

KLE Society's S. Nijalingappa College

Rajajinagar II Block, Bengaluru – 560010

Re-accredited by NAAC at 'A' grade with 3.53 CGPA

College with UGC STRIDE Component –I



Comprehensive Report

IQAC INITIATED UGC STRIDE SPONSORED WORKSHOP

ON

“Use of DRONES in Preventing Natural Disasters”

On 30th September and 1st October 2021

Prof BHARATHI N.
ORGANISING SECRETARY

Prof K Nagireddy
UGC Co-Ordinator

Dr. Mahananda B. Chittawadagi
UGC STRIDECO-ORDINATOR

Dr. Arunkumar B. Sonappanavar
PRINCIPAL

Schedule of the workshop

Inaugural Session: 10:00 AM - 10:45 AM

Tea break: 10:45 AM - 11:00 AM

TIME	TOPIC
Day 1 - Session 1	Introduction to drone, types and its applications
Lunch Break: 1:00 PM to 2:00 PM	
Day 1 - Session 2	Drone working technology
Day 2 - Session 3	DIY Drones and flying
Lunch Break 1:00 PM to 2:00 PM	
Day 2 - Session 4	Solo flying
Valedictory Session: 4:15 PM - 5:00 PM	

Organizing Committee

Prof. Sharada C (Convener)	Prof. K Nagi Reddy (Co-Convener)
Prof. Bharathi N (Organizing Secretary)	

Venue: KLE S Nijalingappa College, Rajajinagar - 560010

Link for Registration: <https://forms.gle/pok85GHctlowpBV5JA>

Dr. Parvati N Angadi Coordinator, Dept. of Computer Science	Dr. Mahananda Chittawadagi Coordinator, IQAC	Dr. Arunkumar B Sonappanavar Principal
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Contact Us : drones2021@klesc.ac.org | Ph: +91 8553817413

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IQAC Initiated
UGC STRIDE Sponsored

Two Day
National workshop
on
“Use of Drones in
preventing
Natural Disasters”
on
30th September and
1st October 2021
In Association with

Organized by:
Department of
Physical Sciences and Computer Science



Principal
KLE Society's S. Nijalingappa College
Rajajinagar, Bengaluru-560 010

AGENDA

1. **Invocation** – **Boomika K T**
2. **Welcome** – **Prof. K Nagi Reddy**
3. **Lighting the lamp** – **Dignitaries on the Dais**
4. **About the workshop** – **Mrs. Naimisha**
5. **About the resource person** – **Dr. Parvati N Angadi**
6. **Address by the** – **Mr. Shivakumar H G**
Resource Person
7. **Presidential Remarks** – **Dr. Arun Kumar Sonnapanavar**
8. **Vote of Thanks** – **Mrs. Bharathi N**



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**IQAC - Initiated UGC-STRIDE sponsored Two days National Workshop on
"Use of DRONES in Preventing Natural Disasters"
On 30th September and 1st October 2021**

Organized by the Department of Physical Sciences and Computer Science

Date	Time	Content
30-09-2021 (Day 1)	9:30 - 10:00	Meet and Greet
	10:00 - 11:30	Introduction to Drones - 1
	11:30 - 11:45	Tea Break
	11:45 - 12:15	Various types of Drones
	12:15 - 1:00	Various Drone applications and Market Scope
	1:00 - 2:00	Lunch Break
	2:00 - 2:20	Basic Principles of Flight
	2:20 - 2:45	Drone working Technology
	2:45 - 3:00	Introduction to Simulator
	3:00 - 3:15	Tea Break
	3:15 - 4:00	Simulators Continued
01-10-2021 (Day 2)	9:30 - 11:00	DIY Drones
	11:30 - 11:45	Simulators
	11:45 - 12:00	Tea Break
	12:00 - 1:00	Introduction to drone flying
	1:00 - 2:00	Lunch Break
	2:00 - 3:00	Solo Flying
	3:00 - 3:30	Applications of UAV
	3:30 - 3:45	Tea Break
	3:45 - 4:00	Q&A
	4:00 - 4:15	Certificate Issuing

I. **Level:** National

II. **Target Group:** Professionals, Research scholars, Students and Academicians

III. **Objective:**

- ❖ To bring awareness about operations and regulations of Unmanned Aerial Systems (UAS) and UAV(Unmanned Aerial Vehicle)
- ❖ To educate about the emerging trends in the drone industry and developing technologies in drone industry and developing technologies in drone production.
- ❖ To learn how to fly a Multirotor Drone
- ❖ To promote the use of drones in industries for applications like early detection of Natural Disasters

IV. **Report with Geo tagged photos**

1. Inaugural Ceremony:

Department of Computer Science has continued the efforts of fulfilling the objectives of UGC STRIDE National level Workshop Entitled **IQAC Initiated UGC STRIDE Sponsored Workshop on “Use of Drones in Preventing Natural Disaster”**. Workshop has been organized involving the Resource Persons from Multiplex Drone Pvt Ltd, Bengaluru.

The program began with an Inaugural function. Resource persons Mr. Shivakumar H G, Head - Technical and Operations, Multiplex Drone, Pvt. Ltd., and Mr. Adithya A R, UAV Engineer, Multiplex Drone, Pvt. Ltd., graced the occasion. Other dignitaries on the dais were Dr. Arun Kumar Sonappanavar, Principal, Dr. Mahananda Chittawadagi, IQAC Coordinator, Prof. K Nagi Reddy, HOD, Department of Physics and Dr. Parvati Angadi, Coordinator, Department of Computer Science.

Prof. K Nagi Reddy, HOD, Department of Physics welcomed the gathering. He emphasized the importance of practical learning over theoretical classroom learning. In his talk, he opined his view on how transdisciplinary learning could help students in better understanding and lead to better employability.

2. Inaugural Address

In the inaugural session, a brief about the workshop was presented to the audience by Prof. Naimisha. This briefing session threw light on the prospects of technology learning such as Drones, UAVs and why related sensing technologies have seen a boom in recent years.

Dr. Parvati Angadi, Coordinator, Department of Computer Science, introduced the Resource Persons of the Two-Day National Workshop, Mr. Shivakumar H G and Mr. Adithya A R to the gathering highlighting their experience and expertise in the field of UAVs



Following this session, Resource Person, Mr. Shivakumar H G, addressed the gathering. In his talk he explained the different technologies that blended along with the Drone Technology. He also enlightened the participants that drone, as it is, does not have intelligence; and logic has to be build by the programmer through the software. In his brief talk, he also gave a road map of concepts and contents that would be addressed in the two-day workshop.

Presidential remarks were made by respected Principal Dr. Arunkumar Sonappanavar. In his remarks, he encouraged the students, researchers, and other faculty members to learn the NEP way by emphasizing on practical, skill-oriented learning. He opined that NEP laid a blueprint for such practical learning that directs towards better employability.

Lastly, the function ended with the vote of thanks proposed by Prof. Bharathi N.

3. Technical Session I

Technical Session I began after a short break. This session began with Introduction by Mr. Shivakumar H G, Head - Technical and Operations, Multiplex Drone, Pvt. Ltd., about their company and their work with the use of Drones in the field of Agriculture. In this session, he explained various types of drones, various applications of drones, and how drones technology is used in precision agriculture.

He used live examples of applications of drones in preventing natural disasters, in the security of the country, early detection of various phenomena, vigilance, etc. He also explained various parts of the drones and related technology that would be used in building them.

Participants were involved in learning the basic principles behind drone flying and building. Technologies such as carbon fibers that are used nowadays to build robust drones were discussed.

Following this session, participants were given hands-on experience in drone flying on a simulator, which would help them do a solo flight in further sessions.

4. Technical Session II & III

Continuing from the previous day, session 2, hands-on sessions on simulators, session 1 of day 2, also gave maximum exposure to participants on drone flying. The simulator helped them to understand the throttle response, yawing left and right, pitching forward and backward, and other such technical terms.



Following the simulator session in the labs, participants were divided into groups and given a practical, hands-on experience of flying a drone. All participants learned to remove and fix batteries, fix and remove the propellers of drones and take off a drone. All of these tasks were done on a DJI Phantom 4 drone.

The first part of session 2 on Day 2 continued with flying lessons. It was followed by a session on the application of drones in preventing Natural Disasters, and the Intelligence of drones. This session was a theory that was handled by Mr. Shivakumar H G. He through the use cases showcased how this technology can be used to detect and mitigate some of the hazards. He also explained add on sensors that could be mounted on drones which could sense the variations in the environment and report the same to the ground stations. The insights of the observations could be used to mitigate unforeseen circumstances.

Following this session, participants were taken to the open area where the drones designed by them were flown. Based on the hands-on training the participants were evaluated. The top three scorers in the evaluation were awarded cash vouchers by Multiplex Drone Pvt. Ltd., during the valedictory.

5. Valedictory of workshop

This session pulled the curtains down for the two-day National workshop. In this session, all the participants were awarded the certificate of participation and the top three scorers of the evaluative test were given a cash voucher.

1st Place was secured by Ms. Abhijna Darshini, a student of M S Ramaiah University of Applied Sciences - A gift voucher of Rs. 1000 was awarded by Multiplex Drone Pvt. Ltd.

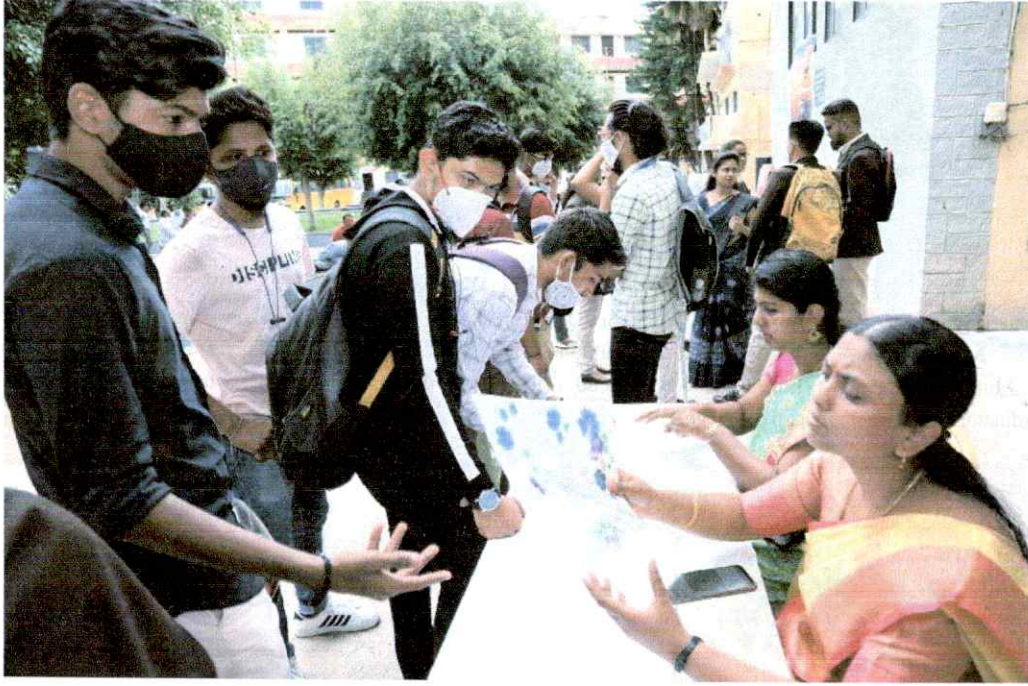
2nd Place was secured by Ms. Aliya Banu, a student of KLE - A gift voucher of Rs. 750 was awarded by Multiplex Drone Pvt. Ltd.

3rd Place was secured by Mr. Kumaran G, a student of KLE - A gift voucher of Rs. 500 was awarded by Multiplex Drone Pvt. Ltd.

The vote of thanks was proposed by Prof. Megha H N.



6. Photo Gallery



Registration Desk



Registration Desk



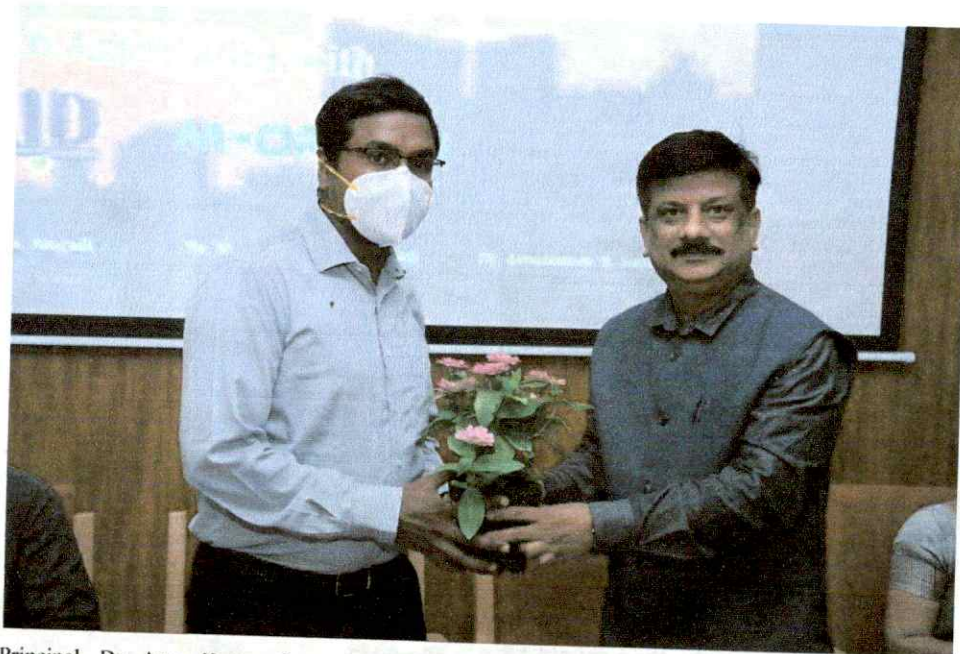


From Left to Right - Dr. Parvati Angadi, Coordinator, Department of Computer Science, Principal, Dr. Arun Kumar Sonappanavar, Mr. Adithya A R, UAV Engineeri, Multiplex Drone, Pvt. Ltd., Mr. Shivakumar, Head - Technical and Operations, Multiplex Drone, Pvt. Ltd., Prof. K Nagi Reddy, HOD, Department of Physics, Dr. Mahananda Chittawadagi, IQAC Coordinator, KLE S Nijalingappa College.



On the Dais (from Left to right) - Prof. K Nagi Reddy, HOD, Department of Physics, Dr. Mahananda Chittawadagi, IQAC Coordinator, Mr. Adithya A R, UAV Engineeri, Multiplex Drone, Pvt. Ltd., Mr. Shivakumar, Head - Technical and Operations, Multiplex Drone, Pvt. Ltd., Principal, Dr. Arun Kumar Sonappanavar, and Dr. Parvati Angadi, Coordinator, Department of Computer Science, KLE S Nijalingappa College.





Principal, Dr. Arun Kumar Sonappanavar felicitating Resource person, Mr. Shivakumar H G, Head - Technical and Operations, Multiplex Drone, Pvt. Ltd.



Lighting the lamp (from left to right): Prof. Sharada C (Convener of the workshop), Prof. Bharathi N (Organizing Secretary), Dr. Mahananda Chittawadagi, IQAC Coordinator, Prof. K Nagi Reddy, HOD, Department of Physics, Principal Dr. Arun Kumar Sonappanavar, Mr. Adithya A R, UAV Engineer, Multiplex Drone, Pvt. Ltd., Mr. Shivakumar H G, Head - Technical and Operations, Multiplex Drone, Pvt. Ltd., Dr. Parvati Angadi, Coordinator, Department of Computer Science



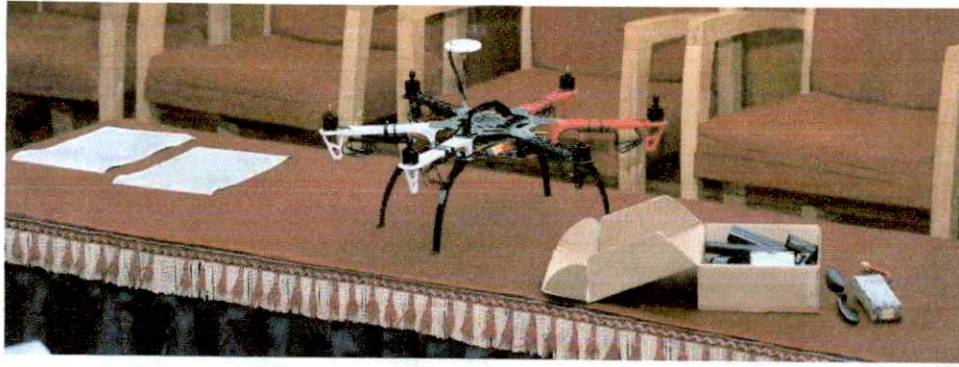


Briefing Session by resource persons



Group Photo - Resource persons, Principal, the organizing committee and participants





A Sample drone that has a GPS system - Prototype developed by Multiplex Drone, Pvt. Ltd.



Mr. Adithya A R, resource person, Multiplex Drone, Pvt. Ltd., explaining to participants the basics of drone flying and guiding them towards working on simulators.



Participants learning operation of simulator





Participants being actively involved in experiencing hands-on in building drone



Participants doing DIY sessions in building drones.





Valedictory - Group Photo: Resource Persons, Principal, Organizing Team and Participants

V. Outcome

UGC STRIDE Sponsored Two Day workshop on “Use of Drones in Preventing Natural Disaster” on 30th September and 1st October 2021

It has created awareness among the participants/audience about the use of drones and its various applications. It helped in evaluation of the most appropriate approach for piloting forest health monitoring, in agriculture and other application areas.

VI. Beneficiaries

38 Students

02 Faculty

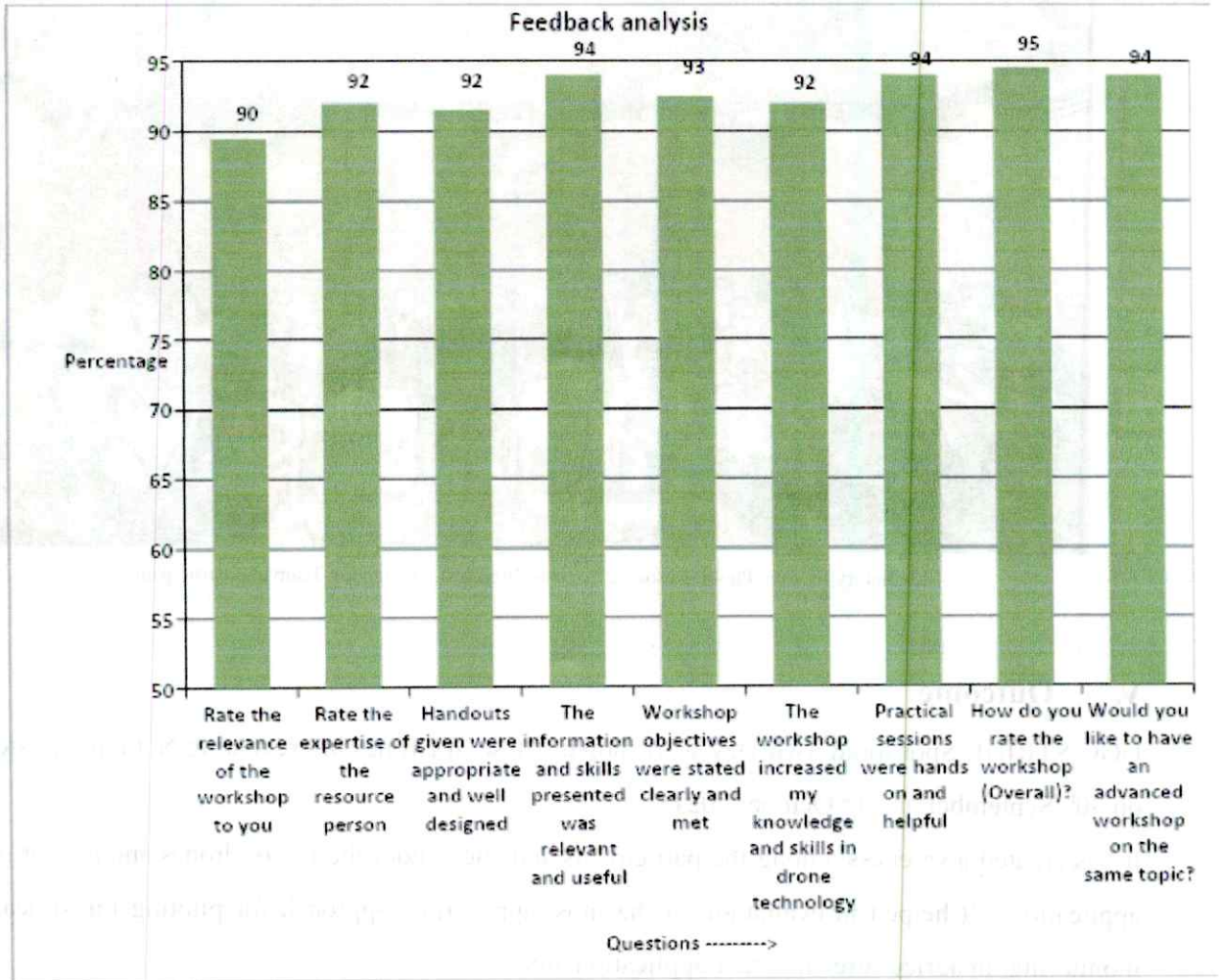
VII. Feedback analysis

At the end of the Technical Session III, a Feedback of the Two-day workshop was taken from all the participants. The feedback analysis was done and it ranged from best to excellent. Also, the participants have given a positive response for the interest in attending similar kind of workshops.

The suggestions of the workshop conducted were,

- Suggested if it could have been a 4 to 5 days workshop
- Students have suggested to conduct more often similar kind of hands-on workshop






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