



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

DEPARTMENT OF MECHATRONICS

VII SEMESTER B.TECH. (MECHATRONICS)

END SEMESTER EXAMINATIONS (PART-B), December 2021

SUBJECT: WIRELESS SENSOR NETWORKS [MTE 4083]

(Date: December 20, 2021)

Time: 75 + 10 Minutes

MAX. MARKS: 20

Instructions to Candidates:

❖ Answer **ALL** the questions.

Q. No		M	CO	PO	LO	BL
1A.	Compare the two WSN middleware technologies or solutions, MiLAN and IrisNet, in terms of programming abstraction and middleware service characteristics.	5	3	1	1	4
1B.	List the factors to consider while selecting sensor node communication transceivers.	3	1	1	1	1
1C.	Compare the functioning of the STEM protocol's two channels, the wakeup channel and the data channel, for effective data control and transmission.	2	2	1	1	4
2A.	Design a Bluetooth protocol architecture for short-range wireless communication that specifies all of the layers and protocols that go with it.	5	4	3	5	6
2B.	Design an architecture of Zigbee for short-range wireless communication that specifies all levels.	3	4	3	5	6
2C.	Using TinyOS and nesC, design a car configuration for resource constrained environments that contains several modules.	2	4	3	5	6