

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)

**B.Tech. IV Year I Semester Regular & Supplementary Examinations October/November-2025**

**INTRODUCTION TO IoT**

Open Elective (OE) – III

**Time: 3 Hours**

**Max. Marks: 60**

(Answer all Five Units 5 x 12 = 60 Marks)

**UNIT-I**

- |   |   |   |     |    |    |
|---|---|---|-----|----|----|
| 1 | a | Define IoT and Describe the characteristics of IoT. | CO1 | L2 | 6M |
|   | b | Explain the role of things in IoT.                  | CO1 | L2 | 6M |

**OR**

- |   |   |   |     |    |    |
|---|---|---|-----|----|----|
| 2 | a | Define an internet protocol and compare IPV4 and IPV6.                      | CO1 | L2 | 6M |
|   | b | Compare Transmission protocol and user data gram protocol with neat sketch. | CO1 | L3 | 6M |

**UNIT-II**

- |   |   |  |     |    |    |
|---|---|--|-----|----|----|
| 3 | a | Explain how the IoT technology is implemented for industry to monitor prognosis and diagnosis. | CO3 | L2 | 6M |
|   | b | Explain how the IoT technology is implemented for indoor air quality monitoring system.        | CO3 | L2 | 6M |

**OR**

- |   |   |   |     |    |    |
|---|---|---|-----|----|----|
| 4 | a | Define how the IoT technology can be constructed in smart lightening and Intrusion detection systems for home automation.   | CO2 | L3 | 6M |
|   | b | Describe how the IoT technology can be constructed in smart appliances and smoke/gas detection systems for home automation. | CO2 | L3 | 6M |

**UNIT-III**

- |   |   |   |     |    |    |
|---|---|---|-----|----|----|
| 5 | a | Mention advantages and disadvantages of M2M communication system. | CO3 | L1 | 6M |
|   | b | What are the characteristics of M2M network?                      | CO3 | L1 | 6M |

**OR**

- |   |   |   |     |    |    |
|---|---|---|-----|----|----|
| 6 | a | Define domain model specification with neat sketch & draw its structure in IoT system design. | CO3 | L3 | 6M |
|   | b | Describe with neat sketch the Information Model specification in IoT system Design.           | CO3 | L3 | 6M |

**UNIT-IV**

- |   |   |   |     |    |    |
|---|---|---|-----|----|----|
| 7 | a | Define and explain an IoT device & give some examples.          | CO4 | L2 | 6M |
|   | b | Explain the GPIO pins of Raspberry Pi device with neat diagram. | CO4 | L2 | 6M |

**OR**

- |   |   |   |     |    |    |
|---|---|---|-----|----|----|
| 8 | a | Write a short note on various raspberry pi interfaces used for data transfer.   | CO4 | L2 | 6M |
|   | b | List out various single board computers which are alternatives to Raspberry pi. | CO4 | L1 | 6M |

**UNIT-V**

- |   |   |   |     |    |    |
|---|---|---|-----|----|----|
| 9 | a | Explain the purpose of smart parking in cities.                           | CO5 | L2 | 6M |
|   | b | Define process specification & domain model for smart parking IoT system. | CO6 | L3 | 6M |

**OR**

- |    |   |  |     |    |    |
|----|---|--|-----|----|----|
| 10 | a | Describe Process specifications for the Intrusion Detection system           | CO5 | L2 | 6M |
|    | b | Explain Information model specifications for the Intrusion Detection system. | CO5 | L2 | 6M |

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