

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026***Second Semester**Biomedical Engineering***BM3251 / UBMT24201- BIOSCIENCES FOR MEDICAL ENGINEERING***Regulations – 2021 & 2024**Duration : 3 Hrs**Maximum : 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Define Buffer Solutions.	L1	1	2
2.	List any two radio isotopes used in clinical applications.	L1	1	2
3.	Classify the carbohydrates.	L2	2	2
4.	Give any two examples of Nucleotide.	L2	2	2
5.	Distinguish between Benign and Malignant tumors.	L2	3	2
6.	Write a short note on metastatic calcification.	L1	3	2
7.	List the major clinical manifestations of Deep Vein Thrombosis.	L1	4	2
8.	Identify the factors that influences the development of an infarct.	L2	4	2
9.	Compare the key features between SEM and TEM.	L2	5	2
10.	What are the anatomical barriers of the innate immune systems?	L1	5	2

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

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Explain the Handerson - Hasselbalch equation with its applications in the determination of pH of buffer.	L2	1	16
	Or			
	b Illustrate the properties and applications of water in biological systems in detail.	L2	1	16
12.	a Discuss in detail about the double helical structure of DNA.	L2	2	16
	Or			
	b With suitable examples, explain the structure and classification of amino acids.	L2	2	16
13.	a Describe the process of inflammation and repair in cell degeneration in detail.	L2	3	16
	Or			
	b Discuss the process of carcinogenesis. Also, explain its types.	L2	3	16

14.	a	Discuss in detail about the Hematological disorders with suitable examples.	L2	4	16
		Or			
	b	Illustrate in detail about the disseminated intravascular coagulation. Also, provide suitable supportive care to manage the symptoms.	L2	4	16
15.	a	Discuss the Morphological features and structural organization of bacteria and virus with neat diagram.	L2	5	16
		Or			
	b	Discuss in detail about the principle, procedure and applications of Immuno Electrophoresis.	L2	5	16
