



U.S.N

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

P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Second Semester, M.Tech. - Computer Science and Engineering (MCSE)

Semester End Examination; May / June - 2018

Foundation for Internet of Things

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- | | |
|--|----|
| 1 a. What is IOT? List and explain the characteristic of IOT. | 8 |
| b. Describe any two IOT communication modes with suitable diagrams. | 12 |
| 2 a. Discuss about IOT level-5 and level-6 in detail. | 10 |
| b. Describe M ₂ M gateway with a neat diagram and mention the differences between M ₂ M and IOT. | 10 |

UNIT - II

- | | |
|--|----|
| 3 a. List the building blocks of an IOT device. Describe an IOT device with a neat diagram. | 10 |
| b. Discuss the power and sensor technology of IOT in detail. | 10 |
| 4 a. Write a note on RFID. | 10 |
| b. List and explain various Raspberry Pi interfaces. Also write an interfacing module to interface led and switch with Raspberry Pi. | 10 |

UNIT - III

- | | |
|---|----|
| 5 a. Describe Zigbee and its protocol stack with a neat diagram. | 10 |
| b. Write a note on constrained applications protocol. | 10 |
| 6 a. Describe various frames used in IEEE 802.15.4 Zigbee communications. | 10 |
| b. Explain Bluetooth protocol stack with a neat diagram. | 10 |

UNIT - IV

- | | |
|---|----|
| 7 a. Explain Web Application Messaging Protocol (WAMP) with a neat diagram. | 10 |
| b. Explain Amazon S ₃ and Amazon RDS in detail. | 10 |
| 8 a. Discuss about Amazon DynamoDB and Map-Reduce using Python. | 12 |
| b. Write a note on Django (Python application framework). | 8 |

UNIT - V

- | | |
|--|----|
| 9 a. Describe Arduino Board and its IDE in detail. | 12 |
| b. Explain smart parking system in detail. | 8 |
| 10 a. Discuss smart lighting and home intrusion detection for home automation. | 12 |
| b. Discuss in detail about smart irrigation. | 8 |

* * * *