**PRIYADARSHINI COLLEGE OF ENGINEERING**
**Department of Industrial IoT**
**Course Outcomes(CO)**

**Semester-5th Sem**

| **Subject:IoT Architecture and Protocols** | **Subject Code: BTechIOT-501T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Demonstrate Concept of Internet of Things architecture |
| CO2 | Demonstrate IoT protocol standards and ecosystem. |
| CO3 | Explain Communication protocols for Basic designs in IoT |
| CO4 | Select IoT Networking Protocols in different IoT System |
| CO5 | Develop secure systems in IoT. |

| **Subject: Machine Learning** | **Subject Code: BTechIOT-502T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain basics of Machine Learning Techniques. |
| CO2 | Explain different types of Regression Techniques. |
| CO3 | Apply classification techniques. |
| CO4 | Apply unsupervised machine learning techniques. |
| CO5 | Apply & evaluate the machine learning techniques to real world problems. |

| Subject: **Cloud Computing** | Subject Code: BTechIOT-503T |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Develop and deploy cloud application using popular cloud platforms |
| CO2 | Design and develop highly scalable cloud-based applications by creating and configuring virtual machines on the cloud and building private cloud |
| CO3 | Design and deploy a cloud application in a PaaS environment |
| CO4 | Develop cloud computing solutions for an enterprise |
| CO5 | Analyze various cloud programming models and apply them to solve problems on the cloud |

| Subject: **Signal Processing** | Subject Code: BTechIOT-504T |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain the basics of signal and system |
| CO2 | Explain the concepts of Fourier Transform |
| CO3 | Meet the requirement of theoretical and practical aspects of DSP with regard to sampling and reconstruction. |
| CO4 | Explain the properties of Z Transform |
| CO5 | Represent discrete-time signals analytically and visualize them in the time domain. |

| **Subject: Web and Social Media Analytics (Elective I)** | **Subject Code: BTechIOT-505T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Be able to analyze social media, web and social media analytics, and their potential Impact. |
| CO2 | Be able to Explain usability, user experience, and customer experience. |
| CO3 | Be able to Explain usability metrics, web and social media metrics. |
| CO4 | Be able to design and conduct usability studies. |
| CO5 | Be able to use various data sources and collect data relating to the metrics and key Performance indicators. |

| **Subject: ARM Processor & its Essentials (Elective - I)** | **Subject Code: BTechIOT-505T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain the features of embedded systems, architecture of ARM7 and applications. |
| CO2 | Analyse and understand the instruction set and development tools of ARM |
| CO3 | Analyse and understand the THUMB state and achieving competency in assembly programming of ARM. |
| CO4 | Explain the exception, interrupts and interrupt handling schemes |
| CO5 | Explain the architectural features of LPC2148 microcontrollers. |

| **Subject: Data Visualization (Elective - I)** | **Subject Code: BTechIOT-505T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Apply the concepts of big data analytics for a domain. |
| CO2 | Apply the data analytics technique for visualization. |
| CO3 | Locate the data from different sources (small dataset and large datasets),clean and manipulate data. |
| CO4 | Evaluate and design data analytics Framework. |
| CO5 | Use rich visualization libraries to deliver your findings as reports. |

| **Subject: Wireless Communication Technologies (Elective - I)** | **Subject Code: BTechIOT-505T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | To be able to design solutions for cellular communication |
| CO2 | To be able to compute the capacity of wireless channels |
| CO3 | To be able to analyze the performance of the digital modulation techniques in fading channels. |
| CO4 | To apply various diversity techniques in wireless communication. |
| CO5 | To design multicarrier systems in wireless communication |

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| **Subject: Effective Technical Communication** | **Subject Code: BTechIOT-506T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Knowledge of structure of language. |
| CO2 | Be able to face competitive exams and the interview process and can become employable |
| CO3 | Develop business writing skills. |
| CO4 | Become familiar with technology enabled communication and can develop technical and scientific writing skills. |

**PRIYADARSHINI COLLEGE OF ENGINEERING**
**Department of Industrial IoT**
**Course Outcomes(CO)**

**Semester-6th Sem**

| **Subject: Mobile & WebApplication Development** | **Subject Code: BTechIOT-601T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain basic of IoT Ecosystem |
| CO2 | Describe various sensor in each IoT devices |
| CO3 | Execute Sensor Data Processing using tools |
| CO4 | Create programming framework for IoT technologies |
| CO5 | Execute and demonstrate low power communication technologies for IoT |

| **Subject: Digital Modelling and System Design** | **Subject Code: BTechIOT-602T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain digital system designs skills using Verilog HDL. |
| CO2 | Explain Gate level modeling. |
| CO3 | Design Behavioral modeling and loop constructs. |
| CO4 | Compare synthesis of digital and sequential sub systems. |
| CO5 | Design and implement complete digital systems using Verilog HDL and demonstrate the innovation skills. |

| **Subject: Big data Analytics** | **Subject Code: BTechIOT-603T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain basic concepts and techniques of Hadoop and Big data computing. |
| CO2 | Develop skills for implementation of various Hadoop ecosystem component |
| CO3 | Shall able to apply ecosystem knowledge to real time problems of moderate complexity |
| CO4 | Implement and Design different Big Data framework. |
| CO5 | Implementing data science and big data analysis in various applications. |

| **Subject:MEMS & SOC (Elective II)** | **Subject Code: BTechIOT-604T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Apply working principles of currently available microsensors, actuators used in Microsystems. |
| CO2 | Apply scaling laws that are used extensively in the conceptual design of micro devices and systems. |
| CO3 | Apply the basic principles and applications of micro-fabrication processes, such as photolithography, ion implantation, diffusion, oxidation, CVD, PVD, and etching. |
| CO4 | Choose a micromachining technique, such as bulk micromachining and surface micromachining for a specific MEMS fabrication process |
| CO5 | Explain recent advancements in the field of MEMS and devices. |

| Subject:Intelligent sensor and Instrumentation (Elective II) | Subject Code: BTechIOT-604T |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Analyse Classification & selection of sensors |
| CO2 | Compute and measure various physical quantity using transducers |
| CO3 | Analyze the performance of the virtual instrumentation |
| CO4 | Apply various diversity techniques in data acquisition methods |
| CO5 | Design various application using smart sensor |

| Subject:Robotics and Intelligent System (Elective II) | Subject Code: BTechIOT-604T |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Identify problems that are amenable to solution by AI methods. |
| CO2 | Identify appropriate AI methods to solve a given problem. |
| CO3 | Formalize a given problem in the language/framework of different AI methods. |
| CO4 | Summarize the learning methods adopted in AI |
| CO5 | Design and perform an empirical evaluation of different algorithms on a problem formalization. |

| Subject:Block chain and cyber security (Elective II) | Subject Code: BTechIOT-604T |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain fundamentals of Cyber Security and Blockchain Technology |
| CO2 | Learn models of Blockchain. |
| CO3 | Analyze and demonstrate ethereum. |
| CO4 | Analyze and demostrate Hyperledger fabric. |
| CO5 | Explain fundamentals of Cyber Security and Blockchain Technology |

| Subject:Open Elective-I- Current Trends and Technologies | Subject Code: BTechIOT-605T |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Use the basics of internet for deployment of various servers and recourses |
| CO2 | Design and implement technologies for e-Commerce and e-Learning. |
| CO3 | Choose appropriate implementation of Green Computing. |
| CO4 | Make use of Social Networking properly and securely. |

| **Subject:Open Elective-I-Embedded & Real Time System** | **Subject Code: BTechIOT-605T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Outline the concepts of embedded systems |
| CO2 | Describe the architecture of embedded systems |
| CO3 | Describe the architecture and programming of ARM processor |
| CO4 | Design embedded system based on RTOS and communication protocols.<br>Model real-time applications using embedded-system concepts |
| CO5 | Explain the basic concepts of real time operating system design |

| **Subject:Open Elective-I- INDUSTRY 4.0** | **Subject Code: BTechIOT-605T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain the basics of IoT and basics of Industry 4.0. |
| CO2 | Apply Business Model and Reference Architecture |
| CO3 | Explain the different Business issues in Industry 4.0 and how to solve them. |
| CO4 | Explain the need of Security and Fog Computing and applications of IIoT. |

| **Subject:Organization Behaviour** | **Subject Code: BTechIOT-606T** |
|---|---|
| By the end of the course students will be able to: | |
| CO1 | Explain the concept and importance of organizational behaviour. |
| CO2 | Acquire the knowledge of interpersonal behaviour and transaction analysis |
| CO3 | Know different traits and theories of personality |
| CO4 | Analyze the importance of motivation in organization and types of leadership |