

GUJARAT TECHNOLOGICAL UNIVERSITY

Biomedical Engineering

B. E. SEMESTER: VII

Subject Name: **Biomechanics**

Subject Code: **170301**

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam (E)		Mid Sem Exam (Theory) (M)	Practical (Internal)
				Theory	Practical		
3	0	2	5	70	30	30	20

Sr. No	Course Content	Total Hrs.
1.	Mechanics of Blood flow-Heamorrheology.	5
2.	Mechanics of muscle.	5
3.	Mechanics of Locomotion: Muscular mechanism, GAIT & Posture	5
4.	Mechanics of cardiovascular & pulmonary system	5
5.	Nature and Mechanism of biological control system. Feed back control and its components. Control of body temperature, Control of Blood pressure, Heart rate. Control of secretion. Control of movements etc.	5
6.	Biomechanics of solids	5
7.	Fundamentals of Physiological fluid mechanics	5
8.	Mass transfer & Bioheat transfer	5
9.	The interaction of biomaterials and biomechanics	8
10.	Locomotion and muscle biomechanics	8

The Practical and Term work will be based on the topics covered in the syllabus.

Text Book:

1. Introduction to biomechanics - By Y.C Fung
2. Introduction to Bioengg. - S. A. Berger, Lewis, Goldsmith, Oxford Press.
3. Biomechanics - Sahay & Saxena

Reference Books:

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| 1. Orthopedic Mechanics | - D. N. Ghista & Roaf |
| 2. Joint structure and function | - Levangie & Norkin. Jaypee Brohters Pub. |