the methods of sterilization and explain steam sterilization.	07
Q.2	(a)	What are antimicrobial additives? Why are they used in medical devices?	03
	(b)	List the properties & applications of Nylons.	04
	(c)	List the advantages of using plastics in medical devices.	07
OR			
Q.3	(a)	What are the requirements of plastics to be used in aerospace applications?	03
	(b)	List and explain the methods of joining plastics using heat and friction.	04
	(c)	Write a short note on Radiopaque additives.	07
OR			
Q.3	(a)	List the things to be considered while using additives for plastics in medical devices	03
	(b)	Write a short note on Ethylene Oxide Sterilization.	04
	(c)	What are nanoadditives? State the advantages of using nanoadditives.	07
Q.4	(a)	List the applications of Polycarbonate.	03
	(b)	Write a short note on wear resistant and lubricious additives used for plastics in medical devices.	04
	(c)	Draw structure and list the properties and applications of PEEK.	07
OR			
Q.4	(a)	List the properties of Poly sulfones.	03
	(b)	Write a short note on applications of plastics in construction sector.	04
	(c)	Draw structure and list the properties and applications of PES.	07
Q.5	(a)	What are conductive fillers?	03
	(b)	List the properties and applications of PVC	04
	(c)	Write the structure properties and applications of PAI.	07
OR			
Q.5	(a)	State the properties of PTFE.	03

- (b) List any six automotive applications and the corresponding plastics used for those applications **04**
- (c) Write a short note on Liquid Crystal Polymers. **07**

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