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

B.Tech III Year II Semester Supplementary Examinations February-2022

INTRODUCTION TO IOT

(Open Elective-I)

Time: 3 hours

Max. Marks: 60

**PART-A**

(Answer all the Questions 5 x 2 = 10 Marks)

- |   |   |  |    |
|---|---|--|----|
| 1 | a | List out the Features of IoT.                                | 2M |
|   | b | What are the elements of a home automation system?           | 2M |
|   | c | Define Network Function Virtualization.                      | 2M |
|   | d | Define Micro Python.   | 2M |
|   | e | List out various versions of raspberry pi devices till date. | 2M |

**PART-B**

(Answer all Five Units 5 x 10 = 50 Marks)

**UNIT-I**

- |   |   |  |    |
|---|---|--|----|
| 2 | a | Explain the role of things in IoT.           | 5M |
|   | b | Explain various link layer protocols of IoT. | 5M |

**OR**

- |   |   |   |    |
|---|---|---|----|
| 3 | a | Describe an example of an IoT system in which information and knowledge are inferred from the data. | 5M |
|   | b | Mention the applications of IoT   | 5M |

**UNIT-II**

- |   |   |   |    |
|---|---|---|----|
| 4 | a | Describe how the IoT technology can be implemented in smart appliances and smoke/gas detection systems.     | 5M |
|   | b | Explain the implementation of IoT technology in following areas:<br>(i) Smart Parking (ii) Smart Lightening | 5M |

**OR**

- |   |   |  |    |
|---|---|--|----|
| 5 | a | Explain how IoT technology can used in the following application areas:<br>(i) Structural health monitoring (ii) Surveillance      | 5M |
|   | b | Explain how IoT technology can used in the following application areas:<br>(i) Weather monitoring (ii) Noise pollution monitoring. | 5M |

**UNIT-III**

- |   |   |  |    |
|---|---|--|----|
| 6 | a | Draw and explain the M2M system architecture.                      | 5M |
|   | b | List the communication protocols used for M2M local area networks. | 5M |

**OR**

- |   |   |  |    |
|---|---|--|----|
| 7 | a | Draw the structure of M2M Gate way Network.  | 6M |
|   | b | Mention the advantages of IoT design methodology contrast to traditional designing of IoT. | 4M |

**UNIT-IV**

- |   |   |   |    |
|---|---|---|----|
| 8 | a | Draw and explain the basic building blocks of IoT device. | 6M |
|   | b | Explain in brief about the OOP concepts.                  | 4M |

**OR**

- 9 a List the flavors of Linux OS supported by Raspberry pi device. **5M**
- b Explain the various frequently used commands during operation of Linux OS. **5M**

**UNIT-V**

- 10 a Explain service specification for home automation system in state service. **5M**
- b Define service specifications for the Intrusion Detection system. **5M**

**OR**

- 11 a Write a python code for IoT printer to Raspberry Pi. **5M**
- b Explain functional and operational view specifications for Home Intrusion detection system. **5M**

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