#### A dissertation report on

## "Mechanics of Orbit Using Python(MOPy)"

Submitted to



In partial fulfilment of the requirements for the award of degree

# In Aerospace Engineering

#### Submitted by:

Ramkiran L. Manjunath
17030141AE007 17030141AE009
lramkiranBTECH17@ced.alliance.edu.in manjunathBTECH17@ced.alliance.edu.in

Monisha Patel A. Thoshitha R. Kumar 17030141AE013 17030141AE027 pamonishaBTECH17@ced.alliance.edu.in kuthoshithaBTECH17@ced.alliance.edu.in

Under the guidance of

Dr. Gisa G.S.
Assistant Professor
Department of Aerospace Engineering,
Alliance College of Engineering and Design,
Alliance University
Bengaluru.

Department of Aerospace Engineering Alliance College of Engineering and Design Alliance University, Bengaluru - 562106 Batch - 2017-21 Year - 2021



Private University Estd. in Karnataka State by Act No. 34 of year 2010 Recognized by the University Grants Commission (UGC), New Delhi

#### **CERTIFICATE**

This is to certify that Mr. Ramkiran L. (17030141AE007), Mr. Manjunath (17030141AE009), Ms. Monisha Patel A. (17030141AE012) and Ms. Thoshitha R. Kumar (17030141AE027) students of Aerospace Engineering, Bachelor of Technology 2017-21 batch at Alliance College of Engineering and Design (ACED), Alliance University, Bengaluru has completed the project report titled "Mechanics of Orbit using Python" under my guidance in partial fulfillment for the award of Bachelor of Technology degree in Aerospace Engineering, Alliance University, Bangalore during the year 2020-2021.

Dr. Gisa G.S

Internal Guide
Department of Aerospace Engineering
ACED, Alliance University
Bengaluru

Dr. Velmurugarajan K.

Head of the Department
Department of Aerospace Engineering
ACED, Alliance University
Bengaluru

Dr. Reeba Korah

Interim Dean
Department of Aerospace Engineering
ACED, Alliance University
Bengaluru

**External Viva** 

Name of Examiners

Signature with date

1.

2.

### **DECLARATION**

We, Ramkiran L, Manjunath, Monisha Patel A, Thoshitha R. Kumar students of 8<sup>th</sup> Semester Bachelor of Technology in Aerospace Engineering, Alliance College of Engineering and Design (ACED), Alliance University, Bengaluru, hereby declare that the entire project work entitled "Mechanics of Orbit using Python" is an authentic record of the work that has been carried out independently by us during final year of our B.Tech at ACED, under the esteemed guidance Dr. Gisa G.S, Assistant Professor, Department of Aerospace Engineering, Alliance college of Engineering and Design, Alliance University.

This project report is submitted in partial fulfillment of requirements for the award of the degree of Bachelor of Technology in Aerospace Engineering. The results embodied in this dissertation are original and it has not been submitted in part or full for any degree in any University.

Place: Bengaluru
Date: 17/062021

Ramkiran.L 17030141AE007

Manjunath 17030141AE009

Monisha Patel A. 17030141AE012

Thoshitha R. Kumar 17030141AE027

#### **ACKNOWLEDGEMENT**

The satisfaction that accompanies the successful completion of any task would be incomplete without the mention of the people, who are responsible for the completion of the project and who made it possible.

We take this opportunity to thank our beloved Interim Dean **Dr. Reeba Korah**, ACED, Alliance University, Bangalore for providing excellent academic environment in the college and her never–ending support to the B-Tech program.

We would like to convey our sincere gratitude to **Dr. K. Velmurugarajan**, Head of Department of Aerospace Engineering, ACED, Alliance University, Bangalore.

We would like to thank our internal guide **Dr. Gisa G.S**, Assistant Professor, Department of Aerospace Engineering, ACED, Alliance University, Bangalore for her support and encouragement given to carry out the project.

We would also like to thank our college staff members and well-wishers who directly or indirectly helped, motivated to complete this project successfully.

Lastly, we thank God almighty, our family, professors and friends for their constant encouragement without which this project would not have been possible.