A   **Reg. No. :** [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Question Paper Code: 96B02

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

Sixth Semester

Biomedical Engineering

19UBM602- BIOMECHANICS

(Regulation 2019)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1.	Summarize the applications of biomechanics	CO1- U
2.	Give some examples of scalar and vector quantity.	CO1- U
3.	Draw the structure of Human Bone.	CO2- U
4.	Define Composition of Bones.	CO2- U
5.	Give some examples of Rotational Head injury and its causes and effects.	CO3- U
6.	Define Accident reconstruction.	CO3- U
7.	Define Alveoli	CO4- U
8.	Justify the importance of breathing mechanism.	CO4- U
9.	List the parts of human heart.	CO5- U
10.	Justify the importance of heart valve and its mechanism.	CO5- U

PART – C (5 x 16= 80 Marks)

11. (a) Elaborate in detail about the resolution and composition of forces.   CO1- U   (16)

Or

(b) Express the velocity and acceleration with suitable diagram.   CO1- U   (16)

12. (a) With a neat diagram articulate the composition and mechanical   CO2- U   (16)
property of Cortical Bone.

Or

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(b) Explain the structure of Human Bone and give necessary example CO2- U (16)
relating to the physiological system. Draw diagram wherever
necessary.

13. (a) Elaborate in detail about the Skeletal Joints. CO3- U (16)

Or

(b) Explain the Forces and stresses in human joints with suitable CO3- U (16)
diagram.

14. (a) Sketch the mechanism of Alveoli and explain its function CO4- App (16)

Or

(b) Illustrate the interaction of blood and lung and draw its structure CO4- App (16)

15 (a) Illustrate the concept of Sphygmomanometer – a blood pressure CO5- App (16)
measurement.

Or

(b) Interpret the heart diseases that can be cured related to prosthetic CO5- App (16)
heart valves replacement.

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