A PROJECT REPORT ON

DESIGN AND SIMULATION OF AN AUTONOMOUS DRONE FOR AGRICULTURAL MONITORING USING CATIA AND ANSYS.

A project report submitted in partial fulfillment of the requirements for the award of the Degree of

BACHELOR OF TECHNOLOGY

IN

MECHANICAL ENGINEERING

SUBMITTED BY

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CERTIFICATE

This is to certify that the project work entitled –**DESIGN AND SIMULATION OF AN AUTONOMOUS DRONE FOR AGRICULTURAL MONITORING USING CATIA AND ANSYS.** Submitted by **G.SIVA GANESH (21815A0349), M.GUNNAYYA BABU (21815A0325), G.SRINIVAS (21PD5A0309), N.LATHAN CHAND (21815A0360), K.MANOJ KUMAR (21815A0352)** to Avanthi Institute of Engineering and Technology, Makavarapalam, Anakapalle in partial fulfillment for the award of the degree of Bachelor of Technology in Mechanical Engineering, is a bonafide record work carriedout by them, under guidance and supervision during 2020- 2024.

The results embodied in this project work have not been submitted to any other university or institute for the award of any degree.

25/4/24

PROJECT GUIDE
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ABSTRACT

This project is all about creating a special kind of drone that can help farmers keep an eye on their fields more easily. Farmers need good data to make their farms work better, and drones can help with that.

First, we use computer programs like CATIA to design the drone. We think about things like how it flies, how strong it needs to be, how much it can carry, and how easy it is to fix. We make sure it's really good for flying over farms, even when the weather isn't perfect, and that it can move well in tight spaces. We also make sure it can work with different tools for sensing things in the fields.

Once we have the design, we use another program called ANSYS to test it out. We check if it can handle flying in different situations without breaking, and if it's good at staying stable and efficient. We also make sure it doesn't get too hot when it's flying for a long time by material varying steel, Aluminium, Carbon Fiber, Titanium Alloys and E glass are check with wing of drone

Then, we work on making the drone smart. We teach it to fly by itself, avoid obstacles, and follow instructions precisely.

KEY WORDS: DRONE, FARMERS, CATIA, ANSYS