About BIET: Bapuji Institute of Engineering and Technology was started in the year 1979 with the initiative and foresight of Bapuji Educational Association. The institute has been recognized by AICTE and accredited by NAAC with 'A' Grade, and Institution of Engineers. The Institute has grown by leaps and bounds, and at present offers 15 UG and 05 PG programmes in Engineering, Technology and Management. The institute has 14 VTU recognized Research Centers. In addition to academic activities, the college undertakes consultancy works in Civil, Environmental, Mechanical, Electrical & Electronics and other fields of Engineering.

About the Department: The department of Electronics & Communication Engineering was established in the year 1979 with a vision to promote and maintain academic & professional excellence in technical education and research field. The department is accredited for 4th time by National Board of Accreditation (NBA), AICTE, New Delhi in the year 2022. Department has to its credit 37 ranks. The department has well qualified faculty members and dedicated supporting staff. The department has excellent infrastructure, well equipped laboratories and departmental library. The Laboratories are equipped with Cadence, Xilinx Software with CPLD/FPGA kits, MATLAB, DSP Trainers and Evaluation Modules with Code Composer Studio, ARM Cortex M3 Boards, Microcontroller Trainers with Flash Modules, LabVIEW, OFC kits, MIC, Microwave Testbench, Analog and Digital Communication modules. Department is recognized as Research Centre by VTU Belagavi since 2020.

About Faculty Development Program:
Faculty Development Program (FDP) on **Mastering IoT: Hands-on Training for sensor Integration, Devices and Cloud Services** is a structured training program designed to enhance the knowledge and skills of faculty members in the field of IoT.

FDP is designed to supplement the Ability Enhancement Course-III **IoT for Smart Infrastructure BEC358D** prescribed for third semester of 2022 scheme.

FDP focuses on Sensors, Edge devices and connectivity, Protocols, Open source simulators, Cloud platform and associated hardware.

About VTU: VTU is one of the largest Premier Technological Universities in India with 25 years of Tradition of Excellence in Engineering & Technical Education, Research and Innovations. It came into existence in the year 1998 to cater the needs of Indian Industries for trained technical manpower with practical experience and sound theoretical knowledge. University has successfully achieved the tremendous task of bringing various colleges affiliated earlier to different universities, different syllabi, different procedures and different traditions under one umbrella. The University having 219 affiliated colleges, 1 constituent college and 25 autonomous colleges with undergraduate courses in 35 disciplines, PG program in 94 disciplines and Ph. D & M.Sc. (Engg.) with research programs in 592 departments with over 4 lakhs engineering students studying in various affiliated colleges. The university has 13 quality improvement program (QIP) centers in various affiliated colleges and 16 extension centers for offering PG programs. The University is making steady progress in developing and providing best technical environment for education, implementation of NEP 2020 and will continue to serve the nation in the coming years. Equipped with the extremely rich resources of an outstanding student body and faculty strong partnerships with business, industry. Government & alumni and friends, VTU is designing a future of global pre-eminence, leadership and service. Recently, VTU has implemented number of innovative initiatives to promote planned and sustainable development of technical education in the country.

Company Profile: Eaktech Private Limited is a dynamic startup in the Cloud and IT service sector. Eaktech is committed to driving digital transformation by providing innovative and reliable cloud and IT solutions to businesses across diverse industries.

Core Services: Eaktech Private Limited specializes in a comprehensive suite of Cloud and IT services, including but not limited to Cloud Infrastructure Management, Data Security and Compliance, Digital Transformation Consulting, IT Support and Maintenance and Custom Software Development.

Objectives:
- To provide an opportunity for Research Scholars / Faculty / Technical staff to familiarize with IoT, Sensor Integration, Devices and Cloud Services.
- To bridge the gap between academia & industry.
- To motivate participants to use open source tools for Research & Development on thrust area of IoT and its Applications.

Expected outcomes:
- To empower faculty members with the knowledge and skills to integrate IoT concepts into their teaching, research, and consultancy activities.
- To gain a comprehensive understanding of IoT technologies, enabling them to contribute effectively to the rapidly evolving field of IoT.
- To be familiar with open source softwares in IoT domain.

Who can participate?

Faculty / Research Scholars of all AICTE affiliated institutions.

Registration Fee	₹1000/-
Last Date for Registration	2nd December 2023
Venue	Research Centre, Dept. of E&CE
Contact Details	Mr Yogesha K O Mob: 9738406471 Mrs Suman B S Mob: 8123502746 Email: bietec1979@gmail.com

Note:
- No TA/DA will be provided
- Working lunch will be provided.
- Accommodation will be provided with nominal charges.
- Participants should bring Laptop.

Account Details:

Registration Fee may be sent through PhonePe/Google Pay to : 9738406471 / 8123502746

One Week **Faculty Development Program**

on

Mastering IoT: Hands-on Training for Sensor Integration, Devices and Cloud Services

4th – 9th December 2023

Registration Form

Name:

Department:

College address:

Email ID:

Mobile No:

Signature & Date:

Principal Signature

Scan here to Register

Online Registration form link:

https://forms.gle/bBzDVoeEJX6dBrnXA

Chief Patrons
Dr. Shamnur Shivashankarappa
Honorary Secretary, BEA & Chairman, BIET
Sri. S. S. Mallikarjun, Joint Secretary, BEA
Dr. Vidyashankar S, Vice Chancellor, VTU

Patrons
Dr. B. E. Rangaswamy, Registrar, VTU
Dr. T N Srinivas, Registrar (Evaluation)
Smt. M. A. Sapna, Finance Officer, VTU
Prof. Y. Vrushabhendrappa Director, BIET
Dr. H. B. Aravind, Principal, BIET

Resource Persons
Sri. Adarsh B U, CTO, EakTech Pvt. Ltd, Bengaluru
Sri. Dr. Murthy, EakTech Pvt. Ltd, Bengaluru
Sri Yogeshwaran, EakTech Pvt. Ltd, Bengaluru
Sri Ashokan, EakTech Pvt. Ltd, Bengaluru

Coordinators
Prof. Ashalatha M E, Professor
Dr. K M Prakash, Associate Professor
Smt. Radhika Priya Y R, Assistant Professor
Smt. Nirmala G, Assistant Professor
Mr Yogesha K O, Assistant Professor
Mrs Suman B S, Assistant Professor

Organizing Members
Faculty Members, Dept. of E&CE.

**Bapuji Educational Association®
Bapuji Institute of Engineering and Technology, Davangere-577004
Accredited by NAAC with 'A' Grade**

Department of Electronics & Communication Engineering
(Accredited by NBA)

in association with

Visvesvaraya Technological University, Belagavi

&

Eaktech Pvt. Ltd., Bengaluru

One Week **Faculty Development Program**

on

Mastering IoT: Hands-on Training for Sensor Integration, Devices and Cloud Services

4th – 9th December 2023

Convener
Dr. G. S. Sunitha, Professor & Head

Bapuji Institute of Engineering and Technology, Davangere-577004
Department Electronics & Communication Engineering

Faculty Development Program on Mastering IoT : Hands-on Training for Sensors Integration, Devices and Cloud services.

Title	Mastering IoT : Hands-on Training for Sensors Integration, Devices and Cloud services.
Resource Persons	Mr. Adarsh, Dr.Murthy, Mr.Yogeshwaran and Mr.Ashokan
Dates	4th December to 9th December 2023

Day	Modules		Topics	Hands-On	Resoure Person
Day - 1 12/4/2023	Introduction to IoT and Smart Infrastructure	10:00 AM to 12:30 PM	Overview of IoT, Smart infrastructure	No	Mr. Adarsh B U
			Benefits and Challenges		
			Sensors, Actuators, Gateway and IoT protocols		
			Cloud Computing and Edge Computing		
		2:00 PM to 4:00 PM	IoT various Use-Cases and Case-Studies.		
			IoT Stack and IETF IoT protocols		
			IoT Frameworks and Operating Systems		
Day - 2 12/5/2023	Security for IoT	10:00 AM to 12:30 PM	Security and Privacy in IoT		Dr. Murthy D H R
			Security Challenges and Threats		
			Best practises and Solutions for IoT		
			Implementation of Cyptpgraphy on IoT Devices		
	IoT Operating system and protocols	02:00 PM to 4:00 PM	MQTT Protocol in detail	Using Hive.MQ hands-on, MQTT Publishing,Subscribing and Message Exchange Creation of CoAP server, CoAP Client, interaction between CoAP server and Client, Usage of CoAP methods, CoAP resources exchange	Mr. Adarsh B U
			CoAP Protocol in detail		
			Contiki OS and Cooja Simulator		
Day - 3 12/6/2023	IoT for Smart Cities	10:00 AM to 12:30 PM	Introduction, key features, benefits and challenges due to smart city		Mr. Yogeshwaran
			Smart city applications and case studies		
			Emerging technologies role for smart city		
			Opportunity and challenges for future smart city		
		02:00 PM to 4:00 PM	Embedded Protocols	Connecting NodeMCU with Wifi Gateway, Server-Client Configuration. Device using Webpage, Sending data to Webpage, Interfacing Temperature Sensor	Mr. Ashokan
			Brief on Node MCU, Architecture of Node MCU		
			Sensor integration for Node MCU		
			Actuator integration for Node MCU		
			Cloud integration for Node MCU		

Day	Topic	Time	Session Details	Hands-on	Faculty
Day - 4 12/7/2023	IoT for Smart Building	10:00 AM to 12:30 PM	Introduction, key features, benefits and challenges of smart building Smart building applications and Case studies Emerging technologies role for Smart building Opportunity and challenges for future smart building		Mr. Yogeshwaran
		02:00 PM to 4:00 PM	Overview of Raspberry pi Architecture of Rpi Sensor integration for Rpi Actuator integration for Rpi Cloud integration for Rpi	Create a web server, Integrating Sensors & Reading, Environmental Physical Values, Interfacing Temperature Sensor, Interfacing PIR Sensor, Interfacing Ultrasonic Sensor, Uploading Sensor Data over cloud, Installing Mosquitto Broker on	Mr. Ashokan
Day - 5 12/8/2023	IoT for Smart Transportaion	10:00 AM to 12:30 PM	Introduction, key features, benefits and challenges of smart transportaion Smart Transportaion applications and Case studies Future trends for smart transportaion ITS, V2V and V2I discussion Potential impact of 5G on smart transportaion		Mr. Yogeshwaran
		02:00 PM to 4:00 PM	Azure account Cloud creation Rpi to Azure data transmission Azure IoT central application Azure IoT Hub utilisation	Azure hands-on for virtual machine, storage account, IoT central application, IoT hub and data transmission from Rpi	Mr. Ashokan
Day - 6 12/9/2023	IoT for Smart Grid and Energy Management	10:00 AM to 12:30 PM	Key features of smart grid, IoT optimizing energy distribution and consumption. Smart energy application/ use-cases Renewable energy and non renewable energy Case studies for smart energy management IoT, AI and Blockchain for Smart grid		Mr. Yogeshwaran