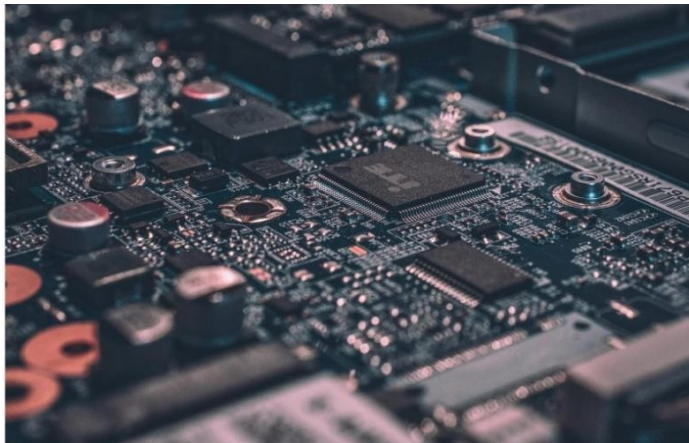*Certificate Course*
ON

MICROCONTROLLER PROGRAMMING

From 7th August 2023 to 11th August 2023

ORGANIZED BY
DEPT. OF ELECTRONICS & COMMUNICATION ENGINEERING
AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY,
MAKAVARAPALEM (V), VISAKHAPATNAM-531113

AVANTHI EDUCATIONAL SOCIETY

Avanthi Educational Society under the Leadership of Sri M. Srinivasa Rao garu as chairman was started in the Year 1991. Within a short span of its establishment, the group has made a remarkable stride in the field of education offering various courses at Under Graduate, Post Graduate, Pharmacy & Engineering levels. This milestone is achieved as the institution carved itself to impart quality and career oriented education, countering the challenges of the modern world through planning, dedication, determination, prompt execution and with the innovative ideas of our advisory board.

Today, Avanthi Educational Society is proud to have a strength of over 16000 students with 15 institutions under its ambit. It is the path of glory towards the success during the last 25 years. The institution has been adjudged many times as the second best educational institutions in the twin cities and 16th best in all over India through the impartial survey made by the renowned magazine "India Today".

AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY

AIET started in the year 1999 and offers various courses at Engineering and PG level. The college is providing with rooms, computer centre, laboratories and seminar hall with audio-visual equipments. Industry Institute interaction is conducted regularly to emphasize on the latest trends in the present market.

It is very near to Narsipatnam. Frequent bus facilities are available both from and to Visakhapatnam and Narsipatnam. Very safe and secure hostel facility is available for Girl students. These are the additional facilities besides excellent academic atmosphere in the college campus.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

The ECE Department was establishment in the year 1999 with an intake of 60 students and this was increased to 120 students in the 2007 and increased to 180 students in the 2012. The department has an eminent faculty and well supported infrastructure and laboratories the faculty keeps abreast with the latest advances in technology and ensures that hardware equipment and related software are upgraded to ensure its students are able to keep pace with current trends in technology and the industry.

The department also offers a Post – Graduation courses in DECS and VLSI Design. The students are encouraged to participate in workshops, industrial internship, industrial visits and seminars along with the projects assigned during the course, these enable them to broaden their outlook and build in professionalism that makes their transition from college to industry smoother after graduation.

ABOUT WORKSHOP

Introduction to microcontrollers, Assembly programming, I/O programming, addressing modes, I/O programming, Addressing modes, Arithmetic and logic instructions, Data types, Serial port communication, External hardware interrupts. A microcontroller programming workshop is an educational event or series of classes designed to teach participants how to program and work with microcontrollers. These workshops are hands-on and often provide practical experiences by working on small projects that involve programming a microcontroller to interact with sensors, actuators, and other hardware.

TOPICS TO BE COVERED

Introduction to microcontrollers, Assembly programming, I/O programming, addressing modes, I/O programming, Addressing modes, Arithmetic and logic instructions, Data types, Serial port communication, External hardware interrupts.

For Registration please contact Mr. K V S Ganesh, Assistant Professor, ECE department.

CHIEF PATRON	**PATRON**	**CHAIRMAN**	**COORDINATOR**
Sri. M. Srinivasa Rao	Dr. C P V N J Mohan Rao	Dr E Govinda	Mr K V S Ganesh
Chairman, Avanthi Educational Society	Principal,	Head of the Department	Assistant Professor
Andhra University	Avanthi Institute Of Engineering And Technology	Electronics & Communication Engineering	Electronics & Communication Engineering

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Tamaram, Makavarapalem, Narsipatnam (RD), Visakhapatnam-531113

DEPARTMENT OF ELECTRONICS & COMUNICATION ENGINEERING

CIRCULAR

Date: 03 08 2023

This is informed to all the III B.Tech ECE students that our department is planning to conduct five days course on "MICROCONTROLLER PROGRAMMING" scheduled on 7TH Aug *2023*. It is directed to all the students of III ECE to utilize this opportunity to enhance your technical skills. For more details about registration process and participation contact Course Coordinator Mr. K V S Ganesh, Assistant Professor, ECE.
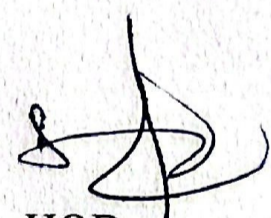
RESOURCE PERSON:

Dr. R Manoj Kumar
Professor,
Department of ECE,
V I E W – Visakhapatnam.

Dr B Siva Prasad
Professor
NSRIT – Visakapatnam.

Coordinator

HOD
HEAD OF THE DEPARTMENT
DEPARTMENT OF ECE
Avanthi Institute of Engg. & Tech.
Makavarapalem, Visakhapatnam Dist-531 113

Copy to: Principal, AIET

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DEPARTMENT OF ELECTRONICS & COMUNICATION ENGINEERING

A five-day workshop on

Advancements in Microcontroller Programming

7th August to 11th August 2023

About this Workshop

Introduction to microcontrollers, Assembly programming, I/O programming, addressing modes, I/O programming, Addressing modes, Arithmetic and logic instructions, Data types, Serial port communication, External hardware interrupts. A microcontroller programming workshop is an educational event or series of classes designed to teach participants how to program and work with microcontrollers. These workshops are hands-on and often provide practical experiences by working on small projects that involve programming a microcontroller to interact with sensors, actuators, and other hardware.

Syllabus of the Workshop:

Chapter-1

• Introduction to microcontrollers and their applications.

Chapter-2

• Basic programming concepts (C/C++ syntax, variables, loops, conditions).

Chapter-3

• Reading sensors (e.g., temperature sensor, light sensor).

Chapter-4

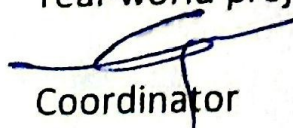• Using interrupts and timers for precise control.

Chapter-5

• Introduction to communication protocols: SPI and I2C.

Chapter-6

• Advanced topics like wireless communication (Bluetooth, WiFi, or RF modules).

EXPECTED OUTCOMES

• The outcomes of a microcontroller programming workshop typically reflect the skills and knowledge gained by participants throughout the course.

• By the end of such a workshop, participants should be able to confidently apply their learning to real-world projects and continue advancing their embedded systems knowledge.

Coordinator

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Makavarapalem, Visakhapatnam Dist-531 113
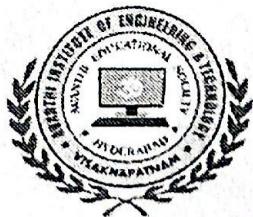
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DEPARTMENT OF ELECTRONICS & COMUNICATION ENGINEERING
Program Schedule

Session-1 (07/08/2023)

9.00 AM to 11.00 AM - Introduction to microcontrollers and their applications.

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM - Setting up the development environment (Arduino IDE, STM32CubeIDE).

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM - Basic programming concepts (C/C++ syntax, variables, loops, conditions).

Session-2 (08/08/2023)

9.00 AM to 11.00 AM - First program: Blinking an LED. (Hands on Training)

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM - Reading sensors (e.g., temperature sensor, light sensor).

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM - Displaying data on an LCD or LED display. (Hands on Training)

Session-3 (09/08/2023)

9.00 AM to 11.00 AM - Using interrupts and timers for precise control.

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM - Hands-on project: Create a temperature logging system. (Hands on Training)

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM – Troubleshooting tips and debugging.

Session-4 (10/08/2023)

9.00 AM to 11.00 AM – Introduction to communication protocols: SPI and I2C.

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM - Controlling motors and servos (using PWM for motor speed control).

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM - Hands-on project: Build a simple project. (Hands on Training)

Session-5 (11/08/2023)

9.00 AM to 11.00 AM - Advanced topics like wireless communication (Bluetooth, WiFi, or RF modules).

11.00 AM to 11.15 AM – Tea Break

11.15 AM to 1.15 PM - Low power operation and power-saving techniques.

1.15 PM to 2.15 PM – Lunch Break

2.15 PM to 4.15 PM - Valediction/Feedback Session.

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DEPARTMENT OF ELECTRONICS & COMUNICATION ENGINEERING

Add on course on "Microcontroller Programming" from 7th August to 11th August 2023

III BTECH ECE STUDENT ATTENDANCE

S NO	Roll No	Name of the Student	07-Aug	08-Aug	09-Aug	10-Aug	11-Aug
1	21811A0401	A Y S S SAMPATH SASTRY	✓	✓	✓	✓	✓
2	21811A0402	ANIMIREDDY KUSUMA	✓	✓	✗	✓	✓
3	21811A0403	ANNAMREDDY SATISH	✓	✓	✓	✓	✓
4	21811A0406	ADHIKARI DURGA PRASAD	✓	✗	✓	✗	✓
5	21811A0407	BANDARU ARJUNA RAO	✓	✓	✓	✓	✗
6	21811A0408	BANKA PAVAN	✗	✓	✓	✓	✓
7	21811A0409	RUTHALA SURESH	✓	✓	✓	✗	✓
8	21811A0411	BHEEMIREDDY KRANTHI	✓	✓	✓	✓	✓
9	21811A0412	BODDEDA GEETHAPRIYA	✓	✓	✓	✓	✗
10	21811A0413	BODDEDA LAVANYA	✓	✓	✓	✓	✓
11	21811A0414	BODDU MOUNIKA	✓	✓	✓	✓	✗
12	21811A0415	CHAPPIDI KAVYA	✓	✓	✓	✓	✓
13	21811A0416	CHAVVAKULA DURGA BHAVANI	✓	✓	✓	✓	✓
14	21811A0417	DODDI MOHAN SAI	✓	✗	✓	✓	✓
15	21811A0418	EPPILI NARENDRA	✗	✓	✓	✓	✓
16	21811A0419	GALI RAJESH	✓	✓	✗	✓	✓
17	21811A0421	GANTROTULA MANIKANTA	✓	✓	✓	✓	✗
18	21811A0422	GATREDDI KOMAL KARTHEEK	✓	✓	✓	✓	✓
19	21811A0423	GEMBALI CHANDANA	✓	✓	✓	✓	✓
20	21811A0424	GOLLU MANIKANTA	✓	✓	✓	✓	✓
21	21811A0425	GORLI SAILAJA	✓	✓	✓	✓	✗
22	21811A0426	GUNDA SAI SATHWIKA	✓	✓	✓	✓	✓
23	21811A0427	GUNTUPALLI VIJAYENDRA SARMA	✓	✓	✓	✓	✗
24	21811A0428	GUTTI NEHARIKA	✓	✓	✓	✓	✓
25	21811A0429	INDUKURI PRANATHI	✓	✓	✓	✓	✓
26	21811A0430	JAKKILINKI SAI PRASANTHI	✗	✓	✓	✓	✓
27	21811A0431	KADHA KIRAN SANTOSH	✓	✓	✓	✓	✓
28	21811A0432	KANDREGULA JASWANTH KUMAR SWAMY	✓	✗	✓	✗	✓
29	21811A0433	KANNURU RAJESH	✓	✓	✓	✓	✗
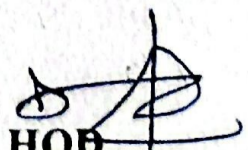
30	21811A0434	KARANAM HARIKA	✓	✓	✓	✓	✓
31	21811A0435	KARRI AJAY	✓	✗	✓	✓	✓
32	21811A0436	KODIGUDLA GUNA SHEKAR	✓	✓	✓	✓	✓
33	21811A0437	KODIGUDLA KUSUMA KUMARI	✓	✓	✓	✗	✓
34	21811A0438	KOLLU LAKSHMI	✓	✓	✓	✓	✓
35	21811A0439	KONA NEHA KUMARI	✓	✗	✓	✓	✓
36	21811A0441	KUNCHA GANESH	✓	✓	✓	✓	✗
37	21811A0442	LAM SREENU BASHA	✓	✓	✗	✓	✓
38	21811A0443	MAKIREDDY REVANTH KUMAR	✗	✓	✓	✓	✓
39	21811A0444	MARADANA HARISH	✓	✓	✓	✓	✓
40	21811A0445	NANGINA MAHA SANTHOSHI	✓	✓	✓	✓	✗
41	21811A0446	PAGADALA NAVEEN	✓	✗	✓	✓	✓
42	21811A0447	PALAKURTHI RAJA	✗	✓	✓	✓	✓
43	21811A0448	PALLA SRILAKSHMAN	✓	✓	✓	✓	✓
44	21811A0449	PALLA SRIRAM	✓	✓	✓	✓	✓
45	21811A0450	PANGA TANUJA	✓	✓	✓	✓	✓
46	21811A0452	POTHALA THANUJA	✓	✓	✓	✓	✗
47	21811A0453	PUTTA APARNA	✓	✓	✓	✓	✓
48	21811A0454	REDDI ANUSHA	✓	✓	✓	✓	✓
49	21811A0455	RUTHALA KARUN KUMAR	✓	✓	✗	✓	✓
50	21811A0456	SALAPU SHASHANK SHANMUKHA BALAJI	✓	✓	✓	✓	✓
51	21811A0457	SHEIK SADIAANZUM	✓	✗	✓	✓	
52	21811A0458	SRISAILAPU NAGA DURGA HARIKA	✓	✓	✓	✗	✓
53	21811A0459	SURATA CHAITANYA SAI	✓	✓	✗	✓	✓
54	21811A0463	TIPPANA RAMYA	✓	✓	✓	✓	✗
55	21811A0464	ULABALA SHYAM PRASAD	✓	✗	✓	✓	✓
56	21811A0465	MAKIREDDY GANGADHAR	✓	✓	✓	✓	✓
57	21811A0466	VAMARAJU VIGHNESWARA SAI VINEETHA	✗	✓	✓	✓	✓
58	21811A0467	VEERLA PRAVALLIKA	✓	✓	✗	✓	✓
59	21811A0468	VOMMI GOVARDHAN	✓	✓	✓	✓	
60	21811A0469	YERRA DURGA PRASANTH	✓	✓	✓	✓	
61	21811A0470	PASAPU MANIKANTA	✓	✓	✓	✓	✓
62	21811A0471	GANGUPAM LOHIT KUMAR	✓	✓	✓	✓	✓
63	21811A0473	KARRI RAJ SHEKAR	✓	✗	✓	✓	✓
64	21811A0474	KAYALA JOHN VARAPRASAD	✓	✓	✗	✓	✓
65	21811A0475	MUPPIDI SAI VENKATA REDDY	✗	✓	✓	✓	✓
66	21811A0476	PARUPALLI DURGA PRASAD	✓	✗	✓	✓	✗
67	21811A0477	RAPETI JYOTHESWARA RAO	✓	✓	✓	✗	✓

68	21811A0478	YALLA VARUN	✓	✓	✓	✗	✓
69	21811A0479	GANTA CHAKRI	✓	✓	✗	✓	✓
70	22815A0401	ANKAMREDDY KUSUMA SIVANI	✓	✓	✓	✓	✓
71	22815A0402	ATHIKAMSETTY YASASWANI	✓	✓	✓	✓	✓
72	22815A0403	CHANDAKA LEELA	✓	✓	✓	✗	✓
73	22815A0404	CHINTAKAYALA CHANDRA SEKHAR SURYA BHAGAWAN	✓	✓	✓	✗	✓
74	22815A0405	CHINTAPALLI UMADEVI	✓	✓	✓	✓	✓
75	22815A0406	GANDI DHANALAKSHMI	✓	✓	✓	✓	✓
76	22815A0407	GANGIREDLA SAI NANDINI	✓	✓	✓	✓	✓
77	22815A0408	GANISETTI DURGA PRASAD	✓	✓	✓	✓	✗
78	22815A0409	NALLABILLI RAKESH	✓	✓	✓	✓	✓
79	22815A0410	GOLUKONDA ROOPA	✓	✓	✓	✓	✗
80	22815A0411	GUNA SAI SUCHARITHA	✓	✓	✓	✓	✓
81	22815A0412	JAMPA ANUSHA	✓	✓	✓	✓	✗
82	22815A0413	KAISARLA SRAVYA	✓	✓	✓	✓	✓
83	22815A0415	KASIREDDI SRI HARSHA	✓	✓	✓	✗	✓
84	22815A0416	KORUPROLU RAJA SEKHAR	✓	✓	✓	✓	✓
85	22815A0417	KOSURI HEMA LALITHA SRI	✓	✓	✓	✓	✓
86	22815A0418	KRALETI SAI SRINIVASU	✗	✓	✗	✓	✓
87	22815A0419	MADAGALA DEVI SRI PRASAD	✓	✓	✓	✓	✓
88	22815A0420	MATTA MADHA NAGA LAKSHMI NARASIMHA MURTHY	✓	✗	✓	✓	✓
89	22815A0421	MATTURTHI JAYAPRASAD	✗	✓	✓	✓	✓
90	22815A0422	MEEGADA NIRANJAN	✓	✓	✓	✓	✓
91	22815A0423	THELLAPUDI MYTHILI	✓	✓	✓	✓	✓
92	22815A0424	NAMMI PAVANI	✓	✓	✓	✗	✓
93	22815A0425	PASUMARTHI JNANESWARA KALYAN	✓	✓	✓	✓	✓
94	22815A0427	POLISETTI LAVANYA	✓	✗	✓	✓	✓
95	22815A0428	RAJANA TEJASREE	✓	✓	✓	✓	✓
96	22815A0429	RELLA LOKESH	✓	✓	✓	✓	✓
97	22815A0430	ROWTHU INDRANI	✓	✓	✗	✓	✓
98	22815A0431	SURISETTI VARSHITHA	✓	✓	✓	✗	✓
99	22815A0432	GODAVARTHI SRAVANTHI	✓	✓	✓	✓	✓
100	22815A0433	VABBALAREDDI NAGAMANI	✓	✓	✗	✓	✓
101	22815A0434	VENKATA SAI LEEKSHITHA DWARAPUDI	✗	✓	✓	✓	✓

COORDINATOR

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HEAD OF THE DEPARTMENT
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Avanthi Institute of Engg. & Te
Makavarapalem, Visakhapatnam Dist-531

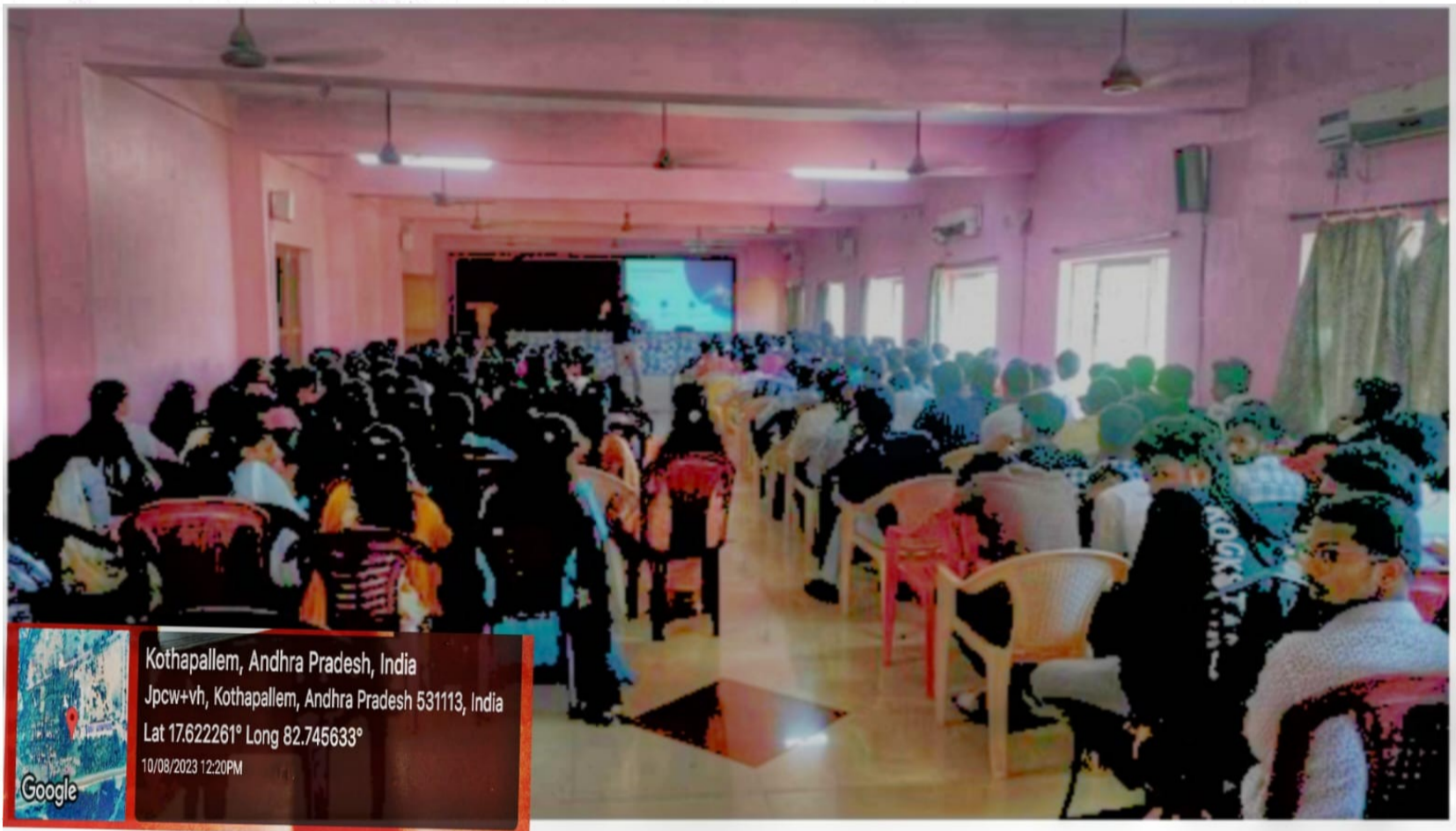# AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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Tamaram, Makavarapalem, Narsipatnam (RD), Visakhapatnam-531113

Department of Electronics & Communication Engineering

Dt: 17 08 2023

BRIEF REPORT

Coordinator

Head of the Department

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DEPARTMENT OF ECE
Avanthi Institute of Engg. & Tech.
Makavarapalem, Visakhapatnam Dist-531 113

AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY
TAMARAM(V), MAKAVARAPALEM (M)
VISAKHAPATNAM-531113

CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Mrs _____ _____ of

_____ has participated in the Certificate Course

entitled on "**MICROCONTROLLER PROGRAMMING**" during from 7th August 2023 to

11th August 2023 in Department of Electronics & Communication Engineering.

K V S Ganesh
Coordinator

Dr E Govinda
Chairman

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Department of Electronics & Communication Engineering
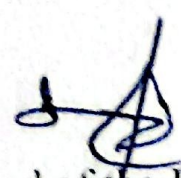
Dt: 17 08 2023

BRIEF REPORT

Department of Electronics & Communication Engineering, Avanthi Institute of Engineering and Technology had organized a certificate course on **"Microcontroller Programming"** during from 7th Aug 2023 to 11th Aug 2023.

Microcontroller programming involves writing code to control and interact with microcontrollers—small, integrated computer systems embedded in various devices. These systems are the backbone of modern electronics, powering everything from home appliances and automotive systems to medical devices and industrial machines. Microcontroller programming enables the development of embedded systems that can process data, control devices, and communicate with other systems.

Dr. R Manoj Kumar deliver speech about Microcontroller programming involves writing software that runs on microcontroller units (MCUs) to control and manage specific tasks in embedded systems. Microcontrollers are small, low-cost computers with integrated processors, memory, and peripherals, designed to perform dedicated functions in electronic devices. Programming a microcontroller typically requires a combination of hardware knowledge, programming skills, and an understanding of embedded systems architecture.

Dr B Siva Prasad, deliver about Microcontroller programming is a vital skill for developing embedded systems and is fundamental to modern electronics. By writing code that interfaces with hardware components, microcontrollers enable efficient and cost-effective solutions for a wide range of industries. As the complexity of applications increases, effective microcontroller programming will continue to be crucial for driving innovation in consumer, industrial, and automotive technologies.

Coordinator

Head of the Department
HEAD OF THE DEPARTMENT
DEPARTMENT OF ECE
Avanthi Institute of Engg.
Makavarapalem, Visakhapatnam Dist-531113