

Boards Targeted

Arduino Uno

Beaglebone

Raspberry Pi

ARM

Leave AtMega, PIC or such smaller boards...They will make things complex

Do them only if you really free and really interested

Things that are most important

Environment Setup(Doing all in windows and in linux)

Basic Codes (LED ON OFF, LED Toggle)

Complex codes on elementary operations

{Timer, motor control,

Memory card (SDcard, RAM) interface for image processing,

Video Camera interfacing for image processing,

Serial Communication(Ethernet + bluetooth), Zigbee...controller and co-ordinator, RF}

Connecting to internet(through GPRS, Ethernet) {Local + Global}

Some important but less used

GPS

Website, Webpage

Matlab interfacing

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- =====
- Month 1 - Setting up environment FOR ALL BOARDS, IDE interface to all boards
 Basic controlling things, Pin ON OFF, Toggling with delay, Relay, Driver Boards Usage
 Document step by step instructions to them at industry level(IL), Prepare PPT to IL
 Burn this month's works to a DVD
 (all softwares, drivers, codes, documentations, other resources)
- Month 2 - Motor Interfacing(left, right, front, Back) motion control
 (through h/w buttons, wireless control(later)) FOR ALL BOARDS
 Basic sensors interfacing FOR ALL BOARDS
 PIR, Ultrasonic,temperature, Buzzers, Microphone, RFID, LDR
 Document step by step instructions to them at industry level, Prepare PPT to IL
 Burn this month's works to a DVD
 (all softwares, drivers, codes, documentations, other resources)
- Month 3 - Serial interfacing, Bluetooth, Zigbee..controller + coordinator, RF, Ethernet
 Document step by step instructions to them at industry level, Prepare PPT to IL
- Month 4 - Internet, GSM, GPRS, WiFi, via bluetooth through mobile/PC internet(tethering)
- Month 5 - Camera & Memory card(SDcard, RAM) interface for IP, A/D, D/A, LED Screen, LCD Screen
- Month 6 - Complex sensors
 Solar Cells, Photo Sensors, Accelorometers, dimmer circuits,
 Thermal imaging, Electronic Compass
- Month 7++ - Others...
 GPS, USB Control, Touch Screen(capacitive and resistive), Speaker.

Continue like this with other things

Every month's work could be a

Workshop's topic(2 day or 3 day)

or a Module in EC's ESDP

Module's complexity varies from college to college

Haalu bekaadavarige haalu

Majjige bekaadavarige majjige

Neeru bekaadavarige neeru

Finish the basic ones and important ones in complex things first

Goto field for execution

While in field, do the complex ones parallely

Mainly digital things (MCU Coding)

Minimal analog work(soldering, Transistors, FETs, Opamps etc,.) {Because time consuming}

Perspective --> everything at the industry level

Not all things need to be done by us, collaborate wherever its worth

Other things (important after few years)

1. that are simple and less stressed

Using Different types of switches,

Non Electronic essential Supplemetaries:

PCB Boards, Bends, Cardboards, Solder,

Project box making, giving aesthetic look to project - a demo,

General Simulation Software usages for different simulators - Basics

Some spy projects - frequency detection of the mobile, decoding the transmitted message

Basics: Transistors, Diodes, Transformers, Opamps, FETs/MOSFETs

2. that are complex

Android basics

labview interface,

Robotic arm control

Control System Projects

Routing protocols burning to routers

Antenna Control Basics

Example WSN(for visualization of how a WSN looks)

Examples on FPGA, CMOS

When we prepare to ALL the above,

we can sell it to ANYBODY -- school kids, diploma, Engg, M.tech, Industry people

we will be UNBEATABLE(Yes..its takes time to finish all the above.. and THAT'S THE BEAUTY OF IT.. Because thats what makes us unbeatable...All it needs is continuous dedicated work for 2-3 years. It just needs us to cross the river once...on the other side we have a beautiful land)

(Most of the people waste their 2-3 years of life to prepare for IAS with an UNGUARANTEED success and most of them(99%) will fail and waste those years..

whereas us, rather than doing that, we will be INVESTING those years on to our GUARANTEED bright future)

Some thoughts

Workshops on

IOT, Image Processing, Boards Comparison, Communication Technologies Comparison,
 latex, poster design, CS for EC students(Client-Server, Basic Webpages, Basic Database etc,..)
 How to box the project to look like an endproduct
 Choose a board - Demo on using ALL the features that a board presents
 latest trends in electronics (for final year students, industry people, entrepreneurs)

Tutorials

Modules for general BE EC & TC
 Modules specific for M.Tech Branches
 Modules specific for technologies like IOT, Image Processing, Energy Harvesting

Workshop materials on major current topics(recent trends)

Project work guidance workshops

(All elementary/Basic operations...none specific project algorithm/task implementation)

Note:

At the end of any session, create the zeal to have a paper under their name.

Create clients for Journal Work

(All these things discussed above need JUST ONE TIME preparation...so those things doesn't
 consume your time in long run...AT THIS TIME start to take JOURNAL WORK...i.e., finish all
 the workshop/ESDP materials...then goto JOURNAL WORK and INDUSTRY LEVEL PROJECT WORKS)

Say we can give service of supplying any paper in IEEE + Springer + Elsevier

Target Audiences/2nd persons

Engg. Colleges
 Industry Peoples (To train new recruits, To train new companies' staff)

Possibilities(People call us for)

Workshops
 Tutorials - elonged workshops, ESDP
 People will also call for setting up the environment itself for sure
 Removers of striking points in projects
 (only guiding + pointing to or giving some resources(related example codes))
 Industries call us to train their staff
 One point contact for all technical stuff
 (to supply materials, to help in publishing, to help in projects packaging by giving
 related contact points, providing platforms to demonstrate their work, to direct the
 people in need to right industry persons or academic persons)
 Basically, bridge between Bangalore and Non-Bangalore...or rather bridge between the
 sinks and sources
 For arranging Industry visits for students

Thought Transfers

Demo on identifying the project opportunities by OBSERVING the real world.
 that is --> Sensing of opportunities spectrum Ex,. Thottilu thugoo machine
 Decomposing the products to small elementary operations(i.e., simplify complex things)
 ex. trimmer = oscillator+motor, sprinkler = servomotor + relay, Car's key = digital
 encoder + RF tx., Google eye = camera interfacing + custom MCU(small size) + placing
 it gives students a feeling that,YES,Even great things are also made of simple stuff only

Interfacing electronics to daily usable home objects - TV, DVD, Fridge, Fan, cycle/byke, car, Spectacles etc,. (i.e putting the electronics to practical usage)

Ex. tachometer -> you can use it to find cycle/byke speed, Fan's RPM, Motor's RPM etc,.

Basic Computer design - (Keyboard + Mouse + LCD Screen or Screen with COM Port + Some FAMILIAR MCU...ex, using Beagle bone to create a computer(Awesome!!!))

Show some vintage electronic stuff, i.e,. show evolution of electronics.

ex. Show the older to newer generation mouses & explain the difference in working of them. Give a demo of the small projects that were conducted by Jobs and Gates that made them.

(Yes... projects that made them famous are small and simple when compared to today's projects... take MORAL points out of this observation)

Design and demo of china products like card readers, LED bulb control, clocks, mosquito bats, calling bells etc,....To create small entrepreneurs(under our shadow).

e-mail writing

Mission and Vision

To understand electronics better

To understand electronics in a practical way

Thinking and working like an engineer

Better marks/grades

Higher chances in getting placed in good companies

Higher end goals

Certification Programs(like CCNA certification.Create a brand for your certification in long run)

Consulting Projections...(Only problem solvers not entire project commitments)

Industry Projects(Ex. Making an company's office an IOT environment)

Collabrating with foriegn universities - Start with arabic countries, Malasia, England, US.

Smart schools

Models of syed

Collect from internet

Animation files related to school science and Maths topics

Pictures --||--

Videos --||--

See syllabus of International Schools and provide animations for all the topics

if not available, create animation videos(self or purchase)

Aptitude tutorials

nali kali + handwriting + other soft skills

Diploma OBE

Shortened versions of all the above makes OBE

Things thay may not be possible

GATE Tutorials

CET Physics Tutorials

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Sandeep Sir

Reviewer for journal papers

Advisory committee member for Vignana Taranga

He will be active participants in vignana tharanga (+ maybe Sripathy Sir)

As a guide to industry level projects

Ex. project -- creating IOT environment in office

He will guide us in developing code or he himself may write code

We do rest of the work(marketing, peripheral interfacing, giving it a product look etc,..)

i.e., he will do the CORE work and we do the remaining...he will be the brain, we will be the hands and legs.

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Investment(minimum andru)

1 Set of all boards

USB Cables, Jumper wires.

LEDs, Breadboards, tools(screw driver, wire cutter)

1 set of sensors, motors, camera etc,.

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Money principles

Cost all services higher...because the work deserves it.

don't reduce the cost even for those who are willing to pay

minimum cost only for students who are humble or badavaru

i say overcharge those who does ganchali

charge even for the free codesamples that are available in internet

you are not responsible for their ignorance.

if they know about it, then only reduce the cost.

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Things to be organized

EDUIMPULSE. Name = ?.. register web domain.

Demo on some of the latest technologies - flexible electronics

Summarize TED talks, Khan academy videos

Electronics fun projects

LED on a arm of the fan to display the required text

PPT animation, word software features, Gif + Animation Creation

Literature i/ps, Music, Drama,

Basic necessary Medical Knowledge

basically things to avoid doing

what may be the possible effects if you do X

Carpentering, Welding etc,.

Video Processing

Visualize all BE EC Concepts using animation.

Torrents

NS2, Omnet etc,.

Decompose the complex things to simple elementary operations - clock, printer, trimmer, sprinkler, calling bell, alarm, create pendrive, oscillators to cover whole spectrum, simple LAN controller implementation, Simple router implementation,

Demonstrating Buoyancy principle

Gametheory, Bitcoins, WSN, Share Market, torrents, economic principles, neural n/ws, routing protocols, n/wing principles

PCB manufacturing <--> Collaborating with a PCB Company

Utilize JC student chapter.

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Become members of some societies - IEEE, EMB, Reviewers for some small journals

Readying small PCB boards like Relay boards,...

Arduino Pro Mini Atmega 328p(Compatible) Board smaller than Nano, UNO Rs.195

Arduino nano

The Wino Board

tinyduino

trinket

<https://punchthrough.com/bean>

<https://www.hackster.io/punchthrough/products/lightblue-bean>

<https://www.kickstarter.com/projects/qtechknow/gduino-mini-arduino-compatible-battery-charger-and>

<https://www.tiny-circuits.com/products/tiny-duino.html>

https://tiny-circuits.com/tinyduino_overview

<https://www.tiny-circuits.com/tinyscreen.html>

<https://www.tiny-circuits.com/products/tiny-duino.html>

<http://www.allaboutcircuits.com/news/arduino/>