

Course Code: **23CSE1D05**
**BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY &
SCIENCE(AUTONOMOUS)**

I - M. Tech I-Semester Supplementary Examinations (BR23), February - 2026

**INTERNET OF THINGS
(COMPUTER SCIENCE & ENGINEERING -58)**

Time: 3 hours

Max. Marks: 75

*Answer any Five Questions One Question for One UNIT
ALL the Question Carry Equal Marks*

UNIT-I		Marks	CO	BL
1.a)	Explain how enabling technologies contribute to the evolution of IoT systems.	7M	CO1	BL3
b)	Implement the concepts of Fog, Edge in IoT to improve the efficiency of a manufacturing process.	8M	CO1	BL3
OR				
2.a)	Demonstrate how IoT architectures, such as oneM2M, can be utilized to design a smart home system.	8M	CO1	BL3
b)	Explain the Characteristics of an Object. Discuss the classification of an object with a diagram	7M	CO1	BL3
UNIT-II		Marks	CO	BL
3.a)	List out main features of COAP. Explain the request/response model used by COAP	7M	CO2	BL3
b)	Apply the concepts of IEEE 802.15.4 and IEEE 802.15.4e to design a secure and energy-efficient IoT network.	8M	CO2	BL3
OR				
4.a)	Explain structural aspects of IoT and its related concepts	7M	CO2	BL4
b)	Illustrate the differences between constrained nodes and constrained networks by providing practical examples of their use in IoT systems.	8M	CO2	BL3
UNIT-III		Marks	CO	BL
5.a)	Design an IoT application using Raspberry Pi with Python programming to monitor and control a smart lighting system.	8M	CO3	BL4
b)	With a neat sketch, explain the overall network architecture of the Evolved Packet System (EPS) network elements	7M	CO3	BL4
OR				
6.a)	Demonstrate how embedded computing logic can be implemented in a microcontroller for a temperature monitoring application.	8M	CO3	BL3
b)	List and explain the advantages of IPV6 over IPV4	7M	CO3	BL2
		Marks	CO	BL

UNIT-IV

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| 7.a) | Explain the differences between structured and unstructured data. Provide examples of how they are used in real-world applications. | 8M | CO4 | BL3 |
| b) | Discuss the concept of edge streaming analytics and its significance in modern IoT systems. How does it complement network analytics in handling real-time data? | 7M | CO4 | BL2 |

OR

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| 8.a) | Analyse the components of the Hadoop ecosystem and evaluate how they work together to handle big data processing effectively. | 8M | CO4 | BL3 |
| b) | Illustrate how machine learning is integrated into data analytics processes. Provide an example where ML improves decision-making. | 7M | CO4 | BL3 |

UNIT-V

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|------|---|--------------|-----------|-----------|
| 9.a) | Discuss the implementation of IBM Watson IoT platform in the context of a smart traffic control system. | 8M | CO5 | BL3 |
| b) | Analyse the impact of IoT technologies in the power utility industry. How do they improve energy management and efficiency? | 7M | CO5 | BL3 |

OR

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| 10.a) | Examine the role of various IoT platforms in enabling device connectivity and data management. How do they differ in supporting diverse applications? | 7M | CO5 | BL3 |
| b) | Apply the Grid Blocks Reference Model to develop a framework for smart and connected cities. | 8M | CO5 | BL3 |
