INNOVATEX 4.0 – Presidency University

MakerSpace Cluster | CUBEX – Concrete Cube Testing Event

Event Overview

Event Name: CUBEX – Concrete Cube Testing

Cluster: MakerSpace Cluster

Event Type: Technical Competition

Mode: Offline

Team Size: Up to 3 Members

Standard Cube Size: 150 mm × 150 mm × 150 mm

Submission: 3 Concrete Cubes + Certified Mix Sheet + Workability Video

Cubes must be submitted on the day of competition.

Event Description

CUBEX is a technical competition where participants must independently design, cast, cure, and bring concrete cubes for strength evaluation. The competition evaluates concrete mix design quality, workability, casting precision, surface finish, and compressive strength performance.

Technical Specifications

Concrete Grade Requirement

• Only Medium Strength Concrete (M30 to M40) is allowed.

• Concrete below M30 or above M40 will be disqualified.

Workability Requirement

• Minimum slump value: 100 mm.

• Slump below 100 mm will lead to disqualification.

• Highest compressive strength with minimum 100 mm slump will be declared winner.

Material Specifications

• Aggregates must conform to IS 383:2016.

• Maximum aggregate size: 20 mm.

• Admixtures are permitted but must be declared.

• Reinforcement is strictly prohibited.

• No external strengthening methods allowed.

Casting Requirements

• Three cubes must be cast per team.

• Proper compaction is mandatory.

• Edges must be sharp and intact.

• Surface must be smooth and free from major cracks.

• Incorrect dimensions will lead to disqualification.

Curing Rules

• Maximum curing period: 28 days.

• Cubes must be properly labeled with team details.

• Cubes must be submitted only on the day of competition.

Mandatory Submission

• 3 Concrete Cubes

• Certified Mix Design Sheet (Professor / HOD Signature Required)

• Workability (Slump Test) Video Proof

Testing Procedure

Testing will be conducted using a Compression Testing Machine (CTM).

• Cube will be placed centrally in the CTM.

• Load will be applied gradually as per standard testing procedure.

• Maximum load at failure will be recorded.

• Average strength of three cubes will be calculated.

Evaluation Criteria

• Only cubes within M30 to M40 strength range will be evaluated.

• Minimum slump requirement: 100 mm.

• Highest compressive strength satisfying workability criteria wins.

• Surface finish and casting accuracy will be assessed.

• Mix sheet documentation will be evaluated.

• In case of tie, cost efficiency and better finish will be considered.

Scoring Overview (Total: 100 Points)

• Compressive Strength Performance – 60 Points

• Workability (Minimum 100 mm Slump) – 15 Points

• Surface Finish & Casting Accuracy – 15 Points

• Mix Design Documentation – 10 Points

Disqualification Conditions

• Strength below M30 or above M40.

• Slump below 100 mm.

• Visible cracks or damaged cube.

• Incorrect cube dimensions.

• Use of reinforcement.

• Evidence of pre-tested or manipulated cube.

Suggested Event Flow

1. Registration & Cube Submission

2. Dimension Verification

3. Visual Inspection

4. Compression Testing

5. Score Compilation

6. Result Announcement & Prize Distribution

Awards & Recognition

• 1st Prize – ₹10,000 + Certificate

• 2nd Prize – ₹7,000 + Certificate

• 3rd Prize – ₹5,000 + Certificate

Event Team

Role	Name	Department	Contact

		/ Club	
Faculty Coordinator	Ajay H A	SOE	ajay@presidencyuniversity.in | 9663779663
Event Lead	Karan R	SOE	KARAN.20231CIV0014@presidencyuniversity.in | 7975659760
Technical Mentor			
Logistics & Media Lead			

General Instructions

• Follow all university and MakerSpace Cluster policies.

• Respect judges, peers, and staff.

• Any form of malpractice will lead to disqualification.

• Judges' decisions are final and binding.

• Certificates will be awarded to all valid participants.

Official Note

This Rule Book serves as the official guideline for the CUBEX – Concrete Cube Testing Event under INNOVATEX 4.0, Presidency University. Any updates will be communicated officially.