LINE FOLLOWER

EVENT DESCRIPTION:

The **Line Follower Event** is a robotics competition where participants design and program autonomous robots to follow a predefined track marked by a black or white line on the surface. The objective is to test the robot's ability to sense the path, make quick decisions at curves or intersections, and maintain speed and accuracy while staying on track. The event evaluates participants' skills in sensor integration, control algorithms, and hardware design, with performance measured based on the robot's completion time, accuracy in following the path, and ability to overcome challenges on the track.

TEAM DETAILS:

1. Each team must have **1–3 members**.
2. Teams must report to the **game field 30 minutes before** their scheduled time.
3. Only **two members** are allowed on the track field to operate/setup the robot.

ROBOT SPECIFICATIONS:

1. The track **path width will be 2.5 cm**. Teams must place and align their sensors appropriately to ensure smooth line detection.
2. The robot must move autonomously and start using a **push button**.
3. **Wireless/wired remote controls are not allowed**.
4. The robot cannot split or separate into more than one unit.
5. Robots must be designed and manufactured to cause **no harm to any person** and cause **no damage to the field**.

6. The robot will be inspected before every game. Robots not made in conformity with the rules will not be allowed to participate.

7. **No battery backup will be provided by the organizers**. Each team must arrange and manage their own power supply.

GAME RULES:

1. The robot must **start behind the starting line** and follow the designated track until reaching the finishing line.
2. Each team gets **up to 2 attempts**. The **fastest time** will be considered as the team's final result.
    - The **second attempt is optional**; teams may choose to keep their first run as final.
3. Teams get **1 minute to set up** their robot before the run.
4. After setup, the robot must be started **at the signal of the timer**.
5. The timer stops when the robot **touches the finishing line**.
6. **Checkpoints**:
    - The field will contain **4 checkpoints including the starting point**.
    - If the robot deviates from the track, it must **restart from the last crossed checkpoint**.
    - The **timer will not stop** during restarts.
    - The **time at which the robot crosses each checkpoint will be recorded**.
    - **Checkpoint times may also be used for determining winners** if needed.
7. **Penalties**:
    - If the robot stops or deviates from the track → **+5 seconds** will be added to the total time.

8. **Maximum two team members** are allowed on the game field.
9. **No reprogramming or modifications** are allowed after setup time.
10. Decisions made by the **review panel are final**.

DISQUALIFICATION:

A team will be disqualified if:

1. The robot does not meet the specifications.
2. A team member intentionally disrupts the game.
3. A team member displays **unsportsmanlike behavior**.

WINNING CRITERIA:

1. The **total timing** of the robot to complete the track will be considered for ranking.
2. In case of a **tie**, the **difficult checkpoint completion time** will be used as the tiebreaker.
3. The **fastest teams** will be awarded with cash prize.