# Spectrum §

October 9-10

# Spectrum

October 9-10

National Level Workshop on Arduino & Raspberry Pi System Development

## **About The College**

Located 20Kms East South of Palakkad city and 40 Kms-west of Coimbatore on about 47 acres on sides of Papanashini River, the main compus of Govt. College, College serene and beautiful.
The heritage compus is inhabited by above 300 species of Fanna and 600 species of Flore ng hill with patches of thick given and plated s, plenty of fresh air and sunshine life spirits of students, staff and faculty. The main administrative block is built in traditional Kerala style with tiled roofs. The main campus houses 14 teaching and research departments, 2 hostels, Music Concert Hall, computer center and an administrative office

ORGANISED BY - DEPARTMENT OF ELECTRONICS

ovt. College, Chittur

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Govt. (15 Kg)



PRINCIPAL GOVT. COLLEGE CHITTUR

National Level Workshop on Arduino & Raspberry Pi System Development

Sir/Madam,

We are pleased to announce a National Level workshop on "ARDUINO and Raspberry PI System Development" on 9-10, October 2018 at the Department of Electronics, Gout. College Chittur, Palakkad. We solicit active participation of faculty members and students of your institution for the workshop.

Prof. Anand Viswanath R Principal

Dr. Nishamol M 5 HoD

# Spectrum &



# Amburne & Raspberry P

The seventh National level Workshop, "Spectrum 2018" organised by Electronics Department, Govt. College Chittur, Kerala is scheduled to be held on 9 to 10 October 2018. The workshop, funded by the Directorate of Collegiate Education, Govt. of Kerala, is intented to provide an extensive forum for Developing the current need programming skills in the field of Arduino and Raspberry Pi., This will expose young talents to exciting innovations in the frontier field of Electronics and its applications. The workshop session will give opportunities for the scholars to nurish their knowledge to cope with the recent trends in the field.

National Level Workshop on Arduino & Raspberry Pi System Development

# Day 1 Tue:day 9<sup>th</sup>- October 2018

09.00 am 09.30 am 10.00 am

"Basics of Microcontrollers"

11.30 a.m 11.45 cm

"Overview of ATMEGA & Arduing

01.15 pm-1.45 pm 01.45 p.m

Technical Section 9

" Hands on Training on Arc

03.15 p.m 03.30 p.m

Future Project Application

## Day 2 Wednesday 10th - October 2018

09.30 am

Technoof Sestion-5

"Introduction to Respiserry PI"

11.00 a.m 11.15 am

Tea Break

12.45 pm-1.15 pm

Basics of Python Programming

01.15 p.m

Lunch Breok,

02.45 p.m

"Hands on Sessions on Respiratry Pf"

03.00 p.m

04.30 p.m

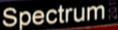
Future Project #

Mr. Vishnukumar V. Department of Instrumentation Cochin University of Science and Technology

## Feel Free to Contact

Dr. Nishamol M. S. (HoD) Department of Electronics Gout, College, Chittur Palakkad-678104, India Phone : +919497368525 email: nishanassar@gmail.com Dr. Sreejith M. Nair (Coordinator) Department of Electronics Govt. College, Chittur Palakkad-678104, India Phone : +919745682616 email: sreejithnairm@gmail.com

Spectrum







## REPORT

Seventh National Level faculty development program in Spectrum series- "SPECTRUM 2018" sponsored by Department of Collegiate Education, Government of Kerala, which is organized by Department of Electronics is held at Govt. College Chittur, Palakkad from 09<sup>th</sup> to 10<sup>th</sup> of October 2018. In 2K18, Spectrum is arranged to familiarize ARDUINO and RASPBERRY PI modules in a hands own training mode and the title of the workshop is chosen as "NATIONAL LEVEL WORKSHOP ON ARDUINO & RASPBERRY PI SYSTEM DEVELOPMENT". The workshop is designed in such a manner that even a layman can understand the concept behind the items discussed.

The inaugural ceremony of Spectrum 2018 starts sharply at 9.30 AM on 09/10/2018 at Edusat Room of Govt. College Chittur, with the Prayer song by Department students Aiswarya and Nishanth. Following to the prayer, Smt. Binumol T V, Assistant Professor and Head of the Department of Computer Science, offer a warm welcome to all gathered. The meeting is presided by Dr. Nishamol M S, Assistant Professor and Head of the Department of Electronics and she offered an introductory precedential address about the scope of the workshop. Following to that our Principal Prof. Anand Viswanath R offered an inaugural address and in between that speech he declared that the Workshop is inaugurated. Eminent personals of the college like Lt. Dr. Rijulal G, Asst. Professor of Chemistry and Member of Senate & Syndicate, University of Calicut, Sri. Jagannathan C, Asst. Professor of Physical Education and PTA Secretary and Ajith P M, Arts Club Secretary are present in the dias for offering felicitations. The meeting comes into an end around 10.00 AM by the vote of thanks proposed by Sri. Najeeb P L, Electronics Association Secretary.





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Since the workshop is mostly oriented in hands own training manner, all the technical sessions are arranged at Electronics Laboratory.

#### About Our Resource Person:

For handling the technical session we got a very apt person Mr. Vishnukumar V. He completed his post graduation in Electronics from MG University Kottayam during 2012. He had worked as assistant Engineer in V Guard industries LTD Cochin, Kerala from 2012 to 2015. Presently he is a research scholar in Department of Instrumentation, Cochin University of Science and Technology. Also he is providing training and support in the field of embedded systems and IOT for M. Sc, B. Tech and M. Tech students. His area of Interest are IOT, Wireless sensor networks, mobile robotics, power electronics system development and analysis.

## Technical Session 1.

The first technical session of duration one and half hour starts at 10.10 AM with an introductory talk on ATMEGA Microprocessor and ARDUINO. On this session the resource person explained about basics of Microprocessors and microcontrollers, difference between

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them, need and applications of these two, general purpose and special purpose microcontrollers etc. Then he switched to present tendencies in the field of microcontrollers and through that he introduced ATMEGA processor and Arduino Board. All the participants are very interested in this and the session was highly interactive. The session end with a light tea break.

### Technical Session 2.

The second session is a hands own training which familiarized installation of ARDUINO kernel and basic programming of ARDUINO board. Participants are well interested in doing basic programmes like data reading and writing using ARDUINO Pins. By the end of this session all are through with basic uses and programming of ARDUINO. The sessions ends with a half an hour long lunch break at 01.15 PM







# fechnical Session 3.

The third session was dedicated for interfacing. In this session the experimental process go through interfacing of various transducers to ARDUINO and displaying the quantities that are red through ARDUINO. In this lab we are familiarized with the interfacing of many transducers like Temperature Sensor, Humidity Sensor, PH Sensor, Light intensity sensor, position sensor etc. which are used for reading various natural parameters in our premises. Even though this is a complicated session, all the participants attended the same and the resource person patiently explains all the technical aspects. Session end with a 10 minuites long heavy Tea break.

## Technical Session 4.

Most advanced session which gives the inter disciplinary relevance of ARDUINO is this one. In this, Mr. Vishnu explained about future project applications of the ARDUINO. He simply demonstrated the practical application of ARDUINO board not only electrical field but also in biological and geological fields. As far as the faculty members from Zoology, Botany and Geography Department, this is a very much worthful session. On completing this session at 5.30PM, the first day schedule of the workshop comes to an end.

The second day of the workshop ie. 10/10/2018 is fully dedicated for RASPBERRY PI- a low cost computer on a board.

## Technical Session 5.

The technical sessions in second day started at sharp 9.30 AM with an introduction to RASPBERRY PI board. This session was semi theoretical and practical oriented, in which the invitee demonstrates the idea of RASPBERRY PI board, how to install it, how to cownload its basic softwares, how to upgrade it etc.

#### Technical Session 6.

This session started at sharp 11.15 AM with an introduction to PYTHON language. This session was more theoretical, which demonstrates the idea of PYTHON programming, its basic key words, syntax, how to install it, how to download it etc. Our Instructor, Sri. Vishnukumar thoroughly clarified all doubts including minute technical knowhows about the language. On compleating one and half hour long second session on second day, all the participants are very much confident on doing python programming.

#### Technical Session 7.

The hands own session about RASPBERRY PI starts at 1.30 after lunch break. The most informative session in second day was this. Through this session all the participants were become very much efficient for handling RASPBERRY PI. The session starts with simple project based uses and go to high end applications.

### Technical Session 8.

The last session of the workshop and most advanced session which gives the inter disciplinary relevance of RASPBERRY PI is this one. In this, Mr. Vishnu explained about future project applications of the RASPBERRY PI. He simply demonstrated the practical application of RASPBERRY PI board not only electrical field but also in biological and geological fields. As far as the faculty members from Zoology, Botany and Geography Department, this is a very much worthful session. This session completed at 4.45PM.

The two day long, highly informative Natinal Level workshop Spectrum 2018, comes to an end by the Valedictory session presided by Dr. Nishamol M S, Head, Department of Electronics in which the chief guest was Gayathridevi K M, Associate Professor of Electronics,

Palakkad, Kerala

PRINCIPAL GOVT. COLLEGE CHITTUR NSS College Ottappalam. All the participants shared their feelings about the workshop in it. The seminar comes to an ens at 5.30 PM on 10/10/2018.







Collegiate Education, Govt. Of Kerala Sponsored Two Day National Workshop-SPECTRUM 2018 ARDUINO & RASPBERRY PI SYSTEM DEVELOPMENT (09th - 10th October 2018)

Attendance – Day 2 (10/10/2018)						
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Collegiate Education, Govt. Of Kerala Sponsored Two Day National Workshop-SPECTRUM 2018

ARDUINO & RASPBERRY PI SYSTEM DEVELOPMENT

(09th - 10th October 2018)

## REGISTRATION

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(09th - 10th October 2018)

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(09th - 10th October 2018)

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ARDUINO & RASPBERRY PI SYSTEM DEVELOPMENT

(09th - 10th October 2018)

Attendance - Day 1 (09/10/2018)

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(09th - 10th October 2018)

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(09th - 10th October 2018)

Attendance - Day 2 (10/10/2010)

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Collegiate Education, Govt. Of Kerala Sponsored Two Day National Workshop-SPECTRUM 2018 ARDUINO & RASPBERRY PI SYSTEM DEVELOPMENT
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Attendance - Day 2 (10/10/2018)

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# GOVERNMENT COLLEGE CHITTUR, PALAKKAD Department of Electronics

Directorate of Collegiate Education, Kerala Sponsored ARDUINO and Raspberry Pi System Development National Level workshop on

(Spectrum 2018)

This is to certify that Sri./Smt./Dr....

has engaged technical sessions in Two Day National Level Workshop on ARDUINO & Raspberry Pi

System Development (Spectrum 2018) organized by Department of Electronics, Government College Chittur, Palakkad, Kerala on 9-10, October 2018

Dr. Sreejith M Nair

Coordinator

Dr. Nishamol M S

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Prof. Anand Viswanath R
Principal