U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E. **Semester: VII**
Branch: Mechanical Engineering **Duration: 3 hrs.**
Course Code: 20ME7BSBFE **Max Marks: 100**
Course: Biology for Engineers **Date: 04.03.2023**

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may suitably be assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

UNIT - I

1	a)	List and explain different levels of organizations which are there in biology.	**10**
	b)	List and explain basic processes of life.	**10**

OR

2	a)	With a neat diagram explain cell structure.	**10**
	b)	Explain the process of protein synthesis in detail.	**10**

UNIT - II

3	a)	Give classification of bones with their features, functions and examples.	**10**
	b)	Explain bone remodelling and bone fracture in detail.	**10**

UNIT - III

4	a)	With a neat diagram explain muscle contraction and relaxation.	**10**
	b)	List and Explain different functions of skeletal muscle.	**10**

UNIT - IV

5	a)	With a neat diagram explain the structure of a neuron.	**10**
	b)	Explain Electromyogram with its application in ergonomics.	**10**

OR

6		With neat sketches explain the stages of impulse conduction in neuron.	**20**

UNIT - V

7	a)	Explain one case study of biomechanical engineering.	**10**
	b)	Take any case study and explain the application of biomechatronics in the field of medicine.	**10**

****