

Register Number

--	--	--	--	--	--	--	--	--	--

SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

(AUTONOMOUS)

B.E/B.Tech. DEGREE END SEMESTER EXAMINATIONS – APRIL / MAY 2026

Question Paper Code: 30767

Fourth Semester

Computer Science and Engineering

23BMO15 - IOT IN HEALTHCARE

(Regulations 2023)

Duration: Three Hours

Maximum Marks: 100

Answer ALL Questions

PART A – (10 X 2 = 20 Marks)

Q.No.	Question	M	CO	BTL
1.	Compare IoT and M2M.	2	CO1	K2
2.	Draw the block diagram of oneM2M architecture.	2	CO1	K1
3.	Name the types of Actuators.	2	CO2	K1
4.	Quote the trends in smart Objects.	2	CO2	K2
5.	List the significance of IPv6 in IoT.	2	CO3	K1
6.	List out the applications of RFID.	2	CO3	K1
7.	Define the purpose of using Arduino in IoT deployments.	2	CO4	K1
8.	Classify different cloud services that can be integrated with IoT devices.	2	CO4	K2
9.	Outline the role of IoT in preventive cardiological monitoring.	2	CO5	K2
10.	Classify different types of sensors used for activity monitoring.	2	CO5	K2

PART B – (5 X 16 = 80 Marks)

- | | | | | | | |
|-----|-----|-----|--|---|-----|----|
| 11. | (a) | i. | Interpret the evolution of the Internet of Things and discuss its impact on various industries. | 8 | CO1 | K2 |
| | | ii. | Summarize the different IoT architectures, including oneM2M and IoT World Forum, and their relevance to IoT implementations. | 8 | CO1 | K2 |
| | | | Or | | | |
| | (b) | i. | Infer a simplified IoT architecture diagram and explain the core functional stack involved in IoT systems. | 8 | CO1 | K2 |
| | | ii. | Illustrate the concepts of Fog, Edge, and Cloud computing to a real-world IoT scenario, discussing their advantages and disadvantages. | 8 | CO1 | K2 |

12. (a) Measure the different types of physical conditions for denoting the various types of sensors and tabulate them. 16 CO2 K3
- Or
- (b) i. Identify the advantages and limitations of using Wi-Fi for IoT applications compared to other communication protocols like Zigbee or Bluetooth. 8 CO2 K3
- ii. Develop a brief explanation of how GPS technology can be integrated into a personal tracking device. Discuss its importance for real-time location services. 8 CO2 K3
13. (a) Generalize in detail about: 16 CO3 K4
- (i) Optimizing IP for IoT (ii) 6LoWPAN to 6Lo
- Or
- (b) Examine the structure, characteristics and working of an embedded system. 16 CO3 K4
14. (a) Build the architecture of Raspberry Pi and illustrate its role in IoT deployment. 16 CO4 K3
- Or
- (b) Explain in detail Programming Raspberry Pi with python for IoT-based healthcare applications with suitable example. Also elaborate on Raspberry Pi interfaces. 16 CO4 K3
15. (a) Utilize the core components of IoT healthcare architecture including sensors, gateways, and data visualization tools to develop a remote healthcare solution for geriatric patients living in rural areas with limited access to traditional clinics. 16 CO5 K3
- Or
- (b) Choose the most effective wireless communication protocols and low-power sensors to implement a real-time activity monitoring system for post-operative recovery, ensuring that the data collected is both clinically accurate and energy-efficient. 16 CO5 K3
