

Method of Payment

- Bank Draft drawn in favour of the University of Colombo.
- Cash Payment to the Shroff of the University. Please contact coordinator before the payment is made.

Further Information



Webpage:

<http://www.cmb.ac.lk/physics/cid/mtc>

Contact:

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Courses and Programmes

Courses and programmes annually offered by the Centre for Instrument Development and Department of Physics, University of Colombo.

- M.Sc. in Applied Electronics
- M.Sc. in Physics Education
- M.Sc. in Atmospheric Dynamics and Lightning Protection
- Certificate Course in Applied Electronics and Automation Technology

To commenced in thnhis Year:

- *Interfacing Computer ports: USB , Serial and Parallel*

Please visit: <http://www.cmb.ac.lk/physics>



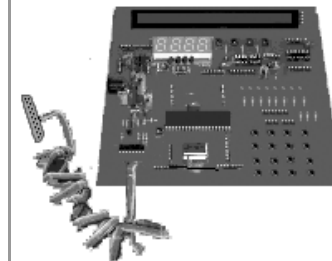
University of Colombo

Centre for Instrument Development
Department of Physics
University of Colombo



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Training Course on
Microcontroller
Programming and Its
Applications
(for Beginners)



Training Course on Microcontroller Programming and Its Applications

Introduction

A microcontroller is described as a computer on a chip because it contains all the features of a full computer including CPU, in-built clock circuitry, ROM, RAM, input and output ports with special features such as serial communication, analogue-to-digital conversion, USB, RF communication and signal processing. Application of microcontrollers can be found in all industries and disciplines.

This course is suitable for persons who intend to design and develop electronic devices. University students, technicians, engineers, teachers, lecturers, research scientists, inventors and innovators are target groups for this course. Basic knowledge in computer programming will be an advantage.

Structure

The programme commences at beginners level and winds-up at very advanced level with applications in industry and research. The course commences with an introduction to Microprocessors, Microcontrollers and their applications and industrial sensors. Then the construction of microcontroller programming board, programming microcontroller with basic software programming languages like Assembly, Hitec-C (C++ for PIC microcontroller) and PICBasic (BASIC for PIC microcontroller) and design & construction of prototypes of some equipment are included. Course consists of 2 days of lectures and 6 days of laboratory works.



Course Content

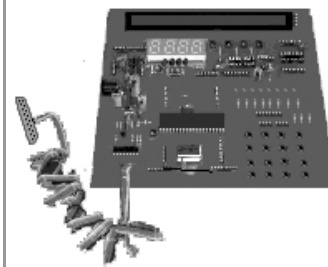
Theory (2 days)

- (1) Introduction to Digital Electronics
- (2) Introduction to Microprocessors and Microcontrollers
- (3) Hardware Structure and Concept
- (4) OPCODES
- (5) Sensors and Transducers

Laboratory Work (6 days)

- (6) Construction of Programming Board (1 day)
 - a. Designing with Software
 - b. Chemical Etching
 - c. Component Mounting
- (7) Introduction to Basic Programming Languages (1 day)
 - a. PIC BASIC
 - b. HitecC
- (8) Peripheral Integration (4 days)

a. LED	b. LED Matrix Display
c. Seven Segment Display (SSD)	d. LCD
e. Switch	f. Keypad
g. Stepper Motor	h. Speaker
i. ADC / DAC	
j. EEPROM	
k. RS232	
l. USB Communication	
m. GSM module	
n. Fuzzy Logic	
o. Project: Vending Machine	



Demo board specially constructed for the training course. All the experiments are carried out on this board. Board can be purchased.

What's New !

GSM module, USB Communication and Project: Vending Machine have introduced to the course this time.

Program Calendar

Day	Date	Course Content
Day-1	27 April, 2008	(1), (6) a.
Day-2	4 May, 2008	(2), (3), (6) b. (6) c.
Day-3	11 May, 2008	(4), (5), (7)
Day-4	25 May, 2008	(8) a.— (8) d.
Day-5	1 June, 2008	(8) e.— (8) h.
Day-6	8 June, 2008	(8) i.— (8) i.
Day-7	15 June, 2008	(8) m, (8) n.
Day-8	22 June, 2008	(8) o.

Application for enrollment can be on prescribed form obtainable from the Office of the Head, Department of

Course Fee: Rs. 19,000 (Rs. 17,000 for students)

Date of Commencement: 27 April, 2008

Application Procedure:

Physics, University of Colombo or downloadable from the webpage:

<http://www.cmb.ac.lk/physics/cid/mtc>

Office of the Head:
Tel: 011 2584777
Fax: 011 2584777

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