**Lesson Plan**

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| Name | SABYASACHI SARANGI | Total Hrs planned:60Total Hrs per week: 04 |
| Designation | PTGF | Pre requisite :  |
| Subject: Code/Name |  Th.2 |  Internet of Things |
| **Semester/Programme/Department** | 6th Sem / Diploma/ Information Technology |
| **Course Objective** | Know what IoT is Know Physical and Logical design of IoT• Understand the other Technology associated with IoT• Know the areas of applications of IoT• Understand the concept of IIoT• Know the working with Arduino and Raspberry Pi• |

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| **Sl.No** | **Detail Description of Topics/Subtopics** | **Mode of Lecture** |
| 1 | CHAPTER-1 Introduction to Internet of Things | Chalk & talk |
| 2 | Characteristics of IoT | Chalk & talk |
| 3 | Applications of IoT | Chalk & talk |
| 4 | IoT Categories | PPT |
| 5 | IoT Enablers and connectivity layers | PPT |
| 6 |  Baseline Technologies , oT components and implementation | NPTEL VIDEO |
| 7 | Revision of Chapter 1 | Questionnaires &Class Test |
| 8 | **Chapter2:**  IOT Networking | Chalk & talk |
| 9 | Terminologies | NPTEL VIDEO |
| 10 | Gateway Prefix allotment | PPT |
| 11 | Impact of mobility on Addressing | NPTEL VIDEO |
| 12 | Multihoming , Deviation from regular Web | Chalk & talk |
| 13 | IoT identification and Data protocols | NPTEL VIDEO |
| 14 | Revision of Chapter 2 | Questionnaires &Class Test |
| 15 | **Chapter 3:**  Connectivity Technologies | Chalk & talk |
| 16 | Introduction | Chalk & talk |
| 17 | IEEE 802.15.4 | PPT |
| 18 | ZigBee, 6LoWPAN | Chalk & talk |
| 19 | RFID | Chalk & talk |
| 20 | HART and wireless HART | Chalk & talk |
| 21 | NFC | NPTEL VIDEO |
| 22 | Bluetooth | Chalk & talk |
| 23 | Z wave | NPTEL VIDEO |
| 24 | ISA100.11.A | NPTEL VIDEO |
| 25 | Revision of Chapter 3 | Questionnaires &Class Test |
| 26 | **Chapter 4:**  Wireless Sensor Networks | Chalk & talk |
| 27 |  Introduction | PPT |
| 28 | Components of a sensor node | Chalk & talk |
| 29 | Modes of Detectio | Chalk & talk |
| 30 | Challenges in WSN | NPTEL VIDEO |
| 31 | Sensor Web | NPTEL VIDEO |
| 32 | Revision of Chapter 4 | Questionnaires &Class Test |

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| 33 | **Chapter 5:**  M2M Communication | Chalk & talk |
| 34 | M2M communication | PPT |
| 35 | M2M Ecosystem | Chalk & talk |
| 36 | M2M service Platform | NPTEL VIDEO |
| 37 | Interoperability | NPTEL VIDEO |
| 38 | Revision of Chapter 5 | Questionnaires &Class Test |
| 39 | **Chapter 6 :**  . Programming with Arduino | Chalk & talk |
| 40 | Introduction | Chalk & talk |
| 41 | Features of Arduino | NPTEL VIDEO |
| 42 | Components of Arduino Board | Chalk & talk |
| 43 | Arduino IDE | PPT |
| 44 | Case Studies | Chalk & talk |
| 45 | Revision of Chapter 6 | Questionnaires &Class Test |
| 46 | **Chapter 7 :**  Programming with Raspberry Pi  | Chalk & talk |
| 47 | Architecture and Pin Configuration | Chalk & talk |
| 48 |  Case studies | NPTEL VIDEO |
| 49 |  Implementation of IoT with Raspberry Pi | PPT |
| 50 | Revision of Chapter 7 | Questionnaires &Class Test |
| 51 | **Chapter 8 :**  Software defined Networking | Chalk & talk |
| 52 | Limitation of current network | Chalk & talk |
| 53 | Origin of SDN | Chalk & talk |
| 54 | SDN Architecture | Chalk & talk |
| 55 | Rule Placement, Open flow Protocol | Chalk & talk |
| 56 |  Security in SDN ,Integrating SDN in IoT | Chalk & talk |
| 57 | Revision of Chapter 8 | Questionnaires &Class Test |
| 58 | **Chapter 9:**  Smart Homes | Chalk & talk |
| 59 | Origin and example of Smart Home Technologies | Chalk & talk |
| 60 | Smart Home Implementation | Chalk & talk |
| 61 | Home Area Networks(HAN | Chalk & talk |
| 62 | Smart Home benefits and issues | Chalk & talk |
| 65 | Revision of Chapter 9 | Questionnaires &Class Test |
| 66 | **Chapter 10:**  Smart Cities | Chalk & talk |
| 67 |  Characteristics of Smart Cities | Chalk & talk |
| 68 | Smart city Frameworks | NPTEL VIDEO |
| 69 | Challenges in Smart cities, | NPTEL VIDEO |
| 70 | Energy Management in Smart cities | Chalk & talk |
| 71 | Revision of Chapter10 |  |

Books Recommended :

- 01 Jeeva Jose Internet of Things Khanna Books

02 Arsheep Bhaga, Vijay Madisetti Internet of Things A Hands-on approach University press

SUBJECT FACULTY H.O.D ACADEMIC COORDINATOR PRINCIPAL