MHRD'S INNOVATION CELL (GOVERNMENT OF INDIA)

INSTITUTION'S INNOVATION COUNCIL (Ministry of HRD Initiative)

Report on "Workshop on Design Thinking, Critical Thinking & Innovation Design"

Title of the Session: "Human-Centered Innovation through Design Thinking and Critical Problem Solving for Sustainable Technological Development"

Organized By: Institution's Innovation Council (IIC), Swami Vivekananda University, Kolkata

Mode of Delivery: Off-line
No. of Participants: 57
Duration: 3 Hours
Date: 18th February 2026
Venue/Location: MSB Hall 1A, Swami Vivekananda University, Kolkata

Objectives:

The primary objective of the workshop was to familiarize participants with the principles and applications of Design Thinking and Critical Thinking as essential tools for innovation and entrepreneurship. The program aimed to develop participants' ability to identify real-world challenges, understand user requirements through empathy, define problems accurately, generate innovative solutions, evaluate alternative approaches, and validate ideas before prototype development. Another important objective was to encourage interdisciplinary collaboration, improve creative confidence, strengthen analytical decision-making, and prepare student innovators for Technology Readiness Levels (TRL 1–4). The workshop also intended to motivate participants to document and register their innovations in the YUKTI Innovation Repository while promoting a culture of research, innovation, and startup development within the university.

Theme:

"Human-Centered Innovation through Design Thinking and Critical Problem Solving for Sustainable Technological Development."

The workshop emphasized the importance of combining creativity, empathy, logical reasoning, and systematic innovation processes to create practical, user-oriented solutions capable of addressing contemporary societal and industrial challenges.

Outcome:

The workshop significantly enhanced participants' understanding of Design Thinking methodologies, innovation frameworks, and structured problem-solving techniques. Students developed greater confidence in identifying opportunities, validating innovative concepts, and approaching challenges from a user-centric perspective.

As an outcome of the workshop:

- **More than 10 innovative ideas were successfully validated** using Design Thinking methodologies and aligned with **Technology Readiness Levels (TRL 1–4).**

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- **Five promising innovation teams were shortlisted** for further prototype development and mentoring.
- The shortlisted innovations were recommended for incubation support and further refinement.
- **Validated ideas were deposited and updated in the YUKTI Innovation Repository**, contributing to the university's innovation portfolio.
- Participants demonstrated improved collaboration, analytical thinking, creativity, and entrepreneurial orientation.
- The workshop strengthened the culture of innovation, research, and startup development within the Institution's Innovation Council ecosystem.

Session Highlights:

The workshop commenced with an introduction to the fundamentals of innovation and the growing importance of Design Thinking in solving complex real-world problems. Participants were introduced to the five stages of the Design Thinking framework—Empathize, Define, Ideate, Prototype, and Test—and explored how these stages can be effectively applied in engineering, technology, healthcare, education, and entrepreneurship.

Interactive brainstorming sessions encouraged students to identify local and global challenges, analyze root causes using critical thinking techniques, and generate multiple innovative solutions. Participants worked in multidisciplinary teams where they learned methods of idea screening, feasibility analysis, user need assessment, value proposition development, and innovation validation.

Special emphasis was given to Technology Readiness Levels (TRL 1–4), enabling participants to understand the early stages of innovation development and the pathway from conceptual ideas to functional prototypes. Various case studies of successful innovations and startups were discussed to demonstrate practical implementation of Design Thinking methodologies.

Faculty mentors interacted closely with student teams, providing constructive feedback to improve innovation quality, scalability, and societal impact. Teams refined their concepts through iterative discussions and presented validated solutions before an expert panel for evaluation.

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Glimpse of the event:



General Participants Feedback:

Participants expressed high satisfaction with the workshop, appreciating its practical, activity-based learning approach rather than traditional lecture-oriented sessions. Students found the Design Thinking framework easy to understand and highly applicable to academic projects, research, and startup ideas. The brainstorming exercises, team activities, case studies, and mentor interactions were particularly appreciated for encouraging creativity and critical thinking. Many participants stated that the workshop helped them understand how innovative ideas evolve into practical solutions and motivated them to pursue prototype development and entrepreneurship.

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Faculty members also appreciated the workshop for promoting interdisciplinary collaboration and innovation-oriented learning among students.

Recommendations:

Based on participant feedback and workshop outcomes, it is recommended that similar Design Thinking workshops be organized regularly with extended hands-on prototype development sessions. Future programs may include industry mentors, startup founders, innovation practitioners, and incubation experts to provide real-world exposure. Conducting Design Sprints, Innovation Challenges, Hackathons, and Prototype Demonstration Days would further strengthen experiential learning. Continuous mentoring should be provided to shortlisted teams to help them progress from TRL 1–4 toward higher technology readiness levels. Regular follow-up sessions should also be conducted to monitor the progress of validated ideas, facilitate intellectual property protection, encourage startup formation, and increase the number of innovations registered in the YUKTI Innovation Repository.

Signature of the Convenor with University Seal

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Convener:
Dr. Ranjan Kumar,
Convener, IIC Cell
Associate Professor & Head, Dept. of Mechanical Engineering,
Swami Vivekananda University, Kolkata-700121.

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Workshop on Design Thinking, Critical Thinking & Innovation Design

Date: 18th February 2026

Sl. No.	Name	Department	Reg. No. / Faculty ID	Signature
1	Arif Khan	ME	002-101-2025-19	Arif Khan
2	Subha Tanti	ME	002-101-2025-002	Subha Tanti
3	Md. Salid Sahaji	ME	002-101-2025-004	Md. Salid Sahaji
4	Pabitra Bhunia	ME	002-101-2025-009	Pabitra Bhunia
5	Santu Das	M.E.		Santu Das
6	MD. ERSHAD ANSARI	B.TECH - ME	002-101-2025-011	
7	Avishek Samanta	ME	Faculty	
8	SK Jahangir Alam	ME	"	
9	SANAYAN HALDER	ME	000-101-2025-037	Sanayan Halder
10	Koushik Halder	D.M.E	000-101-2025-038	Koushik Halder
11	Bikash Maity	DME	000-101-2025-011	Bikash Maity
12	SAYANTAN KAMILA	DME	000-101-2025-041	Sayantan Kamila
13	Tofan Ghosh.	"	000-101-2025-057	Tofan Ghosh.
14	Atanu Maji	DME		A. Maji
15	Sagenjit Kumar	DME	000-101-2025-033	Sagenjit Kr
16	Debarghya Chakraborty	DME	000-101-2025-001	Debarghya Chakraborty
17	Santanu Roy	D. ME		Santanu Roy
18	Satyajit Pal	D.ME		Satyajit Pal
19	Krishnakanta Jana	D.ME		Krishnakanta Jana
20	Akash Das	D.ME		Das
21	Debaprasad Das	D.ME	000-101-2025-014	
22	Tushar Bangal	D.ME	000-101-2025-059	Tushar Bangal
23	Bambam Kumar	D.M.E	000-101-2025-009	Bambam Kumar
24	Susanta Biswas	D.M.E	000-101-2025-055	Susanta Biswas
25	Arijit Gayen	D.M.E	000-101-2025-006	Arijit Gayen.
26	Ayan Maity	D.M.E	000-101-2026-032	Ayan Maity.
27	Sunajit Jana	D.M.E	000-101-2025-120	Sunajit Jana
28	SANJOY BHUNIA	D.M.E	000-101-2025-[illegible]	Sanjoy Bhunia
29	SUDIPTA JANA	D.M.E	000-101-2024-[illegible]	Sudipta Jana
30	AVIJIT MANNA	D.M.E	000-101-2024-002	Avijit Manna
31	Amit Dangar	DME	000-101-2024-062	Amit Dangar
32	SUBHAJIT PRAMANIK	DME	000-101-2025-101	Pramanik
33	Satyajit Pramanik	DME	000-101-2025-[illegible]	Satyajit Pramanik
34	SOUMEN MONDAL	D.M.E	000-101-2024-003	Soumen Mondal
35	Pradip Kr Karan	D.M.E	000-101-2024-001	P. Karan
36	Subhadip Chuchhait	D.M.E	000-101-2024-009	S. Chuchhait
37	Joyanta Maity	D.M.E	000-101-2024-[illegible]	J. Maity

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Sl. No.	Name	Department	Reg. No. / Faculty ID	Signature
38	Asit Baran Adak	~~000-101-2024-02~~ 20-101-2024-02		Asit Baran Adak
39	Dipak Sarkar	ME	Faculty	D. Sarkar
40	Pradip Kr Ray	ME	Faculty	
41	Md. Jamal			Md Jamal
42	Dr. Tapas Chakraborty			
43	Jaydip Roy	ME	Faculty	
44	Sekhar Giri	ME	"	
45	Md Abdul latif	ME	"	
46	SANDIP PRADHAN	ME		Sandip Pradhan
47	Susanta Roy	ME		Susanta Roy
48	Sohodeb maity	ME		Sohodeb maity
49	Avnish Gupta	ME	002-101-2025-020	
50	Rohan Ray	ME		Rohan Ray
51	Md Abdus Salava	ME	002-101-2025-101	
52	Shahrukh Shaikh	ME		Shahrukh Shaikh
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