



# ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

(Approved by AICTE, New Delhi and Affiliated to VTU, Belagavi)

## DEPARTMENT OF AGRICULTURE ENGINEERING



### *Work shop on*

### *“Use of Drones in Agriculture: Potentials, Problems, And Policy Needs ”*

#### *Resource Person:-*

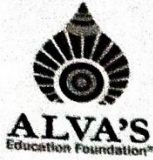
Mr. Ravindra Shetty  
DGCA Pilot

Dr. Naveen.N.E  
Scientist (Agronomy)  
ICAR-KVK

*Venue: Agriculture Seminar Hall.*

*Date: 21/02/2024 To 24/02/2024*

*Time: 09:00am to 05:00pm*



**ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**

(Unit of Alva's Education Foundation (R), Moodbidri)  
Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi.  
Recognized by Government of Karnataka.  
**A+, Accredited by NAAC & NBA (ECE & CSE)**  
Shobhavana Campus, MIJAR-574225, Moodbidri, D.K., Karnataka  
Ph: 08258-262725; Mob: 722262724, 7026262725, mail: principalaiet08@gmail.com

**Department of Agriculture Engineering and Department of Civil Engineering**

AIET/AG/AY2023-24/01

Date: 19-01-2024

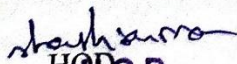
**Circular**

It is hereby informed to all the 3<sup>rd</sup> year (5<sup>th</sup> semester) of Agriculture Engineering and civil engineering students to attend a four-day workshop on the **"Use of Drones in Agriculture: Potentials, Problems, and Policy Needs"** from the 21-02-2024 to 24-02-2024 organized by Department of Agriculture Engineering and Civil Engineering, AIET, Mijar. The resource person is Mr. Ravindra Shetty, DGCA approved pilot and Dr. Naveen. N.E., Scientist (Agronomy) ICAR-Krishi Vigyan Kendra, Brahmavar, Udupi District. In this regard, all the Agriculture Engineering students should attend the event.

Venue: Civil Seminar Hall

Date: 21-02-2024 to 24-02-2024

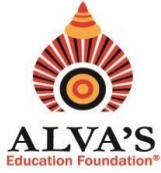
Timings: 9:00 AM to 5:00 PM

  
H.O.D.

Dept. of Agricultural Engineering  
Alva's Institute of Engg. & Technology  
Mijar, Moodbidri - 574225

  
Principal

**PRINCIPAL**  
Alva's Institute of Engg. & Technology,  
Mijar, MOOBBIDRI - 574 225, D.K



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19/01/2024

### Department of Agriculture Engineering

To,

Dr. Peter Fernandes

IQAC Chairman

AIET, MIJAR

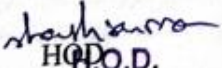
Subject: Request permission to conduct 4 day hands on workshop on Use of Drone in Agriculture:  
Potentials, Problems and Policy Needs

Respected Sir,

We are pleased to inform you that Department of Agriculture Engineering, are planning to organize a four-day workshop from 21th to 24th February 2024. The event will be conducted for Agriculture Engineering students and provide with a Certificate.

We would request you to kindly permit to proceed with the activities planned. Your valuable suggestions and support in this endeavour would be greatly appreciated.

Thank you for your consideration.

  
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Mijar, Moodubidre - 574225

  
Principal  
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**Schedule**

<b><i>Sl. No.</i></b>	<b>Description</b>		<b><i>Page No.</i></b>
1	Day 1 (21/2/2024)	Introduction to drone	1
2	Day 2 (22/2/2024)	Drone Regulations and Licensing	1
3	Day 3 (23/2/2024)	Use of Drones in Agriculture, Addressing Crop Residue Burning and Agricultural software packages for aerial mapping	1
4	Day 4 (24/2/2024)	Limitations of Using Drones in Agriculture and also practically flying the drone and conclusion	2

**Contents**

1. Introduction to drone, Types of drones and their components, Components of the Drone, Flight Dynamics
2. Drone Regulations and Licensing, Livestock Monitoring and Behavior Analysis, Latest Drone of India is Heron Mark-2, Data collection techniques & sensors, Sensors used in Drones, Legal ethical considerations of Drone usage
3. Sensors Used in Agricultural Drones, Types of Drones mounted sensors, Bands for Sensor Imaging Image Processing in Drones, Use of Drones in Agriculture
4. Drone demonstration

## **Organizes a Four-Day Hands-On Workshop on “Use of Drones in Agriculture: Potentials, Problems and policy Needs”**

**Objectives:** 1. To learn about operation and maintenance of drone  
2. Drone usage in Agriculture

### **Day 1**

#### **Inaugural Session**

Department of Agriculture Engineering conducted a workshop on the topic of "Use of Drones in Agriculture: Potentials, Problems, and Policy Needs" by resource person Dr. Naveen N.E., Scientist (Agronomy) ICAR-Krishi Vigyan Kendra, Brahmavar, Udupi District and Mr. Ravindra Shetty, DGCA approved pilot from 21-02-2024 to 24-02-2024. Dr. Shashikumar, Head, Department of Agriculture Engineering welcomed all the guests to the workshop. After inaugural function completed Dr. Naveen started to commence classes on Introduction to drone, Types of drones and their components, Components of the Drone, Flight Dynamics, Axis of Flight, Modes in drone, Safety Precautions for Safe Drone Operations Drone-Safety Essentials and Preflight Checklist during the day 1 class.

### **Day 2**

Mr. Ravindra Shetty commence the Day 2 classes and he delivered about Flight Limitations in Drone/UAS Flying, Maintaining VLOS (Visual Line of Sight), Drone Regulations and Licensing, Livestock Monitoring and Behavior Analysis, Latest Drone of India is Heron Mark-2, Data collection techniques & sensors, Sensors used in Drones, Legal ethical considerations of Drone usage, Privacy Concerns & Data Security, Registration of UAV, Application & Procedure for registration, Drone operation, Use of Drones in Agriculture, Basic components of Agricultural drone, Basic functions of Drones, Essential Drone components and Enhancing Crop Monitoring.

### **Day 3**

Dr. Naveen started the 3<sup>rd</sup> day class on Types of Drones Based on form, features and functions, Electromagnetic Spectrum in Drone Technology, Sensors Used in Agricultural Drones, Types of Drones mounted sensors, Bands for Sensor Imaging Image Processing in Drones, Use of Drones in Agriculture, Addressing Crop Residue Burning and Agricultural software packages for aerial mapping. Potential Benefits & Risks for Society: The use of Drone for Society can offer many advantages, such as Quality Aerial Imaging. Drones can capture high-quality aerial photographs and videos and collect vast amounts of imaging data. These images can be used to create 3D maps & models (A 3D map provides a realistic view of a location that can be utilized by local authorities and planners), which have many beneficial uses. For example, mapping of disaster areas can help rescue teams to be better prepared before entering hazardous situations. Drones can be deployed and operated with relatively minimal experience and cost. They can also fly lower and in more directions than Manned Aircraft, allowing them to access hard-to-reach areas.

### **Day 4**

Mr. Ravindra Shetty conducted the class on Limitations of Using Drones in Agriculture in Indi, Advantages of Using Drones in Agriculture in India and also practically flying the drone demonstrated in front of students. He also highlighted about Privacy: Drones can break a law, an agreement, etc. on the privacy rights of individuals and communities by collecting personal data without their consent or knowledge. Drones can also be used for malicious purposes (showing a desire to cause harm to someone), such as spying, stalking, harassment, blackmailing, or hacking. Privacy concerns can undermine trust that bind people together into a society among people.

Security: Drones can also provide security and surveillance to private companies, sporting events, public gatherings, and other venues. It can be used for monitoring traffic congestion. Security Drones can pose a threat to security by being used for illegal or harmful activities, such as terrorism, sabotage, smuggling, or cyberattacks Drones can also interfere with other aircraft or critical infrastructure by accident or intention.





**Fig. Practically flying the drone**

### **Workshop Outcome**

The workshop focused on giving insight about application of drone in agriculture. It is used initially for military purpose. Since last decade drones are making a marvelous change in agriculture. The utilization of drones in agriculture represents a significant advancement in precision farming practices, pest management, and resource optimization. Despite their limitations, drones have demonstrated their effectiveness in improving productivity, reducing environmental impacts, and enhancing sustainability in agricultural operations. As technology continues drones play an integral role in modernizing the agricultural sector and meeting the challenges of feeding a growing global population.



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## Department of Agriculture Engineering

### Workshop Conducted - Students

Academic Year 2023 - 24

### Registration format

Student's details -

Sl.No	USN.	Student Name	Semester	Signature
1	4AL21AG001	A BHOMIKA REDDY	V	Bhoomika
2	4AL21AG002	ABHISHEK K S	V	Abhishek
3	4AL21AG003	AJITH MALI PATIL	V	Ajith
4	4AL21AG004	AMARNATH I	V	Amarnath
5	4AL21AG005	ANANYA K	V	Ananya
6	4AL21AG006	CHAITRA	V	Chaitra
7	4AL21AG007	CHANDAN B M	V	Chandan
8	4AL21AG009	CHEETHAN P	V	Chethan
9	4AL21AG010	DEEPAK M S	V	Deepak
10	4AL21AG011	DEEPAK R	V	Deepak R.
11	4AL21AG012	H P Y SACHIN	V	Sachin
12	4AL21AG013	HAFEEL NIYAZ	V	Hafeel
13	4AL21AG014	JEEVAN KUMAR H N	V	Jeevan
14	4AL21AG015	K A PREKSHA	V	Preksha
15	4AL21AG016	KEERTHAN ALVA	V	Keerthan
16	4AL21AG017	KEERTHANA M RAM	V	Keerthana





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17	4AL21AG018	KIRAN V	V	
18	4AL21AG019	MANASI ANILRAO PAPPALÉ	V	
19	4AL21AG020	MANSOOR P E	V	
20	4AL21AG021	MONISHA S	V	
21	4AL21AG022	NAGASHREE N	V	
22	4AL21AG023	NAVYA K	V	
23	4AL21AG024	POORNACHANDRA	V	
24	4AL21AG025	PRANEETH	V	
25	4AL21AG026	REGAN AIDON SALDANHA	V	
26	4AL21AG027	SAHANA M GOWDA	V	
27	4AL21AG028	SANTHOSH M	V	
28	4AL21AG029	SAWAN SHETTY	V	
29	4AL21AG030	SHREEHARSHA K S	V	
30	4AL21AG031	SNEHA M	V	
31	4AL21AG032	SUSHA S SHETTY	V	
32	4AL21AG033	SUTHEEJ	V	
33	4AL21AG034	TARUN K	V	
34	4AL21AG035	TEJASKUMAR	V	
35	4AL21AG036	USAMA MEHABOOSAB KOPPAL	V	

Total No. of students participated -

Coordinator

HOD  
H.O.D.

Dept. of Agricultural Engineering  
Alva's Institute of Engg & Technology  
Mijar, Moodbidri - 574225

IQAC Coordinator

IQAC Chairman  
PRINCIPAL

Alva's Institute of Engg. & Technology  
Mijar, MOODBIDRI - 574 225, D.K.





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Shobhavana Campus, Mijar, Moodabidri, Mangalore Taluk, D.K - 574225

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(Accredited by NAAC with A+ Grade)

## Students Feed back

On Four Day Workshop from 21-02-2024 to 24-02-2024

Topic: "Use of Drones in Agriculture: Potentials, Problems and Policy Needs"

Day 3: 23-02-2024 & Day 4: 24-02-2024

Name of the Resource Person: Mr. Ravindra R Shetty

1. Name of the Student: Keerthana M. Ram
2. USN: UFL21AG014
3. Branch/Class: Agriculture Eng 4<sup>th</sup> year.
4. Contact Number: 8971458356
5. Session/Topic handled: Simulation of Drone.
6. The session was useful to me:
 

Strongly Agree	<input checked="" type="radio"/>
Agree	<input type="radio"/>
Disagree	<input type="radio"/>
Strongly Disagree	<input type="radio"/>
7. The trainer handled queries and gave satisfactory replies.
 

Strongly Agree	<input checked="" type="radio"/>
Agree	<input type="radio"/>
Disagree	<input type="radio"/>
Strongly Disagree	<input type="radio"/>
8. The trainer gave sufficient examples/Key points
 

Strongly Agree	<input type="radio"/>
Agree	<input checked="" type="radio"/>
Disagree	<input type="radio"/>
Strongly Disagree	<input type="radio"/>
9. The trainer's communication was clear and audible
 

Strongly Agree	<input checked="" type="radio"/>
Agree	<input type="radio"/>
Disagree	<input type="radio"/>
Strongly Disagree	<input type="radio"/>
10. I would need more input on this topics
 

Strongly Agree	<input type="radio"/>
Agree	<input checked="" type="radio"/>
Disagree	<input type="radio"/>
Strongly Disagree	<input type="radio"/>
11. The content of the session has been covered completely as expected.
 

Strongly Agree	<input checked="" type="radio"/>
----------------	----------------------------------



# ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Sholhasana Campus, Mijar, Mandoladi, Mangalore Taluk, D.K. - 574993

Phone: 08958-909795, Fax: 08958-909796

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Agree  
Disagree  
Strongly Disagree

☒  
☐  
☐

12. I wish to attend further training sessions by the same trainer

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

☐  
☐  
☐  
☐

19. Overall Impact

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

☒  
☐  
☐  
☐

20. Additional areas you want us to cover in this session:

NO

21. What did you most like about this training?

Communicating skills

22. What did you like about this training?

The way of Interaction

23. Your Comment: NO