

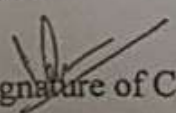


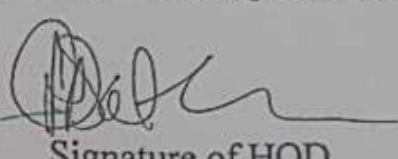
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**DEPARTMENT OF ELECTRONICS & COMMUNICATION
ENGINEERING**

**Skill Development program
on
Embedded systems, IOT and sensor applications**

1. Introduction to ARM University program and registration
2. Introduction to Open source Embedded Systems
3. Introduction to the ARM Architecture
4. Understanding the eval kit, both hardware and software
5. Introduction to few multiple vendor platforms (NXP, SiLabs, ST Micro etc)

Participants will write the code, compile, download to the eval kit and see the working on the board, capture scope waveforms or sensor outputs, wherever necessary, all the experiments listed below are hands on General purpose IO interfaces, Blink LED to start with, PWM output on led ports, Segment LED interface, LCD interface, RTC Interface Key buttons interface, Timers and interrupts handling Relay interfaces, Mosfets/Interface, motor interface, ANALOG interface :Understanding the importance of ANALOG to digital conversion techniques, its importance, real world problems, ADC Interface : All kinds of sensors Interface with application examples(Temp, Sound, Light, UltraSound, buzzer and many more) DAC Interface : All kinds of drives, governors/controllers interfaces, waveform generations for specific drives (Sine, Saw, Ramp, trapezoidal etc) USB Interface, Serial port interface, understanding the communication protocols, throughout RS232 Board to Board communication, Board to PC communications I2C Board to Board Communications SPI Board to Board Communications Details of Module interfaces like Xbee, Blue tooth, Wifi, GSM, GPS etc DYNAMIC Upload of all kinds of IOT Sensor DATA to EXCEL spread sheets to support any kind of Medical, Industrial, agricultural etc applications.


Signature of Coordinator


Signature of HOD

Head of the Department
Department of Electronics & Communication
Sapthagiri College of Engineering
Bengaluru - 560057



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Final report of Skill Development program on Embedded systems, IOT and sensor applications

Date and Venue

Held on 5/12/2022 to 9/12/2022 which was a 5 days skill development program started at 8:30 AM to 4:30 PM in Academic block room no 306 of Sapthagiri college of Engineering.

Agenda

Skill Development Program was organised for 5 days from 5/12/2022 to 9/12/2022. On Embedded Systems, IOT and sensors applications. Coordinator recognized an IISC trainer to conduct the session from 8:30 AM to 4:30 PM for all 5 days for the students of 5th semester.

About the Resource person

The Resource Person Prof. S M Narasimhan has 30+ years of experience in Industry, Research, teaching, enterprising activities and project management. His experience includes research in commercial, industrial as well as military projects, design, development, manufacturing, testing conformal verification and field support. Some of the industries he has worked with are ITI, Dooravani Nagar Bangalore, ST Electronics Singapore, Saragur systems Singapore, Orthodyne Electronics, USA. A well versed person Mr. Narasimhan MTech., IITB and Mr. Arun MTech, IITB was very furnished about the subject who gave hands on experience using real time embedded kits and sensors. scholars took the session for all 5 days with real time models. This helped our students to get trained on core equipments.

Program Schedule

Day 1 8:30AM to 4:30PM

Introduction to ARM University program and registration

ANALOG interface: Understanding the importance of ANALOG to digital conversion techniques, its importance and real world problems.



Day 1 Inauguration by lighting the lamp



Principle addressing the speaker and students

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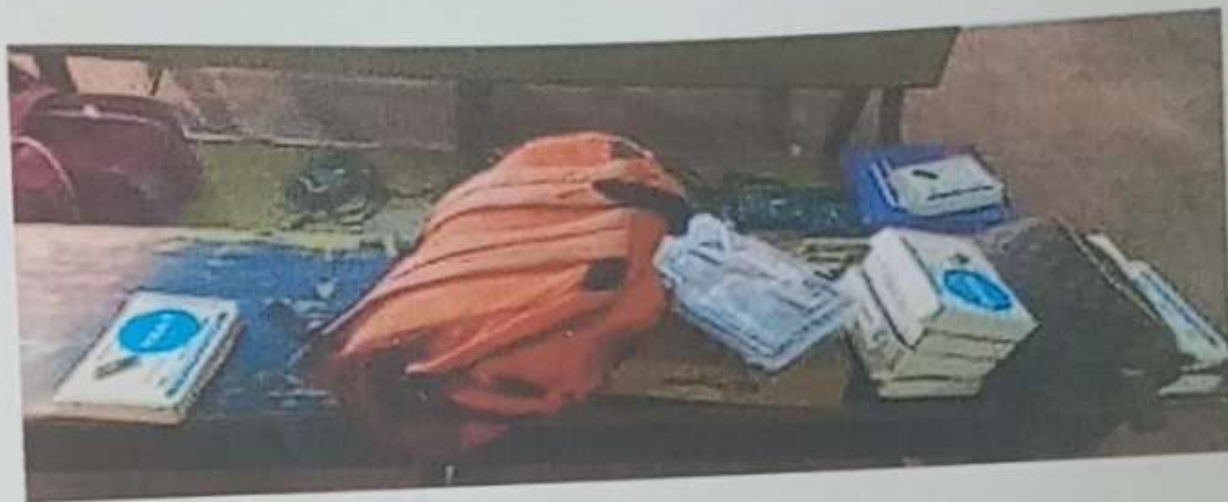
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Day 2 8:30AM to 4:30PM

Introduction to Open-source Embedded Systems

ADC Interface: All kinds of sensors Interface with application examples (Temp, Sound, Light, Ultra Sound, buzzer and many more)

DAC Interface: All kinds of drives, governors/controllers interfaces, waveform generations for specific drives (Sine, Saw, Ramp, trapezoidal etc)



Day 2 kits and boards to conduct hands on experience

Day 3 8:30AM to 4:30PM

USB Interface, Serial port interface, understanding the communication protocols, throughput
RS232 Board to Board communication, Board to PC communications.



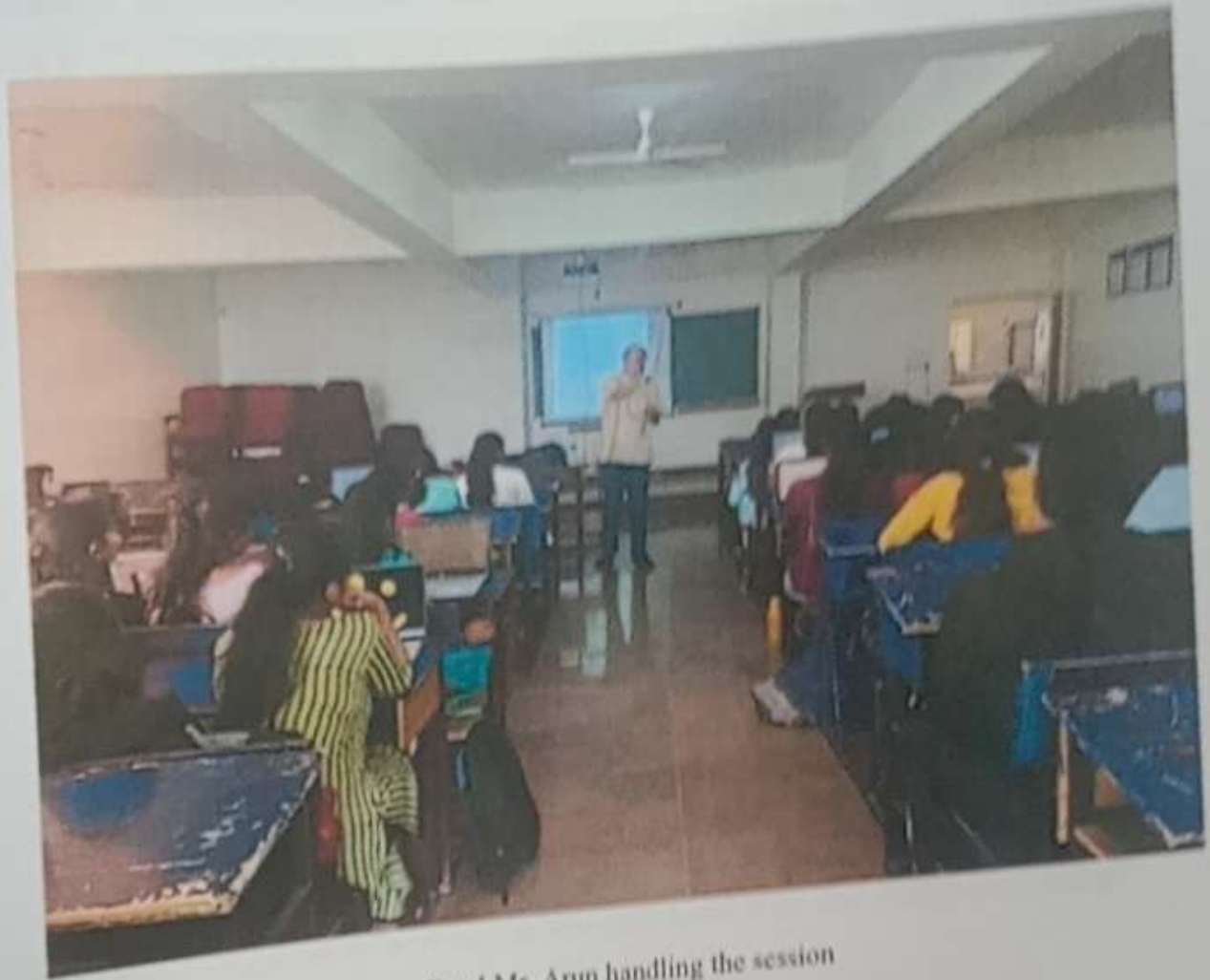
Day3 Mr. Narasimhan handling the session



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Day4 8:30AM to 4:30PM

I2C Board to Board Communications SPI Board to Board Communications



Day4 Mr. Arun handling the session

VB



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Day 5 8:30AM to 4:30PM

Students will write the code, compile, download to the eval kit and see the working on the board, capture scope waveforms or sensor outputs.



Day 5 overall 108 Students have actively participated in the skill development program

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Outcomes of the program

With the help of the Skill Development Program, V semester students of our department completed their mini project work and submitted the report.

Students got to know the current trends and competition in core company.

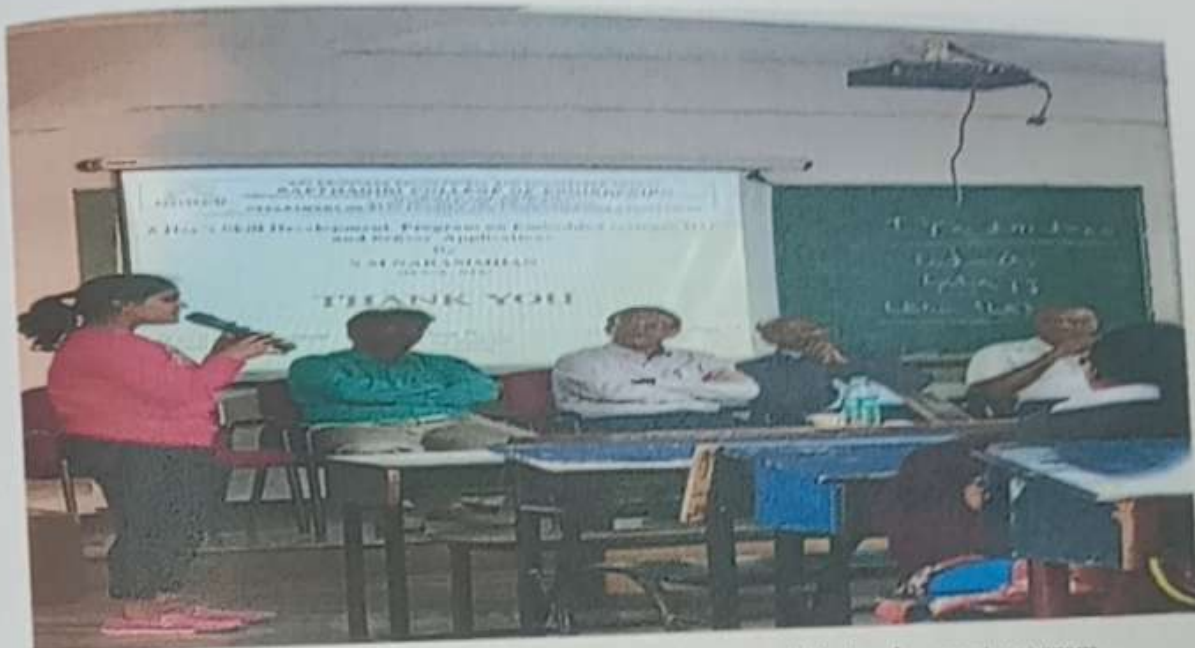


Student coordinators also involved in the event and helped to organize the event and made this program grand success.

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Valedictory function



Valedictory function with students feedback on skill development program



Vote of thanks to the speaker on behalf of skill development coordinator and Head of Department

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Report of Workshop
on
"Python Coding with Application Projects and Solutions".

Date and Venue

Held on 02/01/2023 to 04/01/2023 which was a 3 days skill development program started at 8:30 AM to 4:30PM in Academic block room no.301 of Sapthagiri college of Engineering.

Agenda

The Workshop Program was organized for 3 days from 02/01/2023 to 04/01/2023. On Python Coding with Application Projects and Solutions. Coordinator recognized a Value added Skill Development mentor to conduct the session from 8:30AM to 4:30PM for all 3 days for the students of 3rd semester.

About the Resource person



Mohan Shamanna

Founder & Mentor @INDOSKILL

- 8 Years of Professional & 8 Years of Skill development Experience.
- Worked for 4 MNCs as an Senior Automation Engineer
- Started as an Automation Engineer & Served for 4 MNC's by handling 8+ Major Industrial Projects
- Founded Aqmenz Automation Pvt. Ltd., IndoSkill & mentored more than 15,000+ Engineering Students
- Guiding 5 Students start-ups for Product Development & making Market-fit

✉ ceo@indoskill.in

🌐 <https://www.linkedin.com/in/indoskill1/>



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Mohammed Azhar Hussain
Co-Founder & Mentor, INDOSKILL

- 6 Years of Professional and 7 Years of Skill Development Experience.
- Specialized in Robotics, Industrial Automation, Artificial Intelligence & Machine Learning, Blockchain Technology, and Embedded Systems.
- He was a part of Major Industrial Projects like, Smart Card reader MPOS Device - V1.0 and NFC enabled mPOS device - V2.0.
- Developed Application Softwares for 7 Types of Industrial Robots.
- Role: Software Developer

✉ cto@indoskill.in

🌐 <https://www.linkedin.com/in/indoskill-cto-047855218/>



Program Schedule

Day 1 8:30AM to 4:30PM

- Introduction to Python Programming and Its Significance
- Introduction to Anaconda Software and Installation
- Python Program Basic Structure
- Basic Programming Concepts
- Data Types - Numbers, Strings, Lists, Tuples, and Dictionaries
- Type Casting & Slicing Method with Example Project



Principal addressing the speaker and students



HOD addressing the speaker and students

Day 2 8:30AM to 4:30PM

- Arithmetic Operators, Assignment Operators & Conditional Operators with Example Projects
- Logical Operators & Membership Operators with Example Projects
- Control & Looping Statements: if-else, if elif, for loop & while loop with Example Projects
- Project1: BMI Calculator, Project2: Average Height
- Calculation using List Concept
- Introduction to Python Data Structures - Lists, Tuples & Dictionaries
- Usage and Different accessing Methods of Lists, Tuples & Dictionaries with Examples
- Implementing Stacks and queues using List
- Introduction to Functions
- Scope & Usage of Function



Mr. Mohammed Azhar Hussain
Handling the session



Students have actively participated in the
Workshop Program

Day 3 8:30AM to 4:30PM

- A brief introduction to ESP32 Pin Description and Usage
- Peripherals interfaces introduction and usage
- Introduction to Micro python
- Installing Python Firmware on ESP32
- ESP32 Hardware Libraries & Configuration using Python

A large, stylized handwritten signature in blue ink, likely belonging to the instructor or a representative of the college.



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- Interfacing Programs like GPIO Toggling & testing
- Project: Toll Gate Control Application Project
- Project: Process Mixing Application Project
- IoT Project1: IoT based Web station Application
- IoT Project2: IoT based Home Automation & Control System
- Hands on project execution (Individual Projects given each group)



Mr. Mohan Shamanna Handling the session



ESP32 Kit to conduct hands on experience

Valedictory function



Valedictory function with students feedback on workshop program

Outcomes of the program

- Hands-on with Python Programming
- Hands-on experience of using Microcontrollers
- Students will get real experience with Python Code porting to Microcontroller



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- Students will solve 15 Industry related Hands-on Application Projects using Python & Microcontroller
- Works on Internet of Things (IoT) based Projects



Faculty coordinators and Student coordinators were involved in the event and helped to organize the event and made this program a grand success.

Faculty Coordinators:

1. Vinutha C M *Vinutha C M*
2. Ranjitha R *Ranjitha R*

[Signature]
HOD, ECE Department

[Signature]



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Academic Year: 2022- 2023

*Type of event/activity	Skill Enhancement Program
Name/Title of the Activity/Event	IBM Skill Building
Date of Organization	14 th October 2022
Venue (with address)	Seminar Hall, SCE, Bangalore
Organized by (Resource Person)	Department of Electronics & Communication Engineering. Resource Person: Ms. Swathi
Objectives of the event/activity	To develop effective communication skills and presentation skills
Participants (Please attach list of participants, if it is organized/conducted in the dept.)	ECE students
Mention organized /participated/attended	Prof. Kalavathi.S & Prof. Veena



Event Description:

Skill Enhancement program was conducted for improving the communication and presentation skills of 3rd Semester Students of Department of Electronics & Communication Engineering, Sapthagiri College of Engineering, Bangalore on 14th October 2022. The following topics were discussed in the sessions:

Professionalism- Etiquettes :Communication Skills - Formal & pseudo- formal,E-mail writing, Presentation skills, How to face challenges, Resolving with critical thinking,Resume Building, LinkedIn Profiling: Resume Writing, format and layouts, LinkedIn profiling and Creating Profile.Digital Literacy :Digital Footprint, Effective use of social media.

Skills training are designed to provide students with the targeted training they need to gain knowledge and abilities necessary to fulfill the specific requirements of their job positions. Training can also be used to re-educate and train students whenever new technology, processes or systems debut.

Images:

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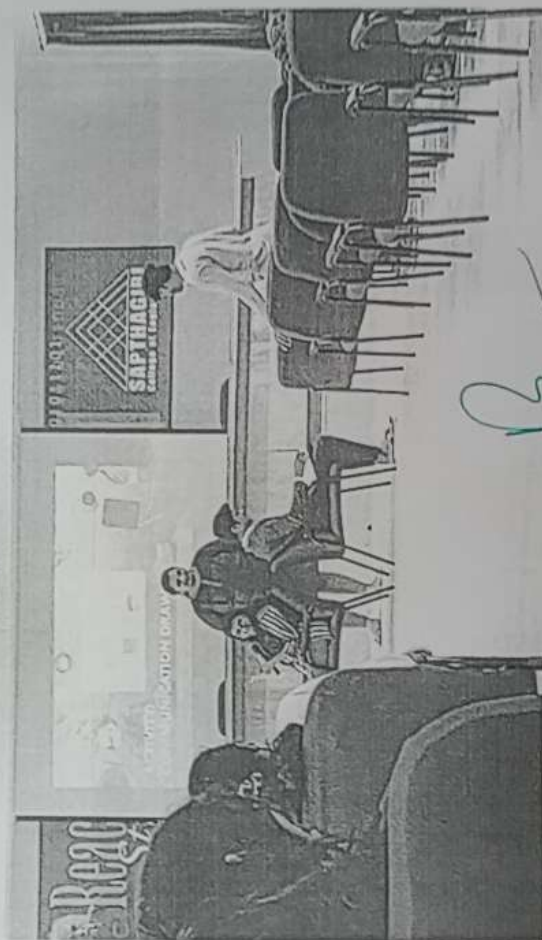
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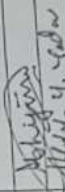

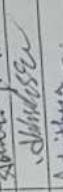
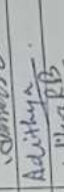
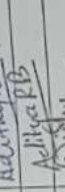




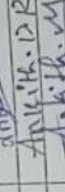
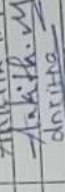
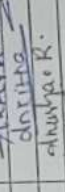
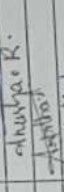
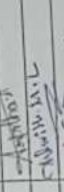




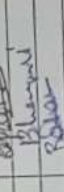
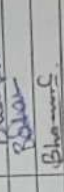

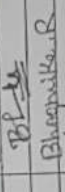
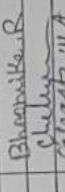
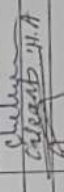

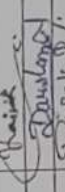
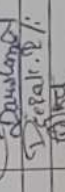
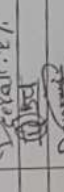


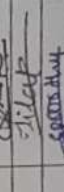
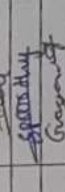
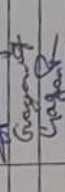
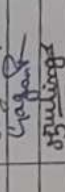
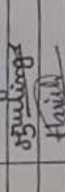
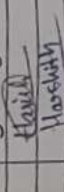
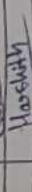
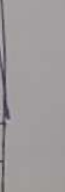

Academic Year: 2022-2023


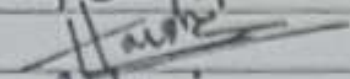
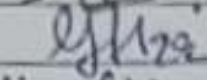
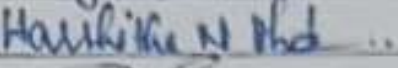
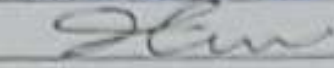
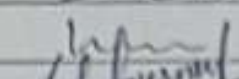
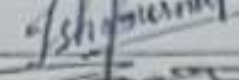
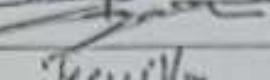
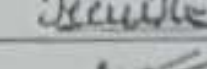
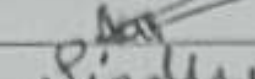
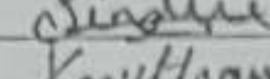
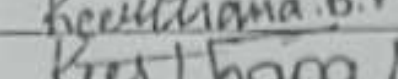
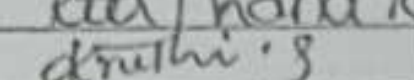
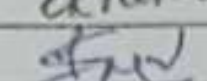
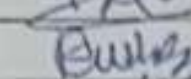
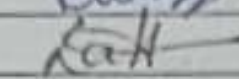
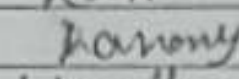
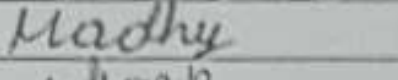
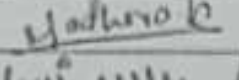
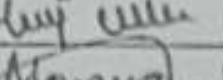
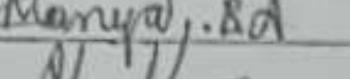
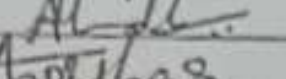
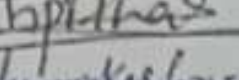
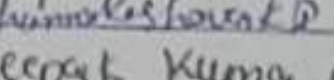
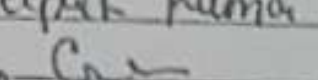
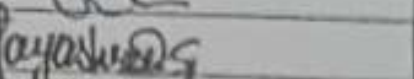
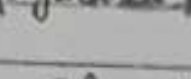





Students Name List

Academic Year: 2021-22

Semester: 2nd 'A'

Sl. No.	USN	Name of the student	Signature
1.	1SG21EC001	ABHIJITH SAI CHINNI	
2.	1SG21EC002	ABHILASH G YADAV	
3.	1SG21EC003	ABHISHEK S K	
4.	1SG21EC004	ADITHYA S	
5.	1SG21EC005	ADITYA RANJAN BISWAL	
6.	1SG21EC006	AISHWARYA K M	
7.	1SG21EC007	AKSHAY S PATIL	
8.	1SG21EC008	ANANYA H S	
9.	1SG21EC009	ANANYA J A	
10.	1SG21EC010	ANKITH D R	
11.	1SG21EC011	ANKITH M	
12.	1SG21EC012	ANKITHA B	
13.	1SG21EC013	ANUSHA R	
14.	1SG21EC014	ARPITHA A	
15.	1SG21EC015	ASHRITH M L	
16.	1SG21EC016	B S NANDAN KISHORE	
17.	1SG21EC017	B TARUN	
18.	1SG21EC018	BHAGATH S G	
19.	1SG21EC019	BHAGYASHREE PATIL	
20.	1SG21EC020	BHARGAVI KC	
21.	1SG21EC021	BHAVANA B	
22.	1SG21EC022	BHAVANA S	
23.	1SG21EC023	BHOOMIKA R	
24.	1SG21EC024	BHOOMIKA R	
25.	1SG21EC025	CHELUVA KUMAR K	
26.	1SG21EC026	CHIRANTH H A	
27.	1SG21EC027	DAIWIK GOWDA S	
28.	1SG21EC028	DARSHAN N	
29.	1SG21EC029	DEEPAK R	
30.	1SG21EC030	DEVAPPA HUCHANATTI	
31.	1SG21EC031	DEVARAJ V	
32.	1SG21EC032	DHRUVAKUMAR K	
33.	1SG21EC033	G SAI TILAK	
34.	1SG21EC034	G SPOORTHY	
35.	1SG21EC035	GAGAN H	
36.	1SG21EC036	GAGAN R	
37.	1SG21EC037	GURULINGU R	
38.	1SG21EC039	HARISH KUMAR M S	
39.	1SG21EC040	HARSHITH B J	

40	1SG21EC041	HARSHITH GOWDA D	
41	1SG21EC042	HARSHITH S	
42	1SG21EC043	HARSHITHA G H	
43	1SG21EC044	HARSHITHA N BHAT	
44	1SG21EC045	HEMANTH KUMAR A R	
45	1SG21EC046	HIMALI R	
46	1SG21EC047	ISHA PURNESH	
47	1SG21EC048	JAYANTH V P	
48	1SG21EC049	JEEVITHA R	
49	1SG21EC050	K G AISWARYA DEV	
50	1SG21EC051	K SINDHU	
51	1SG21EC052	KEERTHANA B V	
52	1SG21EC053	KEERTHANA K	
53	1SG21EC054	KRUTHI S	
54	1SG21EC055	KRUTHIK M V	
55	1SG21EC056	KUSHAL S K	
56	1SG21EC057	LAKSHMI SHREE P	
57	1SG21EC058	LAVANYA B H	
58	1SG21EC059	MADHUGOWDA M H	
59	1SG21EC060	MADHURA K	
60	1SG21EC062	MANOJ GOWDA A M	
61	1SG21EC063	MANYA B A	
62	1SG20EC040	HARSHAVARDHAN A N	
63	1SG22EC400	ARPITHA S	
64	1SG22EC401	CHANNAKESHA VA KR	
65	1SG22EC402	DEEPAK KUMAR G M	
66	1SG22EC403	GANGA R M	
67	1SG22EC404	JAYASHREE G	
68	1SG22EC405	KRITHIK P	
69	1SG22EC409	Shreyas. D. Noddyer	

Semester: 2nd BStudents Name List

Academic Year: 2021-22

Sl. No.	USN	Name of the student	Signature
1.	15G21EC065	MITHUN D	Mithun
2.	15G21EC066	MITHUN P	Mithun
3.	15G21EC067	MONISHA V	Monisha
4.	15G21EC068	N R LIKITH REDDY	N R Likith Reddy
5.	15G21EC069	N V ABHISHEK	N V Abhishek
6.	15G21EC070	NANDAN G	Nandan
7.	15G21EC071	NANDINI A	Nandini
8.	15G21EC072	NAVEEN B	Naveen
9.	15G21EC073	NIKSHITH CHANDRU	Nikshith
10.	15G21EC074	NITHISH C H	Nithish
11.	15G21EC075	NITHYANANDAN S	Nithyanandan
12.	15G21EC076	PAVAN G	Pavan
13.	15G21EC077	PEEYUSH C P	Peeyush
14.	15G21EC078	PRAJWAL G	Prajwal
15.	15G21EC079	PRAKRUTHI S MALNAD	Prakruthi
16.	15G21EC080	PRASHANTH V H	Prashanth
17.	15G21EC081	PREETHI K	Preethi
18.	15G21EC082	PRUTHVIKA R	Pruthika
19.	15G21EC083	PUNEETH R	Puneeth
20.	15G21EC084	RAGHU C	Raghu
21.	15G21EC085	RAJEEV N KAUSHIK	Rajeev
22.	15G21EC086	RAJESHWARI P NANDEPPAGOUDAR	Rajeshwari
23.	15G21EC087	RENUKA PRASAD Y S	Renuka
24.	15G21EC088	ROHAN K GOWDA	Rohan
25.	15G21EC089	ROHIT N	Rohit
26.	15G21EC090	ROHITH N	Rohith
27.	15G21EC091	RUCHITHA R	Ruchitha
28.	15G21EC092	RUKHIYA BANU	Rukhiya
29.	15G21EC093	RUPESH L	Rupesh
30.	15G21EC094	RUTHIK U S	Ruthik
31.	15G21EC095	SAHANA R	Sahana
32.	15G21EC096	SAHANA SHETTY	Sahana
33.	15G21EC097	SAMRIDDHI V KHANDELWAL	Samriddhi
34.	15G21EC098	SANJANA	Sanjana
35.	15G21EC099	SANKETH B M	Sanketh
36.	15G21EC100	SHAUNI C	Shauni
37.	15G21EC101	SHREYAS B L	Shreyas