U.S.N.										

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

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E. **Semester: III**
Branch: MEDICAL ELECTRONICS **Duration: 3 hrs.**
Course Code: 19ML3ESHPM **Max Marks: 100**
Course: HUMAN PHYSIOLOGY AND MEDICAL PHYSICS **Date: 22.09.2023**

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably 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)	Brief about the airway resistance and its importance in respiratory system.	**10**
	b)	How can lung functionality be diagnosed by measuring the volume of lungs during different stages of normal and deep breathing?	**10**

OR

2	a)	Which are the five attributes of the flow of fluids?	**10**
	b)	Describe Bernoulli's principle.	**10**

UNIT - II

3	a)	With relevant sketches, explain Frank-Starling mechanism.	**12**
	b)	Write a note on hypertension.	**08**

OR

4	a)	What are the properties of blood?	**06**
	b)	With a neat schematic, describe the blood pressure along the circulatory system.	**10**
	c)	Draw the electrical analogus of Windkessel Model.	**04**

UNIT - III

5	a)	Can you justify how the homeostasis act as a essential feedback and control system.	**06**
	b)	Enumerate on Basal Metabolic Rate.	**08**
	c)	How can metabolic process be characterized using respiratory quotient?	**06**

UNIT - IV

6	a)	Write the properties of smooth muscle.	**05**
	b)	Discuss the classification of exercise.	**05**
	c)	Brief the importance of neuromuscular junction.	**10**

UNIT - V

7	a)	What fraction of the total energy in the air flow from the lungs during speaking is converted into the oscillatory acoustic waves that are radiated from the mouth?	**06**
	b)	With a neat sketch, explain spherical aberration.	**08**
	c)	List the types of vision impairment.	**06**

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