

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025***Sixth Semester**Biomedical Engineering***CBM333 - Assistive Technology***Regulations - 2021***Duration : 3 Hrs****Maximum : 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	List the types of heart valves.	L1	1	2
2.	Mention the materials used for cardiac assist devices.	L1	1	2
3.	Explain the principle of dialysis action.	L2	2	2
4.	State the functions of kidney.	L1	2	2
5.	Explain the term masking.	L2	3	2
6.	Differentiate between air and bone conduction.	L2	3	2
7.	Classify the types of models.	L2	4	2
8.	Differentiate prosthetic and orthotic devices.	L2	4	2
9.	Expand: TENS	L1	5	2
10.	Sketch the block diagram of bio feedback system.	L1	5	2

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

Q.No	Questions	BLT	CO	Marks
11.	a How would you explain the principle of external counter pulsation techniques?	L1	1	16
	Or			
	b How would you explain the materials and design considerations for prosthetic heart valves?	L1	1	16
12.	a Interpret the hardware unit of hemodialyzer unit with neat sketches.	L2	2	16
	Or			
	b Explain the portable dialyser monitoring unit with its functional parameters.	L2	2	16
13.	a i Analyse the hardware components of audiometer.	L4	3	8

	i i	Examine the principle of various hearing aids.	L4	3	8
		Or			
	b i	Infer the features of DSP based hearing aids.	L4	3	8
	i i	Inspect the drawbacks of the conventional hearing aids.	L4	3	8
14.	a i	Explain the externally powered limb prosthesis.	L2	4	8
	i i	Extend the feedback system on orthodontics.	L2	4	8
		Or			
	b i	Summarize the concept of functional electrical stimulation therapy.	L2	4	8
	i i	Infer the principle and applications of the sensory assistive devices.	L2	4	8
15.	a	Apply the concept of TENS in muscle spasm.	L3	5	16
		Or			
	b	Utilize the concept of bio-feedback techniques with suitable applications.	L3	5	16