Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER I (NEW) – • EXAMINATION – SUMMER 2016

		WIE - SEMESTER I (NEW) - LAAMINATION - SOMMER 2010	
Subject Code: 2713110 Date:19/0		5/2016	
Sul	biect	Name: ADVANCE BIOMATERIALS	
Time: 02:30 pm to 05:00 pm Total Mark		s: 7 0	
	ruction	•	. 0
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain the process biocompatibility assessment in vivo and vitro. How can we improve the blood compatibility of bio implants?	07 07
Q.2	(a) (b)	Enlist and explain physical and mechanical properties of biomaterials. Give brief note on process and action mechanism of steam sterilization. OR	07 07
	(b)	Explain process of plasma sterilization.	07
Q.3	(a) (b)	Explain process of biomaterials degradation in the biological environment. Enlist and explain Intrinsic factors that affects biodegradability. OR	07 07
Q.3	(a) (b)	Enlist and explain extrinsic factors that affects biodegradability. Explain all types of body reactions to biomaterials.	07 07
Q.4	(a)	Give brief note on materials selection criteria with example for Orthopedics applications.	07
	(b)	Write a short note on role of biomaterials in field of drug- delivery system. OR	07
Q.4	(a)	Give brief note on materials selection criteria with example for Dental applications.	07
	(b)	Write a short note on role of Biomaterials in field of Ophthalmology.	07
Q.5	(a) (b)	Explain commercialization aspects for bio implants or devices. Enlist and explain ramifications in Implant design and Applications. OR	07 07
Q.5	(a)	Write a short note on Legal aspects of Biomaterials, clinical trials and case studies in regulation.	07
	(b)	Explain surface chemistry of biomaterials with necessary equations and schematics.	07
