KANDULA SRINIVASA REDDY MEMORIAL COLLEGE OF ENGINEERING
(AUTONOMOUS)

KADAPA-516003. AP

(Approved by AICTE, Affiliated to JNTUA, Ananthapuramu, Accredited by NAAC)

(An ISO 9001-2008 Certified Institution)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Certification Course

On

"Lab view Programming"

Resource Persons	:	Dr.M.V.Narayana, Prof, Dept. of ECE, KSRMCE
		Sri.G.Suneel kumar, Asst.Professor,Dept. of ECE.KSRMCE
Course Coordinators	:	Smt. C. Chandrakala, Asst. Prof, Dept. of ECE, KSRMCE
		Sri. M.Ramamurthy naik, Asst. Prof, Dept. of ECE, KSRMCE
Duration	:	02nd July 2018 to 21st July 2018
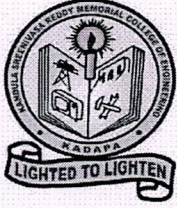
Lr./KSRMCE/ECE/2018-19/   Date:30-06-2018

To
The Principal,
KSRMCE,
Kadapa.

Respected Sir,

Sub: Permission to Conduct Certification Course on "Lab view Programming"

02nd July 2018 to 21st July 2018–Req- Reg.

The Department of Mechanical Engineering is planning to offer a Certification Course on "Lab view Programming" to B. Tech. students. The course will be conducted from 02nd July 2018 to 21st July 2018. In this regard, I kindly request you to grant permission to conduct Certification Course.

Thanking you sir,

Yours faithfully,

(Smt.C.Chandrakala, Asst.Prof, ECE)

*Forwarded to the
Principal Sir*

V.S.S. mm/y
PRINCIPAL
K.S.R.M. COLLEGE OF ENGINEERING
KADAPA-516005, (A.P.)

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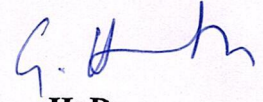Cr./KSRMCE/ECE/2018-19/   Date:01/07/2018

Circular

The Department of Electronics and Communication Engineering is offering a Value Added Course on "Lab view Programming'' from **02nd July 2018 to 21st July 2018** to B.Tech students. In this regard, interested students are requested to register their names for the Certification Course with Course Coordinator.

For further information contact Course Coordinator.

Course Coordinator: Smt.C.Chandrakala, Assistant Professor, Dept. of ECE

HoD

Dept. of ECE

Professor & H.O.D.
Department of E.C.E.
K.S.R.M. College of Engineering
KADAPA - 516 003

Cc to:

IQAC-KSRMCE

K.S.R.M. COLLEGE OF ENGINEERING
(UGC-AUTONOMOUS)
Kadapa, Andhra Pradesh, India– 516 003
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Date:

DEPARTMENT OF ECE

REGISTRATION FORM

Certification Course
On
"Lab View Programming" From 02/07/2018 to 21/07/2018

S.No	Full Name	Roll Number	Branch	Semester	Signature

Coordinators   **HoD**

DEPARTMENT OF ECE

REGISTRATION FORM

Certification Course
On
"Lab View Programming" From 02/07/2018 to 21/07/2018

S.No	Full Name	Roll Number	Branch	Semester	Signature
1	ADUNUKOTA BHAVANA	159Y1A0401	ECE	VII SEM	
2	AKULA PRUDHVIRAJ	159Y1A0403	ECE	VII SEM	
3	ALLU RAGA PREETHI	159Y1A0405	ECE	VII SEM	
4	AMBAVARAM BHARGAVI	159Y1A0407	ECE	VII SEM	
5	ANDHURI KAVITHA	159Y1A0409	ECE	VII SEM	
6	BACHU MOUNIKA	159Y1A0412	ECE	VII SEM	
7	BATHALA GOPINATH	159Y1A0413	ECE	VII SEM	
8	BHEEMARAJUGARI SRAVANI	159Y1A0416	ECE	VII SEM	
9	BHOJANAPU ASWANI	159Y1A0417	ECE	VII SEM	
10	BOJJA VINOD	159Y1A0419	ECE	VII SEM	
11	C MANASA	159Y1A0420	ECE	VII SEM	
12	CHANDA SWATHI	159Y1A0422	ECE	VII SEM	
13	CHILAKALA VIJAYA LAKSHMI	159Y1A0424	ECE	VII SEM	
14	CHINASANI MOUNIKA	159Y1A0425	ECE	VII SEM	
15	CHINTAPANTI PRATIBA	159Y1A0427	ECE	VII SEM	
16	CHINTHAKAYALA VENKATA RAVI KIRAN	159Y1A0428	ECE	VII SEM	
17	JAMMANA SAINATH REDDY	159Y1A0451	ECE	VII SEM	
18	JANGITI SWETHA	159Y1A0452	ECE	VII SEM	
19	K MD ANEES PASHA	159Y1A0454	ECE	VII SEM	
20	K SAI MURALI MOHAN	159Y1A0455	ECE	VII SEM	
21	KALLURSHAIK KARIMULLA	159Y1A0458	ECE	VII SEM	
22	KATAM PAVAN	159Y1A0460	ECE	VII SEM	

	KUMAR REDDY				
23	KAVALI CHINNAREDDEIAH	159Y1A0463	ECE	VII SEM	
24	KODI VENKATA NAGA VARUN	159Y1A0464	ECE	VII SEM	
25	KOLA MOUNIKA	159Y1A0465	ECE	VII SEM	
26	KONDA NAGASUBBA REDDY	159Y1A0467	ECE	VII SEM	
27	KONDURU VINAY KUMAR	159Y1A0469	ECE	VII SEM	
28	KUPPAM SRINIVASULA REDDY	159Y1A0471	ECE	VII SEM	
29	PALAGIRI RAKESH	159Y1A04A0	ECE	VII SEM	
30	PALAVALI VENKATA KAVYA	159Y1A04A1	ECE	VII SEM	
31	PATTAN ASIF ALI KHAN	159Y1A04A3	ECE	VII SEM	
32	PEDDIREDDY HARI KRISHNA REDDY	159Y1A04A6	ECE	VII SEM	
33	PENDYALA HEMA LATHA	159Y1A04A7	ECE	VII SEM	
34	PIKKILI YAMUNA	159Y1A04A8	ECE	VII SEM	
35	SHAIK AKRAM JAAVEED	159Y1A04C5	ECE	VII SEM	

Coordinators

HoD

COURSE OBJECTIVES: The main objectives of this course are:

1. Develop virtual instruments for specific application using Lab VIEW software.
2. Ease the programming required to make computer interact with real world.
3. To acquire, analyze and display the throughput of any compactable system.
4. Knowledge to connect with third party software and hardware.

COURSE OUTCOMES: At the end of this course the student will be able to:

1. Create Virtual Instrument using LabVIEW software for various fields of applications like Control system, Signal Processing and Image processing etc.
2. Create effective Virtual Instrument that shall use minimum memory space and work effectively with any processor.
3. Interface the computer with DAQ to monitor process and control real world applications.
4. Analyze the throughput using the tools in Lab VIEW software

UNIT-I: VIRTUAL INSTRUMENTATION: An introduction, Historical perspective, advantages, blocks diagram and architecture of a virtual instrument, data-flow techniques, graphical programming in data flow, comparison with conventional programming.

UNIT-II: PROGRAMMING TECHNIQUES: VIs and sub-VIs, loops and charts, arrays, clusters and graphs, case and sequence structures, formula nodes, local and global variables, string and file I/O, Instrument Drivers, and math script.

UNIT-III: INTERFACE REQUIREMENTS: Common Instrument Interfaces: Current loop, RS 232C/ RS485, GPIB. Bus Interfaces: USB, PCMCIA, VXI, SCSI, PCI, PXI, Firewire. PXI system controllers, Ethernet control of PXI, VISA and IVI, Data Acquisition Hardware.

UNIT-IV: APPLICATION OF VIRTUAL INSTRUMENTATION: Application of Virtual Instrumentation: Instrument Control using RS-232C and IEEE488, Development of Virtual Instrument using GUI, Real time systems, Embedded Controller, OPC, Active X programming, publishing measurement data in the web.

UNIT-V: TOOLSETS: Distributed I/O modules, Control Design and Simulation, Digital Signal processing tool kit, Image acquisition and processing, Motion control.

TEXTBOOKS:

1. LabVIEW Graphical Programming, Gary Johnson, Second edition, McGraw Hill, New York, 1997.

2. LabVIEW for everyone, Lisa K. wells & Jeffrey Travis Prentice Hall, New Jersey, 1997. R-19 Syllabus for EIE. JNTUK w. e. f. 2019-20

REFERENCES:

1. PC Interfacing and Data Acquisition: Techniques for Measurement, Instrumentation and Control, Kevin James, Newnes, 2000.

2. LabVIEW advanced programming technique, Rick Bitter, 2ndEdition, CRC Press,2005

3. Virtual Instrumentation using LabVIEW, Jovitha Jerome, 1stEdition, PHI,2001.

3

Professor & H.Q.D.
Department of E.C.E.
K.S.R.M. College of Engineering
KADAPA - 516 003

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SCHEDULE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
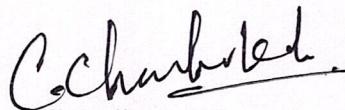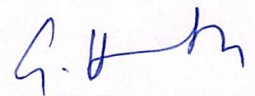
Certification Course
On
"Lab View Programming" From 02nd July 2018 to 21st July 2018

Date	Timing	Resource Person	Topic to be covered
02/07/2018	3 PM to 4PM	Dr.M.V.Narayana	**UNIT-I** **VIRTUAL INSTRUMENTATION:** An introduction, Historical perspective.
02/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Advantages, blocks diagram and architecture of a virtual instrument,
03/07/2018	3 PM to4PM	Dr.M.V.Narayana	Data-flow techniques, graphical programming in data flow,
03/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Comparison with conventional programming
04/07/2018	3 PM to4PM	Dr.M.V.Narayana	**UNIT-II: PROGRAMMING TECHNIQUES:** VIs and sub-VIs, loops and charts, arrays,
04/07/2018	4PM to 5PM	Sri. G.Suneel kumar	clusters and graphs, case and sequence structures
05/07/2018	3PM to 4PM	Dr.M.V.Narayana	formula nodes
05/07/2018	4PM to 5PM	Sri. G.Suneel kumar	local and global variables,
06/07/2018	2PM to 4PM	Dr.M.V.Narayana	String and file I/O,
09/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Instrument Drivers, and math script
10/07/2018	2PM to 4PM	Dr.M.V.Narayana	**UNIT-III: INTERFACE REQUIREMENTS:** Common Instrument Interfaces:
10/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Current loop, RS 232C/ RS485,
11/07/2018	3PM to 4PM	Dr.M.V.Narayana	GPIB measurement data in the web
11/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Bus Interfaces: USB, PCMCIA,
12/07/2018	2PM to 4PM	Dr.M.V.Narayana	VXI, SCSI, PCI, PXI,

|			
13/07/2018	3PM to 5PM	Sri. G.Suneel kumar	Firewire. PXI system controllers,
14/07/2018	2PM to 4PM	Dr.M.V.Narayana	Ethernet control of PXI, VISA and IVI.
14/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Data Acquisition Hardware.
16/07/2018	2PM to 4PM	Dr.M.V.Narayana	**UNIT-IV: APPLICATION OF VIRTUAL INSTRUMENTATION:** Application of Virtual Instrumentation
16/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Instrument Control using RS-232C and IEEE488,
17/07/2018	3PM to 4PM	Dr.M.V.Narayana	Development of Virtual Instrument using GUI,
17/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Real time systems.
18/07/2018	2PM to 4PM	Dr.M.V.Narayana	Embedded Controller.
18/07/2018	4PM to 5PM	Sri. G.Suneel kumar	OPC,
19/07/2018	2PM to 4PM	Dr.M.V.Narayana	Active X programming, publishing
19/07/2018	4PM to 5PM	Sri. G.Suneel kumar	**UNIT-V: TOOLSETS:** Distributed I/O modules,
20/07/2018	3PM to 4PM	Dr.M.V.Narayana	Control Design and Simulation
20/07/2018	4PM to 5PM	Sri. G.Suneel kumar	Digital Signal processing tool kit,.
21/07/2018	2PM to 4PM	Dr.M.V.Narayana	Image acquisition and processing, Motion control
21/07/2018	4PM to 5PM	Sri. G.Suneel kumar Dr.M.V.Narayana	Valedictory

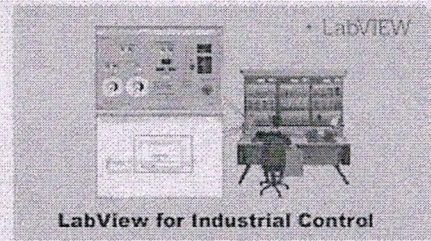Resource Person(s)　　　　　Coordinator(s)　　　　　HoD
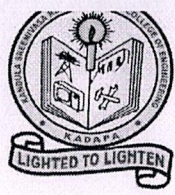
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Attendance sheet of Certification Course
On "Lab View Programming"
From 02nd July 2018 to 21st July 2018

S. No	Roll No.	Name	02/07/2018	03/07/2018	04/07/2018	05/07/2018	06/07/2018	09/07/2018	10/07/2018	11/07/2018	12/07/2018	13/07/2018	14/07/2018	16/07/2010	17/07/2018	18/07/2018	19/07/2018	20/07/2018	21/07/2018
	159Y1A0401	ADUNUKOTA BHAVANA (W)	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P
	159Y1A0403	AKULA PRUDHVIRAJ	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
	159Y1A0405	ALLU RAGA PREETHI (W)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P
	159Y1A0407	AMBAVARAM BHARGAVI (W)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	159Y1A0409	ANDHURI KAVITHA (W)	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
	159Y1A0412	BACHU MOUNIKA (W)	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
	159Y1A0413	BATHALA GOPINATH	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
	159Y1A0416	BHEEMARAJUGARI SRAVANI (W)	A	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P

Roll No	Name																
159Y1A0417	BHOJANAPU ASWANI (W)	P	P	A	P	A	P	P	P	P	P	A	P	P	P	P	P
159Y1A0419	BOJJA VINOD	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P
159Y1A0420	C MANASA (W)	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
159Y1A0422	CHANDA SWATHI (W)	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P
159Y1A0424	CHILAKALA VIJAYA LAKSHMI (W)	A	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P
159Y1A0425	CHINASANI MOUNIKA (W)	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P
159Y1A0427	CHINTAPANTI PRATIBA (W)	P	P	P	P	A	P	P	P	P	A	P	P	A	P	P	P
159Y1A0428	CHINTHAKAYALA VENKATA RAVI KIRAN	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P
159Y1A0451	JAMMANA SAINATH REDDY	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P
159Y1A0452	JANGITI SWETHA (W)	A	P	P	P	A	P	P	P	P	A	P	P	A	P	P	P
159Y1A0454	K MD ANEES PASHA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
159Y1A0455	K SAI MURALI MOHAN	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
159Y1A0458	KALLURSHAIK KARIMULLA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
159Y1A0460	KATAM PAVAN KUMAR REDDY	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
159Y1A0463	KAVALI CHINNAREDDEIAH	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
159Y1A0464	KODI VENKATA NAGA VARUN	A	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P
159Y1A0465	KOLA MOUNIKA (W)	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P
159Y1A0467	KONDA NAGASUBBA REDDY	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
159Y1A0469	KONDURU VINAY KUMAR	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P
159Y1A0471	KUPPAM SRINIVASULA REDDY	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P
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159Y1A04A1	PALAVALI VENKATA KAVYA (W)	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
159Y1A04A3	PATTAN ASIF ALI KHAN	P	P	P	A	P	P	A	P	P	P	P	A	P	P	A	P

159Y1A04A6	PEDDIREDDY HARI KRISHNA REDDY	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
159Y1A04A7	PENDYALA HEMA LATA (W)	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
159Y1A04A8	PIKKILI YAMUNA (W)	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P
159Y1A04C5	SHAIK AKRAM JAAVEED	P	A	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P

C. Chandu babu
Coordinator(s)

G. H...

HoD
Professor & H.O.D.
Department of E.C.E.
K.S.R.M. College of Engineering
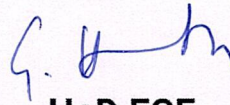KADAPA - 516 003

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Value Added Course
on
LABVIEW

LabView for Industrial Control

Date:
02-07-2018
21-07-2018

LabVIEW

Venue
CRI Lab

Resource Persons

Dr. M. V. Narayana
Professor, Dept. Of ECE

Sri. G. Suneel Kumar
Asst.Professor, Dept. Of ECE

Coordinators

Smt. C. Chandrakala
Asst.Professor, Dept. Of ECE

Sri. M. Ramamurthy Naik
Asst.Professor, Dept. Of ECE

| P.V.S. Murali Krishna | Dr. V.S.S. Murthy | Prof. A. MOHAN | Sri K. Sivananda Reddy | Sri K. Madan Mohan Reddy | Sri S. Sankar Reddy |
| (Professor & Head) | (Principal) | (Director) | (Correspondent,Secretary,Treasurer) | (Vice - Chairman) | (Chairman) |

K.S.R.M. COLLEGE OF ENGINEERING

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Report
of
Certification Course on "LABVIEW Programming"
From 02ⁿᵈ July 2018 to 21ˢᵗ July 2018

Target Group	:	B.Tech Students
Details of Participants	:	35 Students
Resource Person(s)	:	Dr.M.V.Narayana, Professor, Dept. of ECE
		Sri.G.Suneel kumar, Asst. Professor, Dept. of ECE
Co-coordinator(s)	:	Smt .C. Chandrakala, Asst. Prof, Dept. of ECE
		Sri .M.Ramamurthy Naik, Asst.Professor
Organizing Department	:	DEPARTMENT OF ECE
Venue	:	CRI LAB
Description	:	

Certification course on ..LABVIEW Programming.. was organized by Dept. of ECE from 02-07-2018 to 21-07-2018. Dr.M.V.Narayana and Sri.G.Suneel Kumar acted as Course instructors. The basics and designing concepts of Lab view were covered in the course. Some of the sample projects have been practiced by the students.

Photos:
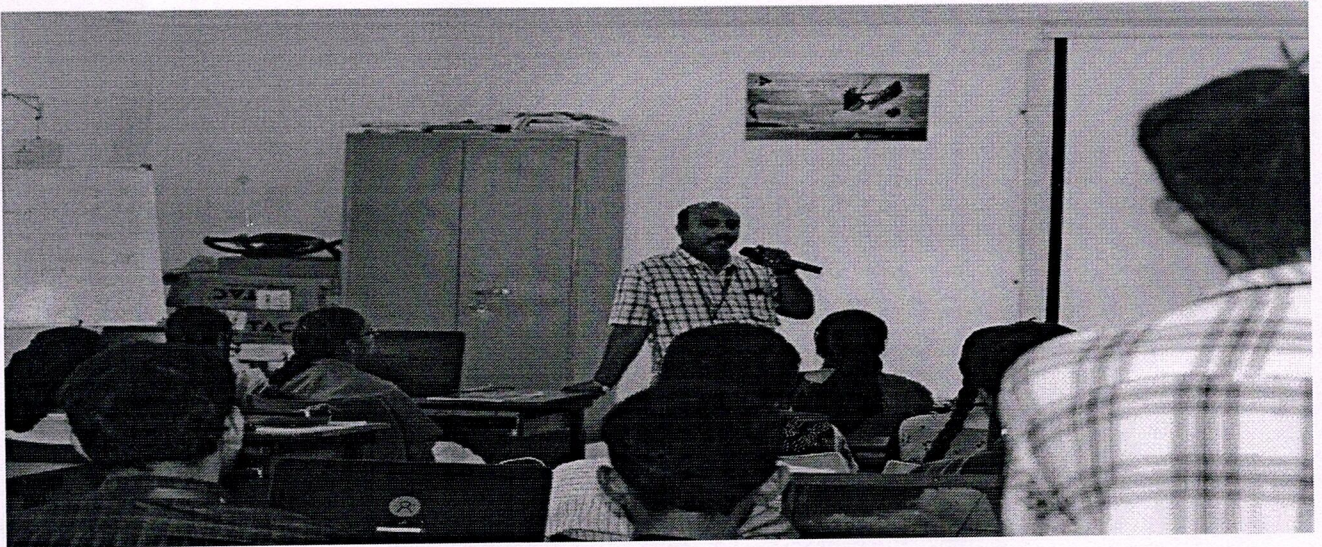
Fig : Resource person delivering the lecture.

Fig : Students listening the lecture.

Coordinators

HoD
Professor & H.O.D.
Department of E.C.E.
K.S.R.M. College of Engineering
KADAPA - 516 003

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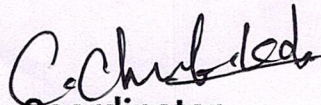
KSRM COLLEGE OF ENGINEERING

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Kadapa, Andhra Pradesh, India- 516003.

CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. _____ J. Swetha _____ with roll no _____ 159Y1A0452 _____ has completed the Certification Course on "Lab View Programming" from 02-07-2018 to 21-07-2018 organized by Department of Electronics and communication engineering.

Coordinator   **HoD,ECE**   **Principal**
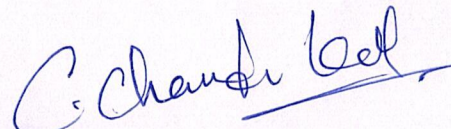
KSRM COLLEGE OF ENGINEERING
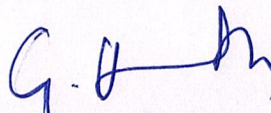
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Kadapa, Andhra Pradesh, India- 516003.

CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. _____ K. pavan _____ with

roll no _____ 159Y1A0460 _____ has completed the

Certification Course on "Lab View Programming" from 02-07-2018 to 21-07-2018 organized by Department of Electronics and communication engineering.

Coordinator

HoD,ECE

Principal

KSRM COLLEGE OF ENGINEERING

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Kadapa, Andhra Pradesh, India- 516003.

CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. _____ B. Vinod _____ with roll no _____ 159Y1A0419 _____ has completed the Certification Course on "Lab View Programming" from 02-07-2018 to 21-07-2018 organized by Department of Electronics and communication engineering.

Coordinator   **HoD,ECE**   **Principal**

FEEDBACK FORM

Certification Course on "Lab view Programming", from 02-07-2018 to 21-07-2018
Organized
by
Department of Electronics & Communication Engineering

NAME:

Roll No:

S.No	Feedback Item	Excellent	Very Good	Good	Average	Below Average
1	Organization of certificate course and session planning by instructor.					
2	Clarity in content delivery.					
3	Content is relevant and useful					
4	Adequate opportunity to interact with trainer					
5	Judicious mix of concepts. Principles and practices.					
6	Assignments and tasks are interesting and challenging.					
7	Overall rating					

Any suggestions for improvement.

Signature

Certification Course on
"Lab View Programming"
02/07/2018 to 21/07/2018

Feedback responses

S.No.	Roll No	Year & Semester	Branch	Is the course content met your expectation	Is the lecture sequence well planned	The contents of the course is explained with examples	Is the level of course high	Is the course exposed you to the new knowledge and practices	Is the lecturer clear and easy to understand	Rate the value of course in increasing your skills	Any issues
1	159Y1A0401	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	3	5	Nothing
2	159Y1A0403	B.Tech VIIsem	ECE	Yes	Yes	agree	Agree	Strongly agree	3	4	very good
3	159Y1A0405	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	5	Good
4	159Y1A0407	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	4	very good
5	159Y1A0409	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	4	5	Nothing
6	159Y1A0412	B.Tech VIIsem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	3	Good
7	159Y1A0413	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	5	4	Good
8	159Y1A0416	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	5	4	Nothing

9	159Y1A0417	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	5	Nothing
10	159Y1A0419	B.Tech VIIsem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	3	Very Good
11	159Y1A0420	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	5	Good
12	159Y1A0422	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	5	4	Good
13	159Y1A0424	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	3	5	Nothing
14	159Y1A0425	B.Tech VIIsem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	5	very good
15	159Y1A0427	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	4	Nothing
16	159Y1A0428	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	5	very good
17	159Y1A0451	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	5	3	No
18	159Y1A0452	B.Tech VIIsem	ECE	Yes	Yes	agree	Agree	Strongly agree	3	4	Nothing
19	159Y1A0454	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	5	Good
20	159Y1A0455	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	3	3	Good
21	159Y1A0458	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	5	Good
22	159Y1A0460	B.Tech VIIsem	ECE	Yes	Yes	agree	Agree	Strongly agree	5	5	Nothing
23	159Y1A0463	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	4	Good
24	159Y1A0464	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	4	4	Good
25	159Y1A0465	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	4	Good
26	159Y1A0467	B.Tech VIIsem	ECE	Yes	Yes	agree	Agree	Strongly agree	5	5	Nothing
27	159Y1A0469	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	5	3	No

28	159Y1A0471	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	4	No
29	159Y1A04A0	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	4	3	No
30	159Y1A04A1	B.Tech VIIsem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	4	No
31	159Y1A04A3	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	4	nothing
32	159Y1A04A6	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	5	3	Nothing
33	159Y1A04A7	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	4	No
34	159Y1A04A8	B.Tech VII sem	ECE	Yes	Yes	agree	Agree	Strongly agree	4	5	Nothing
35	159Y1A04C5	B.Tech VII sem	ECE	Yes	Yes	Strongly agree	Agree	Strongly agree	5	5	Good

Coordinator

HoD
Professor & H.O.D.
Department of E.C.E.
K.S.R.M. College of Engineering
KADAPA - 516 003.

3

Introduction to LabVIEW

Overview

- Objectives
- Background
- Materials
- Procedure
- Report/Presentation
- Closing

Objective

- Familiarization with graphical programming
- Obtain data from outside the computer using simulated instrumentation
- Use this knowledge to create programs in LabVIEW
  - Heating and cooling system
  - Lighting system

What is LabVIEW?

- Laboratory Virtual Instrument Engineering Workbench
- Graphical programming language
- Used for data acquisition, instrument control, and signal processing
- Based on G programming language
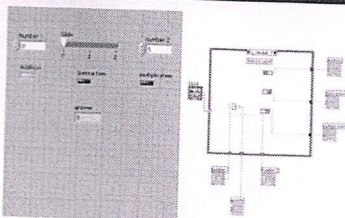
Text-Based

C++

Text-based code for a simple calculator

Graphic-Based

Graphic-based code for a simple calculator

LabVIEW Programs (VIs)

- Called "Virtual Instruments" (VIs)
- Appearance and operation imitates actual physical instruments

Without   With

Graphic-Based

Back Panel (Block Diagram): The internal circuit where the program code is written
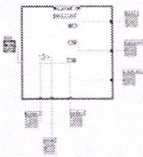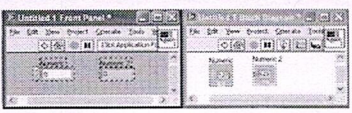
Front Panel - User Interface (UI), where the program is controlled and executed

Controls and Indicators

- Icons in back panel represent objects in front panel
- Controls can be identified by a triangle on the right of the block shown on the back panel

Toolbar & Tools Panel
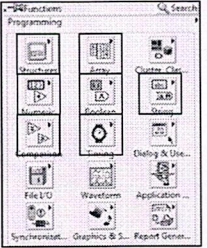
- Run once
- Run Continuously
- Stop
- Pause
- Highlight Execution

- Automatic Tool Selector
- Operating Tool
- Positioning Tool
- Labeling Tool

- Wiring Tool
- Scrolling Tool
- Probe Tool
- Coloring Tool
- Get Color

LabVIEW Functions (View > Functions)

- The Functions palette contains the VIs, functions and constants you use to create the block diagram
- Only items highlighted in red will be covered in this course

NI-ELVIS Board

- National Instruments' Educational Laboratory Virtual Instrumentation Suite Board
- Interface that exchanges data (sends/receives) between the computer and the **outside world**

References: See EG1003 Online Manual, National Instruments documentation, and other LabVIEW oriented websites (i.e. IIT's LabVIEW for Dummies©)

Materials

- Computer with LabVIEW 2017
- NI-ELVIS board
- Wires
- 3D-Printed Heat Cube

Procedure

Program 1 (Thermal Control VI)
- Program requirements – Automatic Mode
  - Regulate house air temperature
  - AC is ON when temperature is greater than 80°F
  - Heater is ON when temperature is less than 60°F
  - Both OFF when the temperature is between 60°F & 80°F
- Program requirements – Manual Mode
  - Heater and AC power are controlled directly by user (overrides automatic mode)

Procedure

- Front panel must have:
  - 3 LEDs: AC, Heater, and Manual operation
  - 3 switches for AC, heater, and system operation (automatic/manual)
  - A temperature control represented by a thermometer
- Back panel should have:
  - A Boolean case statement to control manual and automatic operations

Procedure

Real World Application

- Functional heating/cooling system "Heat Cube"
- Import premade VIs to control fans, heaters, and thermometers using your logic program
  - Temperature Reading VI: receive real time data
  - Heat Control VI: power heating element
  - Cooling Control VI: power fan/cooling unit
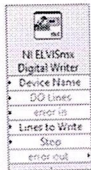
Procedure

Program 2 (Lighting System VI)
- Program Requirements
  - Control the lights in four rooms
  - Turn off all lights with a master switch
- Front Panel
  - Four LEDs
  - Five Switches
- Back Panel
  - Case Structure
  - NI ELVISmx Digital Writer

Procedure

Real World Application

- Functional lighting system via LED's on the NI-ELVIS board
- Control lights on board using front panel on computer

NI ELVISmx
Digital Writer
- Device Name
- DO Lines
- error in
- Lines to Write
- Step
- error out

Report/Presentation

- Submit a zip file with all LabVIEW programs (.vi)
  - Submit **BEFORE** end of lab
- Lab 5 presentation during next week's recitation
- Individual report
- Discussion topics in the manual
- Scan in data and lab notes

Closing

- Have all lab notes signed by TA
- Each team member should have turn using software
- Save all VIs
- Submit all work electronically
- Return all unused materials to TA

Introduction to LabVIEW

QUESTIONS?