1. Event Overview

Desert Dash is a terrain-based robotic racing and endurance event where manually controlled robots must navigate through a desert-inspired obstacle arena. The competition focuses on **traction, stability, torque management, payload handling, and structural robustness.**

Unlike flat-track events, Desert Dash challenges robots with uneven surfaces and obstacles that simulate real-world off-road conditions. Teams are required to design robots capable of maintaining balance, control, and performance under physically demanding terrain conditions.

The event emphasizes **mechanical design, drivetrain efficiency, control precision, and real-time decision-making** rather than speed alone.

2. Eligibility Criteria

The Desert Dash event is open for all participants to ensure fair competition.

- The competition is open only to undergraduate students from recognized universities, institutes, or colleges.
- All participants must have a **valid ID** during the event.
- Each team must consist of **2 to 4 members only.**
- A participant is **not allowed to participate in more than one team** in this event.

Any violation of eligibility rules will result in **immediate disqualification,** irrespective of the competition stage.

3. Team Registration

- Every team is required to register under a **distinct team name**.
- After registration, the **team composition cannot be altered** for any reason.
- Teams must arrive at the event venue **at least 30 minutes prior** to their assigned time slot.
- Late arrivals may face **disqualification or a walkover**, depending on the organizer's discretion.

Teams are encouraged to verify the accuracy of their registration information. Providing false or misleading details may lead to the cancellation of participation.

4. Arena Description

The Desert Dash arena is designed to simulate **rough desert-like terrain** with multiple obstacles that test the robot's off-road capability .

- The arena will consist of a **rectangular track** with a defined start and finish point.
- The surface will include **sand patches, rough textures, slopes, humps, and uneven terrain.**
- Obstacles such as **rollers, pipe bridges, bottle turns, and inclined ramps** may be included.
- The track will be constructed using **wood, sand, stones, pipes, and synthetic materials.**
- Boundaries will be clearly marked, and leaving the track may attract penalties.

The exact layout and obstacle sequence may vary slightly depending on setup conditions and will be explained during the event briefing. The arena is designed to test **traction control, suspension stability, and payload handling.**

5. Robot Specifications

5.1 Size Constraints

- Maximum allowed dimensions:
  30 cm × 30 cm × 20 cm (Length × Width × Height)
- The robot must remain within the specified dimensions **at all times.**
- Any mechanism that expands beyond the allowed size is **strictly prohibited.**

5.2 Weight

- **Maximum total weight (robot + payload): 2.5 kg**
- **Maximum weight of the robot with empty payload box: 2.0 kg**
- **Maximum payload weight: 500 grams (sand).**

Robots exceeding the above limits will be **disqualified during inspection.**

5.3 Payload Specifications

- Each robot must carry a **payload box** mounted securely on the robot.
- Payload box internal dimensions must be: **10cm × 10cm × 5cm (Length × Width × Height)**
- Payload box material thickness recommended to be **3 mm.**
- The payload must consist of **500 grams of sand** only.
- The payload box must remain **open at the top at all the time**.
- **Covering, sealing or enclosing the payload box in any form is strictly prohibited.**

The payload box must be rigidly fixed to the robot. **Detachable containers, lids, covers, nets, tapes or flexible enclosures are not allowed.**

5.4 Power Supply

- Robots must be **self-powered.**
- External power sources are **not allowed.**
- Batteries must be **properly insulated and securely mounted.**
- Maximum **24 Volts** supply is allowed.

5.5 Control & Interference

- Robots must be **manually controlled.**
- Both **wired and wireless control systems** are allowed.
- Teams using wireless control must ensure **no frequency interference** with other robots.

6. Disqualification Criteria

A team may be disqualified if:

- The robot fails to meet size, weight or safety constraints.
- Eligibility or registration rules are violated.
- Unsafe, unethical or destructive behavior is observed.
- Instructions from officials are repeatedly ignored.