



End Semester Examination – Nov/Dec – 2016

Code : **15BT2004**Sub. Name: **BIOMATERIALS AND ARTIFICIAL ORGANS**Semester : **2016-17 ODD**Duration : **3hrs**Max. Marks: **100**

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Elaborate the definition, classification and properties of bio-materials based on the Knowledge you have on Biomaterials.	CO-1	10
	b.	Justify “Biocompatibility” an important pre-requisite for any biomaterial?	CO-1	10
(OR)				
2.	a.	Elucidate the process of Wound Healing in detail.	CO-2	10
	b.	Describe in detail the Circulatory system.	CO-2	10
3.	a.	Describe in detail the Ceramic Implant Materials.	CO-3	10
	b.	Significance of Polyurethanes and Polyamides as a Biomaterial in detail.	CO-3	10
(OR)				
4.	a.	Summarize the various methods of Testing Implants for biological performance.	CO-4	20
5.	a.	Explain the Factors affecting capsule formation in Fibrous Encapsulation?	CO-1	10
	b.	Elaborate the concept of implant response resolution.	CO-3	10
(OR)				
6.	a.	Based on the knowledge you gained by you from the research paper “ The Intersection of Biology and Materials Science ”: Explain in detail regarding the “Biomaterials of the Future”.	CO-1 to 5	12
	b.	What are the Types of Immunity known to you?	CO-1	08
7.	a.	Elaborate the Characteristic features of an Artificial Heart showing the difference by drawing a neat labelled diagrams of a Human Heart.	CO-5	12
	b.	Describe in detail about the Artificial Skin and Maxillofacial Implants.	CO-5	08
(OR)				
8.	a.	Based on the Research Paper, “ The Intersection of Biology and Materials Science ” which we have discussed in class, Elaborate the various Classes of Opportunities for Material Science and Engineering in Biomedicine and its implications as a Career?	CO-1,3	12
	b.	Write the Functions of Biomaterials (Eg. Implants)?	CO-1	08
<u>Compulsory:</u>				
9.	a.	Estimate the impact of Dental Implants in the present scenario and the promise it offers towards the future of Dentistry.	CO-5	12
	b.	Explain the Significance of Dialysers and Heart Valves.	CO-5	08

ALL THE BEST