⚙ INNOVATEX 4.0 – Presidency University

MakerSpace Cluster | Standard Rule Book Format

🧠 Event Overview

Field	Details
Event Name	EMBED4SDG:Smart Solution for a Better Tomorrow
Cluster	MakerSpace Cluster
Event Type	Hackathon
Mode	Offline
Team Size	Team of 2-4 Members
Duration	24 Hours

🎯 Event Task / Objective

A 24-hour hardware hackathon is an exciting event where participants build functional prototypes within a limited timeframe. The tasks will encourage innovation, problem-solving, and teamwork, focusing on designing and implementing hardware-based solutions to real-world problems. Here's how to structure and plan tasks for such an event:

⚙ Design / Technical Specifications

SDG Alignment

The solution must clearly address **at least one UN Sustainable Development Goal (SDG)** with a defined problem statement and impact.

Solution Type

Projects may be **Hardware-based, or Hybrid (Hardware + Software)**.

Technology Stack

Teams may use **AI/ML, IoT, Web/Mobile Apps, Cloud, Blockchain, Data Analytics, Robotics, or AR/VR**.

System Architecture

A **basic architecture diagram** must be provided showing data flow, components, and interactions.

User-Centric Design

The solution should focus on **usability, accessibility, and inclusiveness**, especially for vulnerable or underserved groups.

Prototype Requirement
Teams must present a **working prototype, simulation, or functional demo** (UI, model, circuit, or workflow).

Scalability & Feasibility
The design should demonstrate **real-world feasibility**, scalability, and potential for future expansion.

Data Handling & Security
If data is used, basic considerations for **data privacy, security, and ethical usage** must be explained.

Innovation & Creativity
The solution should showcase **original thinking**, smart integration of technology, or a novel approach to an SDG problem.

Resource Optimization
Designs should emphasize **energy efficiency, cost-effectiveness, and sustainable resource usage**.

Testing & Validation
Teams should explain **how the solution is tested or validated**, including assumptions and limitations.

Documentation & Presentation
A brief **technical explanation, demo walkthrough, and impact summary** must be included in the final presentation.

🧩 General Guidelines

1. Hackathon Duration

• The hackathon will run continuously for 24 hours.

• All projects must be submitted before the deadline. Late submissions will not be accepted.

2. Theme & Domains

● The hackathon is focused on projects aligned with the United Nations Sustainable Development Goals (SDGs).

a. Smart Agriculture & Food Security (SDG 2: Zero Hunger)

b. Health & Wearable Technologies (SDG 3: Good Health & Well-Being)

c. Water Conservation & Sanitation (SDG 6: Clean Water & Sanitation)

d. Renewable Energy & Smart Power Management (SDG 7: Affordable & Clean Energy)

e. Smart Infrastructure & Industrial Automation (SDG 9: Industry, Innovation & Infrastructure)

f. Sustainable Cities & Environmental Monitoring (SDG 11: Sustainable Cities & Communities)

g. Climate Action & Wildlife Protection (SDG 13 & SDG 15: Climate Action & Life on Land)

3. Use of Pre-Built Components

•Participants may use off-the-shelf hardware (e.g., Arduino, Raspberry Pi, sensors).

•All projects must be developed from scratch during the hackathon.

•Pre-written code, pre-assembled hardware, or pre-made designs are not allowed and will lead to disqualification.

4. Hardware & Software Rules

A. Hardware Requirements

• Teams must bring their own hardware components.

• The organizers will not provide additional components. However, a basic prototyping kit (breadboards, wires, etc.) may be available in limited quantities.

B. Software Development

• Teams may use open-source libraries and tools.

• Any usage of pre-built templates must be disclosed during the final presentation.

5. Power & Connectivity

• The organizers will provide power outlets and basic internet access.

• Teams are responsible for ensuring their devices are charged and operational throughout the event.

6. Safety Guidelines

• Participants must follow safety protocols while working with hardware.

• Projects that pose safety risks (e.g., flammable components, hazardous wiring) will be disqualified.

7. Project Development Rules

• Teams must strictly follow the assigned domain and present a working prototype.

• All team members must be actively involved throughout the hackathon.

• Teams must document their project, including: o ○ Problem statement

  o ○ Approach and technologies used

  o ○ Challenges faced and how they were overcome

🔋 Safety Rules

All equipment must comply with safety regulations (battery, wiring, mechanical setup).

Participants must follow event venue safety instructions.

No flammable, high-voltage, or hazardous materials allowed.

Spectators must remain outside designated operational areas.

Projects that pose safety risks (e.g., flammable components, hazardous wiring) will be disqualified.

🧾 Submission Guidelines

✅ A Working Prototype.

✅A 2-3 minute video demonstration of the project.

✅ A short presentation (Powerpoint or PDF) explaining the project.

✅Submission on the designated platform (e.g., GitHub, Google Drive Link).

🧑‍⚖️ Judging Criteria

Criteria	Weightage
Innovation & Creativity	25%
Technical Implementation	25%
Functionality & Working Output	20%
Practicality / Real-World Impact	20%
Presentation & Documentation	10%

💰 Scoring Overview

Parameter	Max Points
Performance / Accuracy	50
Technical Design	25
Safety & Compliance	15
Innovation / Aesthetics	10
Total	**100**

🚫 Penalties & Disqualifications

Violation	Penalty
Late Submission	-10 Points
Unsafe Operation	Immediate Disqualification
Incomplete or Pre-built Work	-20 Points

Violation of Safety Zone	-15 Seconds / -10 Points
Misconduct or Unethical Practice	Permanent Ban

🏆 Awards & Recognition

Category	Prize	Remarks
1st Prize	₹25,000	Winner
2nd Prize	₹20,000	Runner-up
3rd Prize	₹15,000	Technical Merit

🧭 Event Team

Role	Name	Department / Club	Contact
Faculty Coordinator	[Name]	[Dept]	[Email/Phone]
Event Lead	[Name]	[Dept]	[Email/Phone]
Technical Mentor	[Name]	[Club]	[—]
Logistics & Media Lead	[Name]	[—]	[—]

📋 General Instructions

- Follow all university and MakerSpace cluster policies.
- Respect judges, peers, and staff.
- Any form of plagiarism or code reuse will lead to disqualification.
- Decisions of the judges are final and binding.
- Certificates will be awarded to all valid participants.
