GUJARAT TECHNOLOGICAL UNIVERSITY

Report of

Faculty Development Training Program

On

1. Digital Signal Processing - 20th June-2014
2. Digital Signal Processing - 27th June-2014
3. Ana log System Design Using ASLK kit - 28th June-2014
4. Embedded system design using MSP430 - 30th June-2014

At

Gujarat Technological University

L. D. College of Engineering Campus, Ahmedabad-15

1. Introduction

Gujarat Technological University had organized one day faculty development training program in association with e-Info chip Institute of training and Research Academy (eiTRA) which is university program partner of Texas Instruments, India (TI) at Gujarat Technological University, L. D. College Of Engineering, and Ahmedabad-15 as scheduled below. More than 100 degree engineering colleges are affiliated with Gujarat Technological University; university has organized such faculty development program in association with top industrial institution e-Info chips Institute of Training and Research Academy (eiTRA), for reducing the gap between industry-academics.

1. Digital Signal Processing — 20th & 27th June, 2014
2. Analog System Design using ASLK — 28th June, 2014
3. Embedded System Design using MSP430 — 30th June, 2014

2. Objectives

The main objective of the faculty development training program was to bridge the industry-academia gap, in field of electronics. Electronics is field of fast revolution and every-year new technology comes into market and faculty should aware from such technological development.

With the help of such kind of faculty development training programs, we can enhance the quality of education by improving the faculty knowledge and prepares industry ready engineers.

Main thought behind these Highly Technical and Educational Workshop is to familiarize the knowledge of particular technology and explore opportunities to work on mini project. Participants were given session on Basics of particular technology and its applications.

The long term expected result of the faculty development program is to enhance learning environment and encourage students towards real research by means of enhanced faculty support. This will lead to better society and quality of life. The program will also assist the faculty to switch over to enhanced technology.

3. Reports of FDP on Digital Signal Processing On 20th& 27th June-2014

On First day 20th june-2014 of FDP workshop on digital signal processing held by Gujarat Technological University witheiTRA at Gujarat Technological University, L. D. College Of Engineering, and Ahmedabad-15.

All-in-One Educational Practice Board for DSP Lab

Mr Naresh Jadeja, Dy. Director - GTU welcomed all participant faculties and experts. He explained purpose of this FDP workshop and shared vision of Hon. Vice Chancellor about passing benefits to GTU students.

Ms Kinjal Upadhyay, Technical Associate from eiTRA, made introduction about their institute and also introduced expert faculty Mr Nitin Paranjape, Director - Edutech Pvt Ltd., Baroda and Mr. Ketan Patel, Sr. Engineering – Edutech Pvt Ltd.

After inaugural session, technical session was started by Mr Ketan Patel, from Edutech by a brief presentation about architecture and application of DSP. He explained broadly below mention topics.

- various embedded system structure
- digital signal processor
- digital signal processing application
- overview of signal processing
- features of DSP processor C6748

Session by Mr. Ketan Patel

Participants in interactive session

In interactive lab session following were discussed.

- Use of Code Composer Studio integrated development tool for DSP lab from Texas Instrumentation
- Introduction to different Gel file
- Basic DSP examples
- Use of USB JTAG Emulator to connect this board to computer
- Live examples of CCS tool on image processing, video processing
- Interface of DSP processor C6478

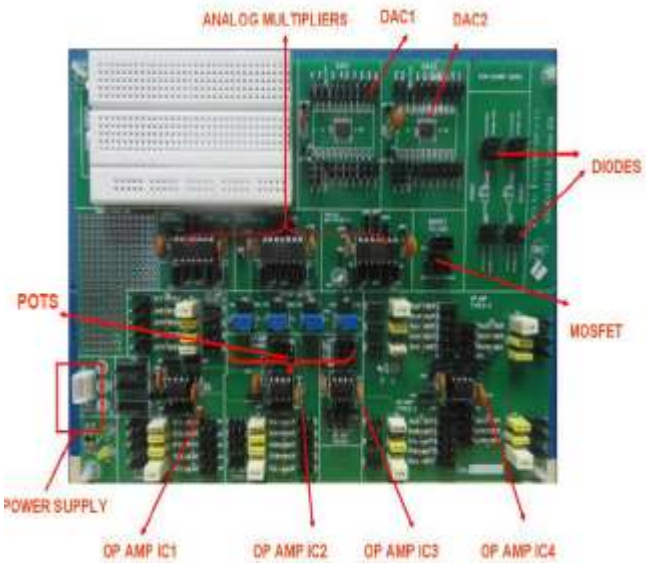
Participants of the workshop on 20th June-204 with Experts

Workshop was ended after discussion feedback from participants about how to include such topics as part of the syllabus of bachelor engineering.

Same workshop had been arranged on 27th June-2014 at same venue and same contain was delivered to different participant faculties.

4. Reports of FDP on Analog System Design Using ASLK kit on 28th June-2014

On 28th June-2014, Faculty development training workshop on Analog system design using ASLK kit was arranged and objective of this workshop was to introduce knowledge of ASLK kit and opportunities to work on tiny projects on ASLK kit. Also such practical should teach to BE IV semester students in Advance Electronic subject as a part of syllabus.



Mr Naresh Jadeja Dy. Director welcomes all participant faculties and experts after that training workshop begins with Mr Chetan Parikh's speech. He started with theory portion of Op-Amp (operation amplifier) and gave a brief presentation about architecture and features of Op-Amp. He explained broadly below mention topics.

- Architecture of TL082 Op-Amp ICs
- Application of TL082 Op-Amp ICs
- Types of TL082 Op-Amp ICs
- Use of TL082 Op-Amp ICs as an amplifier like negative feedback, inverting, unity gain buffer, integrator, differentiator
- Transient response of TL082 Op-Amp ICs

In interactive lab session after lunch was followed by Mr Ritul Patel following were discussed.

- Introduction to TINA-TI simulator software
- Use of TINA-TI simulator
- Introduction to ASLK starter kit
- Circuit design in TINA-TI simulator like negative feedback, inverting, unity gain buffer, integrator, and differentiator and explain live waveform in it.

Participants of the workshop with Experts

Workshop ended after some technical interaction with experts and participant faculties.

5. Reports of FDP on embedded system design using MSP430 On 30th June-2014

On 30th June-2014, Faculty development training workshop embedded system design using MSP430 was arranged and objective behind this workshop was to make known to knowledge of MSP430 processor and live project on MSP430F5438 experimenter Board.

On the day of workshop technical session was started by Dr. Nagabhushana Katte, from Bangalore by an Overview of Embedded System Design. He explained broadly below mention topics.

- Introduction to MSP430 microcontroller
- Features of MSP430
- Applications of MSP430
- Program memory, instruction set, addressing sets of MSP430

Session By Dr. Nagabhushana Katte

MSP-FET430U5x100 flash emulation tool

After technical session of Dr. Nagabhushana Katte, interactive lab session explain by Mr. Nilav Choksi.

- Explain MSP430F5438 Experimenter Board
- Explain MSP-FET430U5x100 flash emulation tool
- How to flash the code into memory MSP-FET430U5x100 flash emulation tool

Workshop ended after some technical interaction with experts and participant faculties and faculty also conclude that this topic should include in practical portion of embedded system subject of BE VII semester.

6. List of Experts

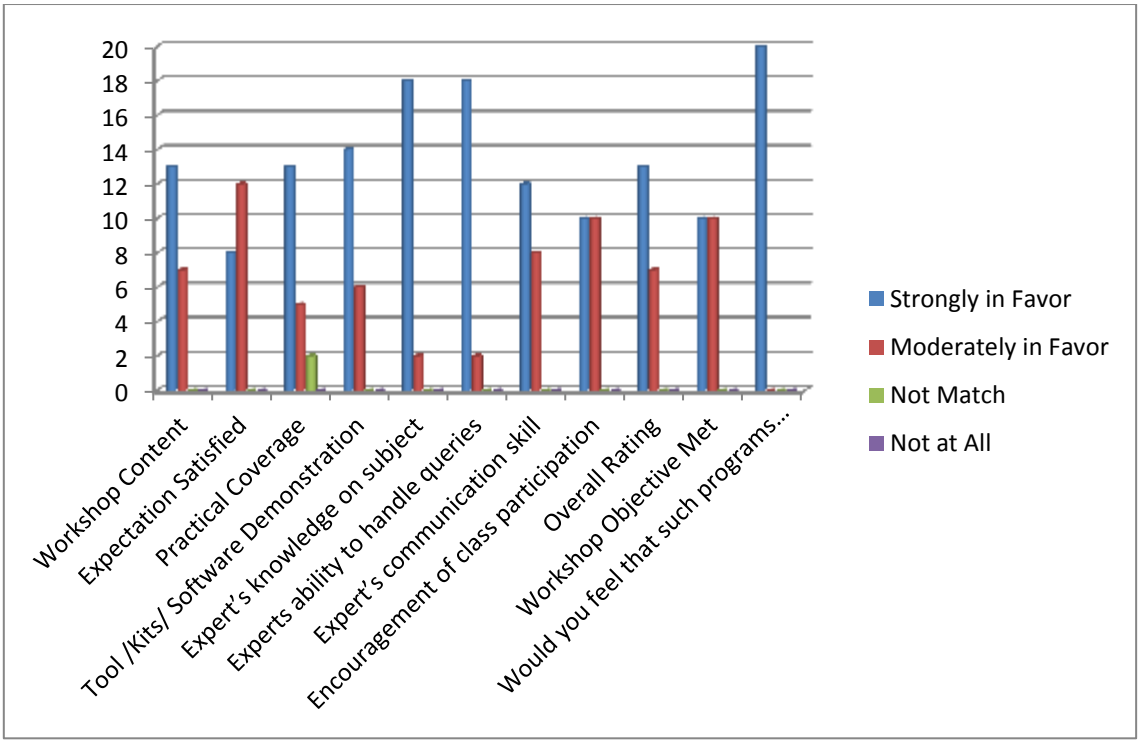
SR NO.	NAME	DESIGNATION	COMPANY NAME
1	MR. KETAN PATEL	SR. EMBEDDED ENGINEER	EDUTECH
2	MR. NITIN PARANJAPE	MANAGING DIRECTOR	EDUTECH
3	MR. CHINTAN KHAMBHOLJA	FIELD APPLICATION ENGINEER	EDUTECH
4	MR. PARTH SHAH	TECHNICAL ASSOCIATE	EITRA
5	DR. CHETAN PARIKH	PROFESSOR	AHMEDABAD UNIVERSITY
6	MR. RITUL PATEL	TECHNICAL ASSOCIATE	EITRA
7	DR. NAGBHUSHAN KATTE	HEAD- R & D, EMBEDDED DIVISION	EITRA
8	MR. NILAV CHOKSI	TECHNICAL ASSOCIATE	EITRA

7. List of participants

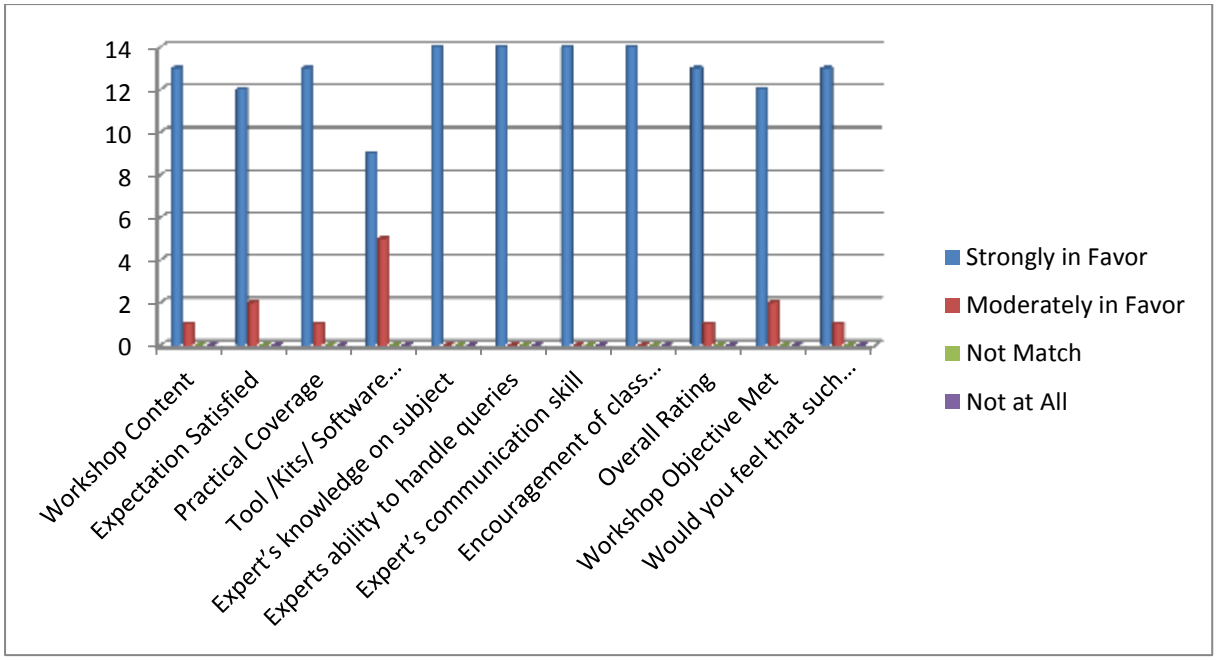
DIGITAL SIGNAL PROCESSING - DATE: 27TH JUNE, 2014	
FACULTY NAME	**INSTITUTE NAME**
PROF.JATIN CHAKRAVARTI	GANDHINAGAR INSTITUTE OF TECHNOLOGY
PROF.NEELAM B MODI	GOVERNMENT ENGINEERING COLLEGE GANDHINAGAR
PROF HARDIK BHARATKUMAR TANK	GOVERNMENT ENGINEERING COLLEGE, DAHOD
PROF.HIREN MEHTA	LDCE AHMEDABAD
PROF.BHAVARTH VAIDYA	LDCE AHMEDABAD
PROF.PANCHOLI KRUTI JAY	L J INSTITUTE OF ENGINEERING & TECHNOLOGY
PROF. KETA RAVAL	NARNARAYAN SHASTRI INSTITUTE OF TECHNOLOGY
PROF.JIGNESH PATEL	PIET,LIMADA
PROF.RAVI AJITKUMAR PARIKH	PIET,LIMDA
PROF.JIGNESH PATEL	PIET,LIMADA
PROF.RAJESH ISHWAR	S.P.B.PATEL ENGINEERING COLLEGE, MEHSANA
PROF.ANKIT K. SHAH	SVIT, VASAD
PROF.MEET SHAH	ROLLWALA COMPUTER CENTRE
PROF.MINKAL PATEL	SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY
PROF.SUGNESH HIRPARA	SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY
PROF.MEHUL N MEHTA	SAMARTH COLLEGE OF ENGINEERING & TECHNOLOGY
PROF.RAVI N CHAUHAN	SAMARTH COLLEGE OF ENGINEERING AND TECHNOLOGY
PROF.RATHOD BHAVINA CHANDRAKANT	SWAMINARAYAN COLLEGE OF ENGG & TECH.
PROF.KSHATRIYAKRISHNAKUMAR V	AMIRAJ COLLEGE OF ENGG. AND TECHNOLOGY
ANALOG SYSTEM DESIGN USING ASLK DATE: 28TH JUNE, 2014	
FACULTY NAME	**INSTITUTE NAME**
PROF.RACHNA DHAVAL JANI	C.S.P.I.T
PROF.DHARA P. PATEL	CHARUSAT-CHANGA
PROF. SAMPAN N. SHAH	L.D.COLLEGE OF ENGINEERING
PROF.SHAIKH NABILA S	L.J.INSTITUTE OF ENGINEERING & TECHNOLOGY
PROF.JIGNESH PATEL	PIET,LIMADA
PROF.PARITA N. PATEL	S. P. B. PATEL ENGINEERING COLLEGE
PROF.VISHNUBHAI	S. P. B. PATEL ENGINEERING COLLEGE, LINCH
PROF.JAYDEEP VALA	UNIVERSAL COLLEGE OF ENGG. & TECH.
PROF.KASHYAP PARMAR	VEERAYATAN GROUP OF INSTITUTIONS FOE & FOM
PROF.PARTHIV BHAU	AMIRAJ COLLEGE OF ENGINEERING AND TECHNOLOGY
PROF.KSHATRIYAKRISHNAKUMAR V	AMIRAJ COLLEGE OF ENGINEERING AND TECHNOLOGY
PROF.MS. JANHVI A. CHAUHAN	A. V. PAREKH TECHNICAL INTITUTE, RAJKOT.
EMBEDDED SYSTEM DESIGN USING MSP430 - DATE: 30TH JUNE, 2014	
FACULTY NAME	**INSTITUTE NAME**
PROF.VATSAL SHAH	PANDIT DEENDAYAL PETROLEUM UNIVERSITY
PROF.S.SUGANTHI	BABARIA INSTITUTE OF TECHNOLOGY
PROF.PRATIK J. GOHEL	GANDHINAGAR INSTITUTE OF TECHNOLOGY

PROF.MITUL R. DAVE	GEC, GANDHINAGAR
PROF.PRIYANK SHAH	GEC, GANDHINAGAR
PROF.SANJAYKUMAR D. JOSHI	VGEC
PROF.JAYESH DIWAN	INDUS INSTITUTE OF TECHNOLOGY AND ENGINEERING
PROF.HARSH R JANI	KALOL INSTITUTE OF TECH & RESEARCH CENTRE
PROF.MR. NIRAV J. CHAUHAN	KALOL INSTITUTE OF TECHNOLOGY AND RESEARCH CENTRE
PROF.P P PRAJAPATI	LDCE
PROF.KRUTIKA BHAGWAT	LJIET, AHMEDABAD
PROF.HARSH H PATEL	NARNARAYAN SHASTRI INST. JETALPUR
PROF.KINJAL KAPADIYA	NARNARAYAN SHASTRI INSTITUTE OF TECHNOLOGY,JETALPUR
PROF.KANU ASHOKBHAI PATEL	S. P. B. PATEL ENGINEERING COLLEGE, LINCH
PROF.KUNAL B. SANGHVI	DARSHAN INSTITUTE OF ENGINEERING & TECHNOLOGY, RAJKOT
PROF.ALPESH CHAUHAN	KJIT-SAVLI
PROF.CHANDRESH K PARMAR	SALITR
PROF.DIPESHKUMAR RAMESHCHANDRA KHANDHAR	LEADS INSTITUTE OF TECHNOLOGY & ENGINEERING
PROF.H P PATEL	GOVERNMENT POLYTECHNIC AHMEDABAD

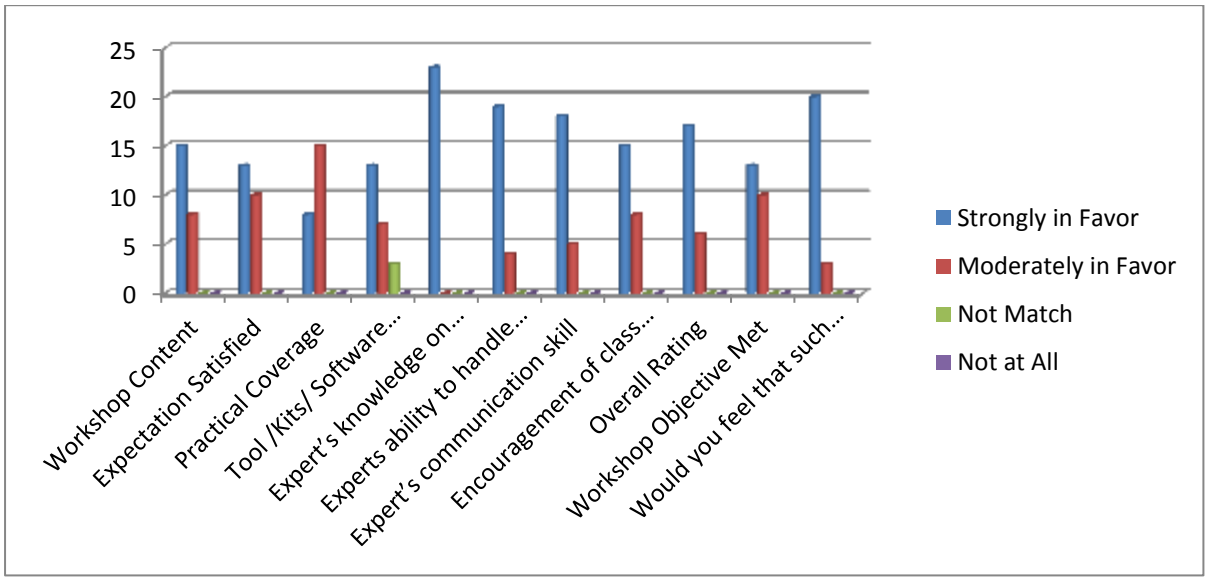
8. Faculty feedback analysis & institute interaction



Faculty feedback analysis of Digital signal processing FDP workshop



Faculty feedback analysis of analog system design using ASLK kit FDP workshop



Faculty feedback analysis of embedded system design using MSP430 FDP workshop

These workshops were conducted to give introduction of the topics and more detailed 2 – 5 days workshop on the same topics will be organized by GTU and Texas Instruments in association with e-info chips Pvt. Ltd.