

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Fifth Semester**Biomedical Engineering***BM3551- Embedded Systems and IoMT***Regulations – 2021**Duration : 3 Hrs**Maximum : 100 Marks***PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Draw the Von-Neumann architecture.	L1	1	2
2.	Mention the major difference between RISC and CISC processor.	L2	1	2
3.	Write any two difference between programmed IO and Memory mapped IO.	L1	2	2
4.	Write any two features of SPI protocol.	L2	2	2
5.	What is MBSE? Mention the core components it relies on.	L1	3	2
6.	Which tool is used for code generation?	L1	3	2
7.	How many types of communications are there in IoT?	L2	4	2
8.	List out the benefits of IoMT and its impact.	L2	4	2
9.	Why is data security important in Healthcare application?	L1	5	2
10.	Which IoT is used for mutations evaluation in cancer?	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 classification of embedded system with examples. Or	L2	1	16
	b Discuss in detail about the characteristics of different types of memory devices.	L2	1	16
12.	a i Give examples for watchdog timer applications.	L2	2	8
	ii Discuss about interrupt controllers.	L2	2	8
	Or			
	b Explain with neat diagram the working of I ² C bus.	L2	2	16
13.	a Brief out the following types of software design techniques: (i) State diagram	L2	3	8
	(ii) Sequence diagram	L2	3	8
	Or			
	b Briefly explain execution time, energy and power.	L2	3	16

14.	a Briefly explain:	L2	4	8
	(i) Physical design of IoT			
	(ii) System building blocks	L2	4	8
	Or			
	b Inferring about Interfacing using embedded target boards:	L2	4	8
	(i) Raspberry Pi			
	(ii) Intel Galileo	L2	4	8
15.	a Discuss in detail about enhancing the performance of decision tree using NSUM Technique for diabetic patients. Also explain the experimental results of the algorithm.	L2	5	16
	Or			
	b Explain about a fuzzy based expert system used in the diagnosis of Alzheimer's disease.	L2	5	16