MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

II SEM M. Tech (Medical Informatics) DEGREE END SEMESTER EXAMINATIONS, MAY-2023
SUBJECT: Internet of Medical Things (BME 5010)
(REVISED CREDIT SYSTEM)
Friday, 26th May, 2023; 9.30 a.m to 12.30 p.m

TIME: 3 HOURS   **MAX. MARKS: 50**

Instructions to Candidates:
1. Answer ALL questions
2. Draw diagrams wherever necessary
3. Missing data may be suitably assumed

Q No.	Question	Marks
1 a.	Analyze the digitization and IOT with convergence of Information Technology and Operational Technology.	3
1 b.	Analyze the functional blocks for the Logical design of IOT.	3
1 c.	Illustrate the Code on demand and uniform interface in the IOT communication API's.	4
2 a.	Illustrate Level 3 and Level 6 in the levels of IOT.	3
2 b.	Deduce the steps involved in the IOT design Methodology with healthcare Example.	2
2 c.	Analyze the types and versions of Zigbee, state the characteristics and application.	5
3 a.	Illustrate the Zigbee protocol stack and MAC layer.	3
3 b.	Classify the routing protocols and explain Collection Tree Protocol.	4
3 c.	Examine the power management benefits of Bluetooth state the advantages.	3
4 a.	Illustrate the technical overview of Bluetooth with specifications.	3
4 b.	Illustrate the addressing header of 6LOWPAN with an example.	4
4 c.	Examine the headers and differentiate the IPV4 with 6.	3
5 a.	Illustrate the steps involved in the AT Routing using an Example.	3
5 b.	Evaluate and verify the check sum with brief steps <table><tr><td rowspan="2">Start Delimiter</td><td rowspan="2">Length</td><td colspan="2">Frame Data</td><td rowspan="2">Checksum</td></tr><tr><td>Frame type</td><td>Data</td></tr><tr><td>7E</td><td>00 0F</td><td>17</td><td>01 00 13 A2 00 40 AD 14 2E FF FE 02 44 42</td><td>-</td></tr></table>	4
5 c.	Construct the architecture of client server communication.	3

Marks distribution: 3+3+4/5+3+2