Certificate of Supervisor

This is to certify that work entitled "Co-Application of Metal Oxide Nanoparticle(s) and Plant Growth Promoting Rhizobacteria on the Growth of Groundnut Plant (Arachis hypogaea L.)" is a piece of research work done by Gunja Vasant Hitesh Bhai under my supervision for the degree of Doctor of Philosophy in Department of Microbiology, Faculty of Science, Atmiya University, Rajkot, Gujarat, India

To the best of my knowledge and belief the research work and thesis

- I. Embodies the work of candidate himself / herself,
- II. Has duly been completed,
- III. Fulfils the requirement of ordinance related to Ph.D. degree of the University and
- IV. is up to the standard both in respect of content and language for being referred to the examiner.

Date: 06 01 2025

Place: Rajkot

Dr. Ragini Raghav

Research Supervisor



Certificate

Pre Thesis Submission Presentation

This is to certify that Gunja Hiteshbhai Vasant has made Pre Ph.D. presentation on the research work entitled Co-Application of Metal Oxide Nanoparticle(s) and Plant Growth Promoting Rhizobacteria on the Growth of Groundnut Plant (Arachis hypogaea L.) in the Faculty of Science, Atmiya University, Rajkot on 26/12/2024 before Departmental Research Committee for getting feedback and comments.

This is also to certify that all the suggestions and comments given by the Doctoral Progress Review Committee are incorporated. Moreover the presented research work was appreciated and recommended by all attendees.

Date: 26/12/2024

Place: Rajkot

Centre for Research, Innovation & Translation

Thesis Approval Form

The Viva-Voce of the Ph.D. thesis entitled "Co-Application of Metal Oxide Nanoparticle(s) and Plant Growth Promoting Rhizobacteria on the Growth of Groundnut Plant (Arachis hypogaea L.)" submitted by Gunja Hiteshbhai Vasant (Enrolment No. 191682005) was conducted on 06/01/2025 (Monday) at Atmiya University, Rajkot, Gujarat

Based on the Performance of the Candidate, We, the panel of examiners, recommend that (Please tick any of the following)

- 1. He / She be awarded Ph.D. Degree
 - 2. He / She be awarded Ph.D. Degree with minor modification

Please Suggest Modification

3. The following modifications are to be incorporated in the thesis within one month and viva-voce be re-conducted by the same panel of examiners

Please Suggest Modification

4. He / She should not be awarded Ph.D. Degree

Please mention Reason for Rejection

Date: 06/01/2025

Place: Rajkot

Signature

Research Supervisor

University Nominee

External Examiner