## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-V- EXAMINATION - SUMMER 2016** 

	Subject Code: 150301 Subject Name: Biomaterials & Implants		Date: 06/05/2016	
	Time	2: 02:30 PM to 05:00 PM actions:  1. Attempt all questions.  2. Make suitable assumptions wherever necessary.  3. Figures to the right indicate full marks.	Total Marks: 70	
Q.1	(a) (b)	Enlist commonly used Biomaterials and its applications.  Define following terms:  1) Prosthesis 2) Orthosis 3) Homografts 4) Xenografts 5) Autografts 6) Biological material 7) Shape memory effects	07 07 fect.	
Q.2	(a) (b)	Short Note: PMMA Explain polymerization in detail.	07 07	
	<b>(b)</b>	<b>OR</b> Explain tissue interaction and response of Biomaterials.	07	
Q.3	(a) (b)	Explain any two of the biomaterials used in dental implants in det 1. Explain disadvantages of using metals in biomedical applicatio 2. Explain thermal property of biomaterial.		
Q.3	(a) (b)	OR  Explain polymers as a drug delivery biomaterial in detail.  Why is calcium phosphate ceramics used widely in bone application.	ions? <b>07</b>	
Q.4	(a) (b)	Describe characteristics of hydrogel and its applications Write a short note on pacemaker.	07 07	
Q.4	(a) (b)	OR Give properties of nitinol and applications in details. Give the short note on stainless steels.	07 07	
Q.5	(a) (b)	Describe anatomy of hip joint and explain reason for failure of hip Describe the biomaterial testing procedure in detail.	p joint. <b>07 07</b>	
Q.5	(a) (b)	OR Explain surface properties of biomaterials & their testing. Write a short note on IOLs & Contact lenses.	07 07	

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