

BE Semester- VITH (Biomedical Department) Question Bank
(BIOMECHANICS)

All questions carry equal marks (10 marks)

Q.1	Define the following: Biomechanics, mechanics, kinematics, anthropometric.
Q.2	Define the following: flexion, fulcrum, circumduction, extension.
Q.3	Describe quantitative analysis of human movement.
Q.4	Differentiate between stride & step.
Q.5	Describe the interaction of biomaterials and biomechanics.
Q.6	Explain the modes of Bioheat transfer in detail.
Q.7	Explain in detail the heat generation in human body.
Q.8	Describe in detail Mass transfer.
Q.9	Elaborate what do you understand by Physiological fluid mechanics.
Q.10	Explain the fundamentals of fluid mechanics.
Q.11	Write a short note on Biomechanics of solids.
Q.12	Elaborate on Control of Blood pressure.
Q.13	Elaborate on Control of movements.
Q.14	Elaborate on Control of secretion.
Q.15	Elaborate on control of Heart rate.
Q.16	Write a short note on Posture.
Q.17	Elaborate on Control of body temperature.
Q.18	Nature and Mechanism of biological control system explaining feedback control and its components.
Q.19	Explain mechanics of pulmonary system.
Q.20	Explain Mechanics of cardiovascular system.
Q.21	Explain the mechanism of load transfer in hip.
Q.22	Define centre of gravity & explain the different methods of locating the centre of gravity.

Q.23	Explain factors affecting the development of force in muscle.
Q.24	Explain the skeletal Muscle mechanism in detail.
Q.25	Write a short note on blood rheology.
Q.26	Explain the variation in gait while walking & running.
Q.27	Explain the mechanism of load transfer in shoulder.
Q.28	Explain the mechanism of load transfer in knee.
Q.29	Explain different types of levers & where you can find in human body.
Q.30	Explain the mechanism of load transfer in elbow.
Q.31	Explain the ground reaction force while a person is jumping.
Q.32	Explain 5 joints of human upper extremity: sternoclavicular, acromioclavicular, coracoclavicular, glenohumeral, scapulothoracic joints.
Q.33	Explain the ground reaction force while a person is running.
Q.34	Enlist & explain the factors affecting blood flow.
Q.35	Explain in detail Mechanics of Blood flow.
Q.36	Explain force-velocity & length- tension relationships.
Q.37	Explain motor units and types of muscle fibres.
Q.38	What are the different types of mechanical loads on human body? Also explain the effects of loading.
Q.39	Explain in detail the tools for measuring kinematic & kinetic quantities.
Q.40	Write & explain different movements of joints.
Q.41	Explain the following: anatomical reference positions, anatomical planes, anatomical reference axis.
Q.42	Elaborate on GAIT CYCLE.