I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Shivani Dangwal
- **User Type:** [✓] Ph.D. Scholar [ ] Postdoctoral Researcher [ ] Bachelor's [ ] Masters
- **Institution Name** : Doon University, Dehradun
- **Institutional Contact No:** _____
- **Research Topic:** Heterostructures for Hydrogen Evolution Reaction Studies

Software Request Details

- **Software Name:** COMSOL SOFTWARE
- **Justification for Software Request:** COMSOL is essential for HER research because it allows for the precise coupling of electrochemical kinetics, mass transport, and bubble dynamics into a single predictive model. It enables the optimization of catalyst geometries and surface morphologies to maximize hydrogen production efficiency while reducing the need for costly physical prototyping. By simulating the "shielding effect" of hydrogen bubbles and thermal stressors, the software provides critical insights into the durability and performance of electrolyzers at both micro and industrial scales.

Guide/Supervisor Approval

I, Dr. Himani Sharma (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: 06/March/2026

Incharge Head
Department of Physics
UPS, Doon University

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