Department of EEE, CBIT

Value Added Course (VAC) on Raspberry Pi and its Interfacing

27th February - 03rd March 2023

Hands-on Training Course Content

- Introduction to Raspberry Pi
- Python Programming for Raspberry Pi
- Node Red with Raspberry Pi for IoT Applications
- IoT applications using Raspberry Pi
- Raspberry pi and Intelligent Instrumentation
- Raspberry Pi in IOT Applications
- IOT in smart Healthcare : Applications and Challenges
- Hardware Requirements for Module Interfacing using Rasberry Pi
- Case Study 1: IoT applications using Raspberry Pi
- Case Study 2: IoT Smart Healthcare
- E-Certificate will be provided through email only.

Organizing Committee

Chairperson

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CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)

Department of Electrical and Electronics Engineering

Technical Support by with NITTTR-Chandigarh

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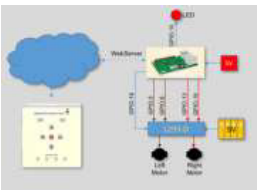

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Chaitanya Bharathi Institute of Technology (CBIT)

CBIT is one of the premier Engineering Institutes in India, pioneer in Telangana State, which is at idyllic surroundings of Gandipet Lake, Hyderabad. The college offers Nine UG and Eleven PG programs. It has been standing as a temple of knowledge for the past 43 years by producing about 25,000 Eminent and skillful Graduate Engineers, who are successful in their Careers, serving all over the Globe. CBIT Students are prepared and perfected to secure Placements in reputed MNCs. The Institute has been accredited by NAAC – UGC with 'A' Grade and various programs are accredited by NBA – AICTE. The UGC has granted Autonomous Status from the Academic Year 2013-14 onwards. Stringent Academic Standards, Industry Compliant Teaching Methodology, Research Projects from Private and Public Sector organizations Industries in Engineering and Management and Consultancy Practice, enabled the Institute to establish its Identity in Technical Education and is ranked as one of the best amongst Private Engineering Colleges in both the Telugu Speaking States.

About Department

CBIT started the Electrical & Electronics Engineering UG program in 1994 and was accredited 5 times i.e. in the years 2004, 2008, 2013,2017 & 2021 by NBA. The intake was increased from 60 to 120 in the Academic Year 2013-14. The Department started offering a PG course in Power Systems & Power Electronics in 2006 with an intake of 18 and was accredited by NBA in the year 2016. The department has received grants worth around ₹ 40 lakhs from AICTE under RPS, MODROBS, FDP, STTP, etc. The Department is offering consultancy services worth ₹ 24 lakhs in collaboration with Foreign Universities in the domain of Renewable Energy Systems. The Department is also certified by ISO 9001:2015. The Department is recognized as Research Centre in 2017 by Osmania University to carry out research for the award of a Ph.D. degree.

About Value Added Course (VAC)

Raspberry Pi is most popular SBC (Single Board Computer). We can used Raspberry Pi as an IoT device and IoT Gateway. In this article we discuss Raspberry Pi Interfaces. Interfaces used for connecting Sensors and actuators.

The Raspberry Pi is a low cost, credit-card sized computer that plugs into a computer monitor or TV, and uses a standard keyboard and mouse. It is a capable little device that enables people of all ages to explore computing, and to learn how to program in languages like Scratch and Python. It's capable of doing everything you'd expect a desktop computer to do, from browsing the internet and playing high-definition video, to making spreadsheets, word-processing, and playing games."

Raspberry pi has *Serial, SPI and I2C* interfaces for data transfer.The Serial interface on Raspberry Pi has receive (Rx) and transmit (Tx) pins for communication with serial peripherals.Serial Peripheral Interface (SPI) is a synchronous serial data protocol used for communicating with one or more peripheral devices.

Resource Persons

Resource Persons will be from Renowned Institutions and Industries like the National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh, BITS Mesra and MNIT Jaipur.

EEE department Front View

R&E Hub Top View