

# RBANM's FIRST GRADE COLLEGE

#12 Annaswamy Mudaliar Road, Opposite Ulsoor Lake, Bangalore-560042
Permanently Affiliated to Bengaluru City University, Reaccredited by NAAC
Recognised by Government of Karnataka and
Recognized under Section 2 (f) & 12 (B) of the UGC Act, 1956

# 3.2.1 Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge

S.No	Name of the Activity	Objective	Duration
1	Organic Farming	Apply ecosystem-based organic farming principles to promote biodiversity, soil health, water quality, and climate resilience, optimizing farm productivity and sustainability	19.09.2023 to 16.12.2023
2	IOT Workshop	Empower students to design, develop, and deploy innovative IoT solutions across various domains, fostering technical expertise, collaboration, and problem-solving skills.	22.11.2023 to 29.11.2023

PRINCIPAL

R.B.A.N.M'S First Grade College

No. 12, Annaswamy Mudaliar Road,

BANGALORE - 560 042.

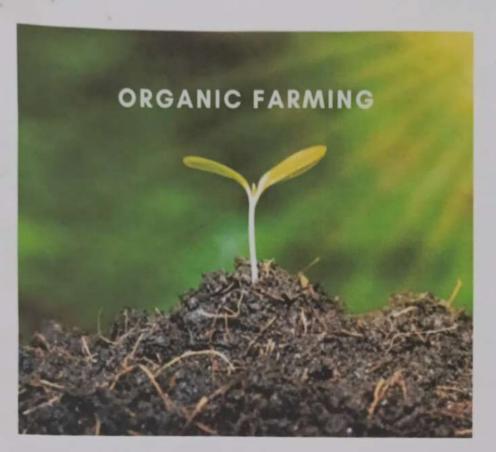
Mob : 8048533572

# 3.2.1 Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge

SL No	List of Events	List of Documents
		• Circular
1	Organic Farming	• Report
		• Feedback
		• Circular
2	IOT Workshop	• Report
		• Feedback

Report on the Organic Farming

AN INITATIVE BY IQAC WITH SUDENT EMPOWERMENT & INCUBATION CELL



INVITE YOU TO JOIN HANDS TO RAISE AWARENESS ABOUT FARMING & STRUGGLE OF FARMERS

TUESDAY

SEPTEMBER

19

AT 2PM

2023

FIRST GRADE COLLEGE AUDITORIUM



Date: 10.11.2023

# Circular

As an initiative of the IQAC and Entrepreneurship Cell are proud to present "Organic Farming" - an innovative program designed to raise awareness among students about sustainable farming practices. The Farming will be starting from 19th September 2023 at 2pm onwards

Students are hereby informed to attend and gain knowledge and experience about farming .

I BCA	I BA	I BCOM	I BBA
II BCA	II BA	II BCOM	II BBA
III BCA	III BA	III BCOM	III BBA

Organizer

Entrepreneurship Cell

Principal

PRINCIPAL

R.B.A.N.M'S First Grade College

No. 12, Annaswamy Mudaliar Roug

BANGALORE - 569 042,

Ph : 25512978



# FINANCIAL PLAN FOR THE ORGANIC FARMING

The students of RBAMS was promoted for the participation in the organic farming activity. The organic farming activity was designed so as to accommodate even the commercial aspect of growing cucumbers on college premises. The plan includes setup, maintenance, and potential income projections to align with practical learning outcomes.

#### 1. Objectives

- Provide hands-on business and agricultural experience to students.
- Promote sustainable farming practices.
- Study cost management, profitability, and agricultural market trend

#### 2. Duration of the project:

Duration: 3months/90 days/12 weeks (one crop cycle).

#### 3. Work plan

Phases	Description	Duration	Objectives	Students work execution
Phase1	Orientation about the organic farming	1 week	Create a sustainable, low-cost organic farm using student resources. Focus on community support, small-scale production. Budget for seeds, tools, labor, and marketing. Track expenses and profits closely.	The students got oriented with the low cost organic farming which will in turn help them to practically prepare the financial report. The students tracked the expenses and profits.
Phase 2	Preparation of the land	2 weeks	Clear the land of weeds and debris, then amend with compost or organic fertilizers. Create raised beds or rows for efficient planting and water drainage.	The students want to clear the land of weeds and debris, then amend with compost or organic fertilizers. Create raised beds or rows for efficient planting and water drainage.

Phase 3	THE STATE OF THE S			
- mase 3	Planting	3 weeks	Plant seeds or seedlings in prepared soil, ensuring proper spacing for growth. Use organic methods like companion planting and mulching. Water regularly, and monitor for pests using natural, eco-friendly solutions.	seeds in the prepared soil, made sure that there was
Phase 4	Manuring and watering	4 weeks	In organic farming, use compost, manure, or organic fertilizers to enrich soil naturally. Water plants consistently, preferably early morning or late afternoon, ensuring deep watering to promote healthy root growth without overwatering.	Students used compost, manure, or organic fertilizers to enrich soil naturally. Water plants consistently, preferably early morning or late afternoon, ensuring deep watering to promote healthy root growth without overwatering.
Phase 5	Harvesting	2 weeks	Harvest crops at their peak ripeness to ensure optimal flavor and nutrition. Use clean, sharp tools to minimize damage. Handle produce gently and store in cool, dry conditions to maintain freshness.	The students harvested the crop to ensure optimal flavor and nutrition. Use clean, sharp tools to minimize damage. Handle produce gently and store in cool, dry conditions to maintain freshness.

#### 2. Project Scope

- Cultivation area: 500 sq. meters (or adjust based on campus availability).
- Crop: Cucumber (variety chosen based on regional suitability and market demand).
- Expected Yield: ~8 kg per plant (depending on variety).

#### 3. Financial Plan

It was the activity which was comprised of 10 students. The business plan for organic farming focuses on sustainable practices, including crop selection, soil health, and eco-friendly pest management. It outlines financial projections, startup costs, and marketing strategies. Emphasizing community engagement and

environmental responsibility, the plan aims for profitability while promoting organic produce and long-term agricultural sustainability.

# A. Capital Expenditure (One-time Costs)

Item	Quantity	Rate (₹)	Total (₹)
Land preparation (plowing, leveling)	500 sq.m	5/sq.m	2,500
Bamboo/Trellis setup for vine support	20 units	500/unit	10,000
Drip irrigation system	500 sq.m	4,000	4,000
Water pump (if needed)	1 unit	8,000	8,000
Tools (hoe, spade, spray pump)	1 set	3,000	3,000
Total (A)			27,500

# B. Operational Expenditure (Per Crop Cycle)

Item	Quantity	Rate (₹)	Total (₹)
Seeds (Hybrid cucumber)	500 plants	10/plant	5,000
Fertilizers (NPK, compost)	50 kg	20/kg	1,000
Pesticides & fungicides	Lump		2,000
Labor (planting, weeding, etc.)	40 man- days	400/day	16,000
Water (electricity cost)	1,000 liters/day	1/liter	1,000
Miscellaneous (transport, packaging)	Lump		2,500
Total (B)			27,500

#### C. Revenue Estimation

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Yield per plant	500 plants x 8 kg = 4,000 kg
Market rate	₹20/kg
Total revenue	4,000 kg × ₹20/kg = ₹80,000

# D. Profitability Analysis (Per Crop Cycle)

Particulars	Amount in Rs
Total revenue	₹80,000
Total Expenditure	₹55,000

Mar D. C.	
Net Profit	#25 000
	₹25,000

# 4. Break-Even Analysis

Break-even sales: ₹55,000 / ₹20 per kg = 2,750 kg

After producing and selling ~2,750 kg of cucumbers, the project will recover the investment and begin generating profits.

#### 5. Risk Management

- 1. Pest/Disease Attack: Use preventive sprays and organic pest management.
- 2. Climate/Water Issues: Ensure an adequate water supply and drainage system.

#### 6. Sustainability and Learning Impact

- 1. Involve students in every aspect, from planning and budgeting to selling the produce.
- 2. Track real-time expenses and compare them with projections for hands-on financial analysis.
- 3. Implement eco-friendly practices such as organic fertilizers to promote green initiatives.

This project not only provides practical exposure to the students but also demonstrates the profitability of agribusiness. The surplus can be used to reinvest in other educational or business projects, giving students a comprehensive understanding of financial planning and entrepreneurship.

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# ORGANIC FARMING PRACTICE

SI. No	Table Contents	Page Number
01	Introduction of event     Objectives of event	1
02	Organic Farming practice	1
03	Outcome	4
04	Students List	5

# Objective of Organic farming

Our college's organic farming project promotes sustainability, environmental awareness, and community engagement. By utilizing composting and natural methods, we aim to create a thriving ecosystem, reduce waste, and provide fresh produce. This initiative fosters teamwork, leadership, and educational opportunities, inspiring a healthier and more environmentally conscious campus community.

#### Phase 1: Planning and Preparation

Location Selection: Identified a well-drained area with ample sunlight on campus, ideal for organic farming.



#### Phase 2: Soil Preparation

Soil Enrichment: Utilized college wet waste to create organic manure, mixing it with sand in a 20:80 ratio.



# Phase 3: Seed Selection

Seed Selection: Chosen cucumber, chilly, tomato, and brinjal seeds for gardening.



#### Phase 4: Sowing

Sowing Seeds: Directly sowed seeds into the ground, ensuring proper spacing for air circulation and sunlight.

#### Phase 5: Crop Care

Watering: Regularly watered crops to maintain optimal soil moisture.



Phase 6: Nutrient Management

Nutrient Addition: Added nutrients to plants using college wet waste.



Phase 7: Crop Monitoring

Crop Monitoring: Regularly monitored crop health, addressing issues promptly.



#### Phase 8: Harvest

Harvesting: Successfully harvested cucumbers, despite initial challenges with other plants due to excessive rain.



#### Outcome:

The college's organic farming project has been a resounding success, showcasing the power of sustainable practices in action. By harnessing college wet waste as organic manure and cultivating a thriving crop of cucumbers, this initiative has not only reduced waste but also promoted eco-awareness and community engagement. Despite weather-related setbacks, the project's resilience and adaptability have yielded valuable lessons for students and staff alike. As we look to the future, we aim to expand our crop variety, integrate composting programs, and inspire a new generation of environmentally conscious leaders. This project serves as a testament to the transformative potential of sustainable farming practices, fostering a healthier, more sustainable campus community for all.

Organizer

Principal /

PRINCIPA

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# PARTICEPATED STUDENTS

Abhishek B.com

Able K B.com

Moses B.com

Shwetha BCA

Karthik V BCA

Dharan BA

Dharshan BCOM

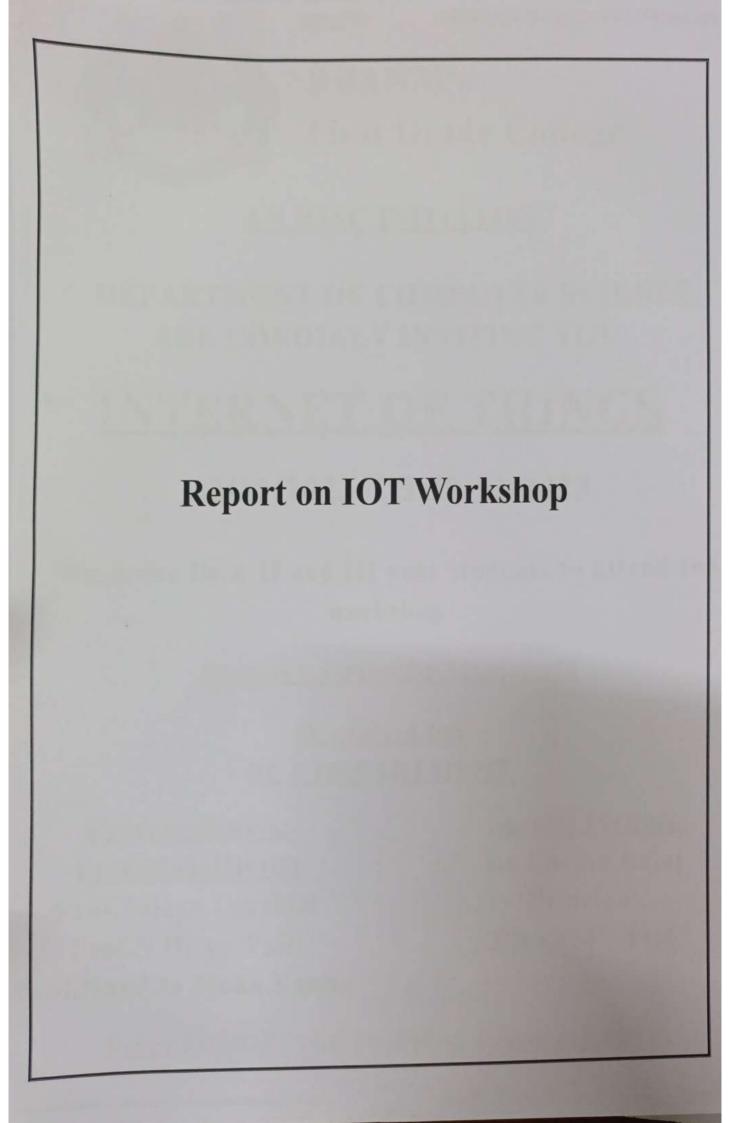
Vasim B.com

Nazim B.com

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# RBANM's First Grade College

# AN IQAC INITIATIVE

DEPARTMENT OF COMPUTER SCIENCE
ARE CORDIALY INVITING YOU

# INTERNET OF THINGS

22/11/2023 TO 29/11/2023

We invite BCA II and III year students to attend the workshop

Resource person: Dr. Manjunadh

Organised by:
BCA DEPARTMENT

Representatives:

Prof.Bindu(HOD)
Prof.Vijaya Lakshmi
Prof.S Divya Valli
Prof.Nandita Moka Varma

**Special Invitees:** 

Dr. Chetan Bajaj Principal, RBANM's FGC

Venue: RBANM's FGC First Floor Computer LAB





Date: 10.11.2023

#### Circular

As an initiative of the IQAC, the department of Computer Science is organising an workshop focused on the "Internet of Things" (IOT) designed to enhance the knowledge and skills in this rapidly evolving field for II<sup>nd</sup> and III<sup>rd</sup> year BCA.

#### The Main Highlights of Workshop:

- Introduction to IOT: Understand the basics and applications.
- Hands-on Sessions: Engage in practical projects and demonstrations.
- Expert Talks: Insights from industry leaders and IOT specialists

The workshop will be held from 22.11.2023 to 29.11.2023 between 9:00 AM to 5:00 PM the Computer Science Lab at first floor lab. The duration of the workshop is 48 hours.

Students are hereby informed to attend the workshop compulsorily and make use of this opportunity to enhance your knowledge.

BCA department

Principal "



Established in 1983

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Dr. Manjunath M
Freelancer of IoT Engineer,
#196/47 1st block east Jayanagar Byrasandra,
Bangalore 560011.
Date: 02/11/2023.

Subject: Request for MOA for IoT Workshop as Resource Person

Dear Dr. Manjunath M,

In continuation with the telephonic discussion that Ms. Bindu L, HoD, department of BCA had with you, we formally request your expertise as a resource person for upcoming IoT workshop organized by the Department of BCA, commencing from 22 November 2023.

Your guidance would greatly enrich the training program and we believe your knowledge would greatly benefit the participants.

You are requested you to sign and return one copy of agreement to us by 05 NOV 23.

Please find attached a draft MOA for your review.

Thank you for considering our request. We look forward to your positive response.

Principal

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Date:02.11.2023

### MEMORUNDUM OF AGREEMENT FOR WORK SHOP IN IoT (Internet of Things)

We would like to propose the following terms for the training on IoT to 30 students of our college studying in Second and Final year BCA:

- Duration: 6 Days, 7 Hours per day with a lunch break of half an hour
- Time: 9.30am to 4.30pm.
- A copy of course content should be submitted from your end on first day of the work shop
- The study material should be given to all the participants
- You will be paid an Honorarium: 61560 as discussed earlier through RTGS or NEFT

Principal

R.B.A.N.M'S First Grade College No. 12, Annaswamy Mudaliar Road, BANGALORE - 560 042.

Anob: 8048533572

Signature of Resource Person.

Signature of Organizer:

# RBANM'S FIRST GRADE COLLEGE

# **Students Enrolled For IoT Workshop:**

# IInd and IIIrd BCA

Sl.no	Students Enrolled	
1	Kiran	
2	Naren	
3	Sunitha	
4	Shravani	
5	Aishwarya	
6	Abhishek	
7	Elavarasan	
8	Sherin Dorthy	
9	Manoj	
10	Deepak	
11	Pooja	
12	Sivasankari	
13	Bhumika	
14	Sindhu	
5	Nivetha	41-16

16	Deepak			
17	Praveen Kumar			
18	Gunjan			
19	Anandhan			
20	Jesus Tony			
21	Gargi Thakur			
22	Naren			
23	Aravindhan			
24	Deena Dayal			
25	Sudeep			
26	Naveen			
27	Bala Guru			
28	Chandra bist			
29	Lochan Raj			
30	Shiva Kumar			
31	Kenneth Emmanuel			
32	Jay Kiran			

# RBANMS FIRST GRADE COLLEGE

Annaswamy Mudaliar road, Bengaluru -560042

# DEPARTMENT OF COMPUTER SCIENCE



# WORKSHOP REPORT ON INTERNET OF THINGS

# Resource Person: Dr Manjunath M

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01	Introduction	1
02	Resource Person Profile	1
03	Introduction of IoT	1
04	Objective of IOT	2
05	Projects	2
06	Outcome	8

# RESOURCE PERSON:

Dr Manjunath was working as an assistant professor in RV College of engineering and now as a project trainer in freelancing. He had conducted the workshop in an interesting and efficient way were all the students actively took part and he provided the devices, equipment, sensors and other requirements to the students for getting hands on practice.

#### REPORT ON IOT WORKSHOP:

6

An IOT workshop was initiated by the **Department of Computer Science.** The workshop went on from 22/11/2023 to 29/11/23 for 7 days and each session went for about 8 hours.

# The Objectives of IoT (Internet of Things) projects typically include:

**Connectivity**: Enable devices to communicate and share data over the internet, fostering seamless connectivity.

**Data Collection**: Gather and analyse data from diverse sources, generating insights for informed decision-making.

**Automation**: Implement automation to enhance efficiency, reduce human intervention, and optimize processes.

**Remote Monitoring**: Facilitate real-time monitoring of devices and systems from anywhere, improving control and responsiveness.

Interoperability: Ensure compatibility and interaction between various IoT devices and platforms for seamless integration.

Security: Implement robust security measures to safeguard data and ensure the privacy of users.

**Energy Efficiency**: Utilize IoT to optimize energy consumption, promoting sustainability and cost-effectiveness.

Enhanced User Experience: Improve user experiences by providing innovative and convenient solutions through IoT technologies.

Predictive Analytics: Utilize data analytics to predict trends, failures, or anomalies, enabling proactive actions.

Scalability: Design projects to scale easily, accommodating the growth of connected devices

and evolving requirements.

Cost Reduction: Implement IoT to streamline operations, reduce manual efforts, and potentially cut costs in various domains.

Environmental Impact: Address environmental concerns by employing IoT for smart resource management and sustainable practices.

Innovation: Foster innovation by exploring new possibilities and applications in different industries using IoT technologies.

Accessibility: Enhance accessibility to information and services through IoT, making them available to a broader audience.

Improved Decision-Making: Provide data-driven insights that empower better decision making at individual, organizational, or societal levels.

#### Syllabus Content:

- Introduction of IoT
- IoT Overview
- IoT For everyone
- Application of IoT
- Raspberry Pi
- Sensors and its application
- Challenges in IoT
- Live Demo and Projects

### Projects on IoT:

#### 1. Flame Sensor

A flame sensor frequently responds faster & more precisely as compared to a heat or smoke sensor because of the mechanisms it utilizes to notice the flame.



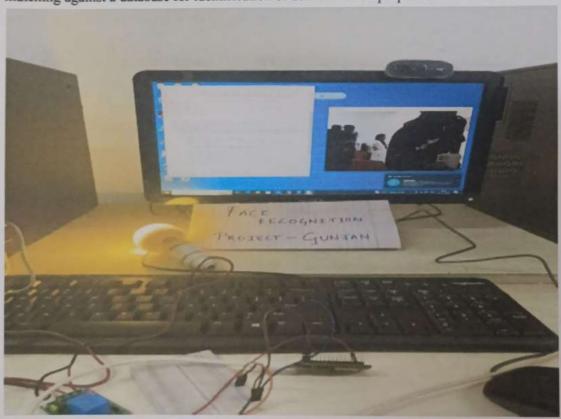
# 2. Touch Relay Sensor

A touch relay sensor typically works by detecting changes in capacitance when touched. When a conductive object, like a human finger, meets the sensor, it alters the capacitance, triggering the relay to open or close a circuit. This can be used for various applications, such as turning lights on/off or activating electronic devices.



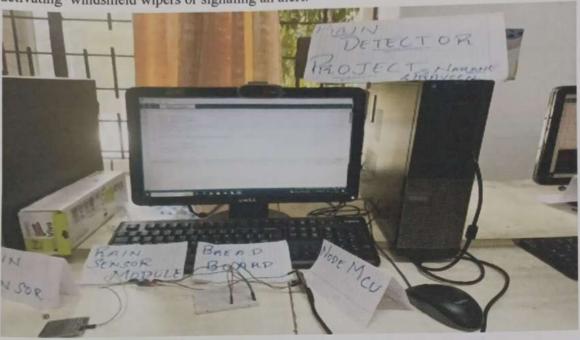
#### 3. Face Recognition

Face recognition involves using algorithms to identify and verify individuals based on facial features captured by a camera. It typically includes face detection, feature extraction, and matching against a database for identification or authentication purposes.



## 4. Rain Detector

Rain detectors use sensors to detect raindrops or the presence of moisture. Common types include resistive sensors that change resistance when wet, capacitive sensors that detect changes in capacitance due to water, and optical sensors that rely on reflections or interruptions of light by rain. When the sensor detects rain, it triggers a response, such as activating windshield wipers or signaling an alert.



#### 5. Face Detector

Face detector is a computer vision algorithm that analyses images or video frames to identify and locate human faces. It often relies on pattern recognition and machine learning techniques, such as Haar cascades or deep learning models. These algorithms detect facial features, patterns, or structures, allowing applications to identify and draw bounding boxes around faces within images or video streams.

#### 6. Temperature Humidity Sensor

A temperature humidity sensor measures both temperature and humidity levels in the surrounding environment. It typically utilizes a combination of sensors to detect these parameters and provides corresponding output signals for monitoring or control purposes.



#### 7. Buzzer Sensor

A buzzer sensor typically produces sound when an electrical signal is applied to it. It often has two wires - one for power and one for ground. Connect the power wire to a voltage source, ground wire to ground, and when you send a signal (voltage) to the buzzer, it generates a sound. The duration and frequency of the sound may vary based on the input signal.

#### 8. Photo Capture

To capture a photo on your device, open the camera app, focus on your subject, and press the shutter button. Make sure to grant the necessary camera permissions if prompted.

#### 9. Telegram Operators

Light Telegram operators typically refer to lightweight messaging applications like Telegram. They operate by allowing users to send text, media, and other files through a cloud-based platform. Users can create groups, channels, and engage in private or group conversations with end-to-end encryption for added security. The platform works across various devices and supports features such as stickers, voice messages, and file sharing.



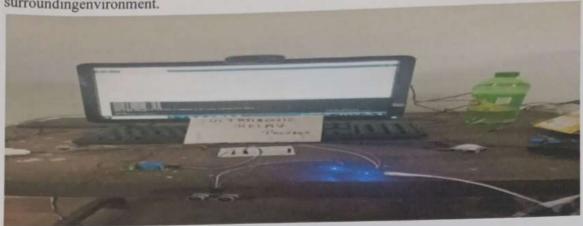
#### 10. Siren Sensor

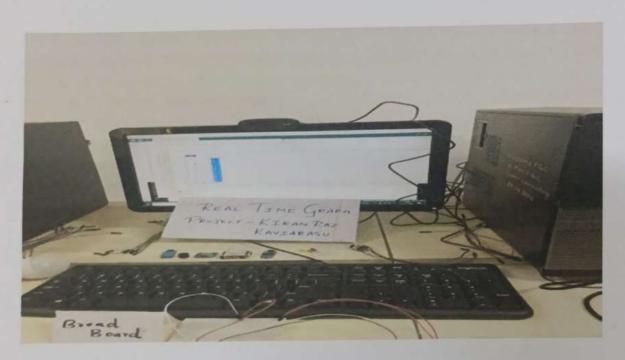
A siren sensor works by detecting specific stimuli, usually sound or movement, and triggering a siren or alarm in response. For instance, a sound-activated siren sensor picks up certain sound frequencies or loud noises, activating the siren when the preset threshold is reached. Similarly, a motion-activated sensor responds to movement within its detection range, signaling the siren to alert of potential intruders or disturbances. The basic idea is to sense a predefined condition and initiate the siren as a warning or deterrent.

## 11. Ultrasonic sound using relay

A relay is an electrically operated switch. When an electrical signal is applied to its coil, it switches the connected circuit on or off. In the context of a bulb, a relay can control its power supply. For example, when you turn on a switch, it sends a signal to the relay's coil, allowing electricity to flow to the bulb and light it up. Turning the switch off interrupts the signal, and the relay disconnects power, turning off the bulb. Relays are often used to control high-power devices with low-power signals.

Ultrasonic sound works by emitting high-frequency sound waves (ultrasonic waves) beyond the range of human hearing, typically above 20,000 hertz. These waves can be used for various applications, including distance measurement, object detection, and medical imaging. The emitted waves reflect off surfaces and are detected to gather information about the surroundingenvironment.





#### 12. Light the Bulb using telegram.

Lighting a bulb involves passing an electric current through a filament, which heats up and produces light due to incandescence or by exciting gas molecules in a fluorescent bulb. LED bulbs use semiconductor materials to emit light when current passes through them.



**OUTCOME:** Students completing the IoT workshop will gain a comprehensive understanding of IoT fundamentals, including devices, networks, and architecture. They will develop practical skills, sensor/actuator interfacing, and IoT protocol implementation. Additionally, students will design and develop innovative IoT projects, cultivate essential teamwork and communication skills, and prepare for IoT certification. Upon completion, students will possess practical knowledge and skills in IoT development.

The students developed almost 12-20 live projects and other smart devices using sensors and relay models and live demonstrations were done by the students at the last day of the workshop and displayed in an exhibition were the PU college students, other department students and faculties were invited to the demonstration.

Principal

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# IOT work shop Attedance sheet

BCA II nd year

SI.No	NAME						
1	AISHWARYA	22-Nov	23-Nov	24-Nov	27-Nov	28-Nov	29-Nov
2	SUNITHA	1	2	3	4	5	6
3	SHRAVANI	1	2	3	4	5	6
4	SHERIN	1	2	3	4	5	6
5	ABHISHEK	1	2	3	4	AB	5
6	CHANDRA	AB	AB	AB	1	2	3
7	KIRAN	1	2	3	4	5	6
8		1	2	3	4	5	6
9	ELAVARASAN	1	2	3	4	5	6
10	KAVIARASAN	AB	AB	AB	1	2	3
11	SHIVA KUMAR	AB	1	AB	2	3	4
++	NAREN KANNA	AB	AB	AB	1	2	3

# BCA III nd year

sl.no	NAME	22-Nov	23-Nov	24-Nov	27.11	20.4	19000
1	JAY KIRAN	1	2		27-Nov	28-Nov	29-Nov
2	BHUMIKA	1	2	3	4	5	6
3	DEENA DAYAL	1	2	3	4	5	6
4	POOJA	1	2	3	4	5	6
5	GUNJAN KUMAR	1	2	3	4	5	6
6	JESUS TONY REYMOND	1	2	3	4	5	6
7	SINDHU	1	2	3	4	5	6
8	BALAGURU	1		3	4	5	6
9	DEEPAK	1	2	3	4	5	6
10	ANANDHAN		2	3	4	5	6
11	GARGI THAKUR	1	2	3	4	5	6
12	MANOJ KUMAR	1	2	3	4	5	6
13		1	2	3	4	5	6
	NIVETHA	1	2	3	4	5	6
14	SEVASANKARI	1	2	3	4	5	6
15	PRAVEEN KUMAR	1	2	3	4	5	6
16	NARANE	1	2	3	4	5	6
17	SUDEEP	1	2	3	4	5	6
18	ARAVINDAN	1	2	3	4	5	6
19	NAVEEN	1	2	3	4	5	6
20	LOCHAN RAJ	1	2	3	4	5	6

# RBANM'S FIRST GRADE COLLEGE

# <u>List of Application (sensors) of IOT hands on Training given to Students using IOT platform</u>

SL No	Торіс	Team members of the Project		
1	Flame Sensor	1.Kiran 2.Naren		
2	Touch Relay Sensor	1.Sunitha 2.Shravani 3.Aishwarya		
3	Face Recognition	1.Praveen 2Manoj 3.Deepak		
4	Rain Detector	1.Abhishek 2.Elavarasan		
5	Face Detector Project	1.SherinDorthy 2.Pooja 3.Sivasankari		
6	Temperature Humidity Sensor Project	1.Bhumika 2.Sindhu 3.Nivetha		
7	Buzzer Sensor Project	1.ShivaKumar 2.KennethEmmanuel 3.JayKiran		
8	Photo Capture Project	1.DeenaDayalan2.Sudeep 3.Naveen		
9	Telegram Operators Project	1.GargiThakur 2.Naren 3.Aravindhan		
10	Siren Sensor Project	1.Gunjan 2.Anandhan 3.JesusTony		
11	Ultrasonic sound using relay	1.BalaGuru 2.LochanRaj		
12	Light the Bulb using telegram	Kaviarasan     Chandrabist		

# Curriculum Based Project by Student on IOT platform Post IOT training

# Project Title "FIRE DETECTION AND NOTIFICATION SYSTEM USING IOT"

#### **Students**

- 1. Narane P VI sem BCA
- 2. Praveen Kumar VI sem BCA

### RBANM'S FIRST GRADE COLLEGE

#12 Annaswamy Mudaliar Road, Bangalore- 560042

A REPORT ON



# "FIRE DETECTION AND NOTIFICATION SYSTEM USING IOT"

#### CERTIFICATE

This is to Certify that Narane P(U18FQ21S0019) and Praveen Kumar (U18FQ21S0020) is bona-fide students of R.B.A.N.M's First Grade College, Affiliated to Bangalore City University and have carried out a IOT based on "FIRE DETECTION AND NOTIFICATION SYSTEM USING IOT" and submitted in fulfilment for the award of Bachelor of Computer Applications during the year 2023-2024. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report. The project report has been approved as it satisfies the academic requirement in respect of project work prescribed for the degree.

Submitted By: Narane P (U18FQ21S0019) and Praveen Kumar (U18FQ21S0020)

> Dept. of Computer Science R.B.A.N.M'S F.G.C. Fangakire-42

ALUED

Month: July

Year : 24

Examiners: 1

, B. L.

For

Signature of Internal Guide

PRINCIPAL

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