

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025***Third Semester**Biomedical Engineering***BM3351 – Anatomy and Human Physiology***Regulations – 2021***Duration: 3 Hrs****Maximum: 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	Outline and label the structure of Cell.	L1	1	2
2.	Compare Nernst equation and Goldman equation.	L2	1	2
3.	List any four functions of Cartilages.	L1	2	2
4.	Illustrate the structure of skeletal muscle.	L1	2	2
5.	Name the blood grouping and typing.	L1	3	2
6.	Outline the lung volumes and capacities graph.	L1	3	2
7.	Show the composition of digestive juices.	L2	4	2
8.	How negative feedback controls body temperature?	L2	4	2
9.	What is an axon and what is its function?	L1	5	2
10.	Name the organs of the integumentary system.	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a i Explain the concepts of Cell theory.	L2	1	8
	ii Explain in detail about the Cell membrane – its compositions and functions.	L2	1	8
	Or			
	b Explain the term homeostasis with suitable example and diagrams.	L2	1	16
12.	a Outline a brief overview of the types of bones in the human body and their respective functions.	L2	2	16
	Or			
	b i Explain how the structure of each type of cartilage supports its specific function within the human body. Provide examples.	L2	2	8
	ii Explain the importance of the neuromuscular junction.	L2	2	8

13.	a	i	Outline the cardiac conduction system.	L2	3	8
		ii	Explain the phases of the cardiac cycle in detail.	L2	3	8
Or						
	b	i	Classify the blood grouping and typing.	L2	3	8
		ii	Illustrate the basic structure of respiratory system.	L2	3	8
14.	a		Illustrate the journey of food through the digestive tract.	L2	4	16
Or						
	b		Analyze the effect of diet on kidney function.	L2	4	16
15.	a	i	Define the main functions of the central nervous system.	L2	5	8
		ii	Compare the somatic and autonomic nervous systems.	L2	5	8
Or						
	b	i	Describe the physiological process of vision.	L2	5	8
		ii	Identify the components of the sensory system related to hearing.	L2	5	8