I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Devesh Sharma
- **User Type:** [✓] Ph.D. Scholar [ ] Postdoctoral Researcher [ ] Bachelor's [ ] Masters
- **Institution Name:** Indian Institute of Technology, Roorkee
- **Institutional Contact No:** 01332 284289
- **Research Topic:** Early detection of thermal runaway for sodium ion batteries.

Software Request Details

- **Software Name:** COMSOL Multiphysics
- **Justification for Software Request:** Sodium-ion batteries involve electrochemical reactions, Joule heating, and thermal transport. COMSOL's Battery Design Module allows simultaneous modeling of these phenomena. It can simulate localized heating events (short circuits, overcharging) and track how heat propagates across cells. It Enables testing of cooling strategies, separator materials, and pack geometries to prevent runaway propagation.

Guide/Supervisor Approval

I, Prof. Ankit Bansal,

- 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:

Official Stamp/Seal:

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

forwarded

डॉ. अंकित बंसल/Dr. Ankit Bansal
प्राध्यापक/Professor
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