

I-STEM Software Request - Guide Approval Form

User Details

- Name of Researcher: LIMAINLA KICHU
- User Type: ☒ Ph.D. Scholar ☐ Postdoctoral Researcher ☐ Bachelor's ☐ Masters
- Institution Name : NATIONAL INSTITUTE OF TECHNOLOGY
- Institutional Contact No: 03862-282748
- Research Topic: INVENTORY MANAGEMENT IN UNCERTAIN ENVIRONMENT

Software Request Details

- Software Name: MATLAB
- Justification for Software Request: [Provide detailed explanation of how the software supports your research objectives]

Guide/Supervisor Approval

I, DR. PREM PRAKASH MISHRA (Guide/Supervisor Name),

- Confirm that the above-mentioned researcher is affiliated with our institution
- Have reviewed the software request and its relevance to the researcher's academic work
- Approve the software request for research purposes

Approval Confirmation

- I approve the software request
- The software aligns with the researcher's research objectives
- The request meets the institutional research guidelines

Guide/Supervisor Signature: _____

Date: 13/11/2025

Official Stamp/Seal: [Space for Institutional Stamp]

Important Notes

1. This form must be signed and scanned
2. The scanned copy must be uploaded with the software request
3. Electronic signatures are acceptable if from an official institutional email



I-Stem Software Request

Justification for Software request-

MATLAB is required for implementing and analysing the developed fuzzy inventory profit optimization model used in my research.

The fsolve function in MATLAB is critical for obtaining numerical solutions to these equations, ensuring convergence and stability in determining optimal profit and order quantities.

In addition, MATLAB's symbolic and visualization capabilities enable parameter sensitivity analysis and 3-D graphical comparison of total profit, directly supporting the project's objectives on fuzzy-based decision modelling and optimization.