CMR ENGINEERING COLLEGE
EXPLORE TO INVENT

DRACO-BOTZ

CHAKRAVYUHAM 2.0

NATIONAL ROBOTICS CHAMPIONSHIP

INNOVATE | COMPETE | CONQUER

RET CLUB CMREC

CHAKRAVYUHAM

BIGGER
BOLDER
TOUGHER

ALL-TERRAIN ROBO RACE

OFFICIAL RULEBOOK

TERRAIN TESTS MACHINES, CHARACTER BUILDS CHAMPIONS

SAME
GROUND
BIGGER
MINDS

1 TRACK LAYOUT (ALL-TERRAIN)



TRACK WIDTH (ALL SECTIONS): 35 cm

2 OBJECTIVE

Design and operate a robot to complete the all-terrain obstacle course in the shortest valid time.

Final Time = Race Time + Penalty Time

3 TEAM RULES

Team size: 1–4 members

- One robot per team.
- One designated operator controls the robot.
- Teams must report before their scheduled run.

4 ROBOT SPECIFICATIONS

Robot Size	250 – 300 mm
Maximum Weight	4.000 kg
Supply Voltage	12 V + 5%
Maximum Voltage	12.6 V

- Dimensions include all attachments.
- Weight includes battery and components.
- Robot must pass technical inspection.
- Dangerous or destructive mechanisms are prohibited.

5 TRACK FEATURES

- Dirt terrain
- Gravel
- Sand
- Rocks
- Mud sections
- Ramps and slopes
- Bridges
- Logs
- S-curves
- Hairpin turns
- Zigzag sections
- Uneven surfaces

All compulsory checkpoints must be completed.

6 START & TIMING

- Robot must start behind the start line.
- Movement begins only after the judge's signal.
- Timing starts on the official start signal.
- Timing ends when the entire robot crosses the finish line.
- False starts may result in a restart or penalty.

7 TRACK RULES

- Robot must follow the designated course.
- All checkpoints and compulsory obstacles must be attempted.
- Track cutting is prohibited.
- Participants must not touch the robot without judge permission.
- If the robot completely leaves the track, it must restart from the previous valid checkpoint.

8 PENALTY SYSTEM

Violation	Penalty
Manual Robot Touch	+5 sec
Maximum Manual Touches	4
Boundary / Line Touch	+3 sec
2 Wheels Outside Track	+6 sec
3 Wheels Outside Track	+7 sec
Completely Out of Track	+10 sec
Obstacle Skip	+25 sec
Technical Timeout	+10 sec

9 OBSTACLE SKIP

- Maximum 1 obstacle skip is permitted.
- Skip penalty: +25 seconds.
- A second obstacle skip is not permitted and may result in run cancellation.

10 TECHNICAL TIMEOUT

- One technical timeout of up to 60 seconds may be requested.
- Judge approval is mandatory.
- +10 seconds will be added to the final time.
- Robot resumes from the checkpoint specified by the judge.

11 WINNER

The robot with the lowest final time wins.

Final Time = Completion Time + All Penalties

If a robot cannot finish, ranking may be based on the furthest valid checkpoint reached.

12 TIE-BREAKER

- If two teams record the same final time, a tie-breaker run will be conducted.
- The fastest valid tie-breaker run wins.

13 SAFETY & CONDUCT

- No intentional arena damage.
- No interference with another team's robot or controller.
- Participants must follow all safety instructions.
- Unsafe robots may be stopped immediately.
- Serious misconduct may result in disqualification.

14 JUDGE'S AUTHORITY

The judge has final authority over timing, checkpoints, obstacles, penalties, restarts, safety and results.

THE JUDGE'S DECISION IS FINAL AND BINDING.

BUILT FOR REAL CHALLENGES

DRIVE • DESIGN • SOLVE • REPEAT

A TOUGHER TOMORROW, TOGETHER