

GKDC CONCEPT CHALLENGE
ORGANISED BY ISNEE MOTORSPORTS

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ABOUT GKDC CONCEPT CHALLENGE

This is the first season of **Electric Go-Kart Concept Challenge** under **Go-kart Design Challenge** (GKDC). Teams those who are willing to take part mainstream GKDC or planning to create an electric go-kart in near future for competing in different national and international electric go-karting events; can take part in this competition.

PURPOSE

- In 2017, the then Transport Minister Shree Nitin Gadkari shocked the automobile industry (and the world) when he announced that he intended for India to move to 100% electric cars by 2030.
- In December 2019, in the Climate Risk Index 2020 released by the Environment Think Tank, Germanwatch, India's rank has worsened from the 14th spot in 2017 to 5th in 2018 in the global vulnerability ladder. This

makes it all the more reason for India to make electric cars and vehicles a priority in the fight against the reliance on fossil fuels.

- The Indian government has set ambitious targets to accelerate the adoption of electric vehicles (EVs). By 2023, it wants all three-wheelers to run on batteries. By 2025, the rule will be applicable to most two-wheelers. Incentives are also being offered to make carmakers develop new EV models and manufacturing components such as lithium-ion batteries and electric motors.
- India's focus on next-gen mobility has definitely taken on legs under the current government, at National Electric Mobility Mission Plan (NEMMP). That puts into perspective the concerted efforts across the aisle for green mobility and electric cars. Since then the country has been willing to adopt a 360-degree approach in order to turn into an EV nation.
- Industry leaders consider electric cars to be a promising option for the Indian audience.

OBJECTIVE

The objectives of the challenge include the following:

- To provide students the knowledge and skills to be successful motorsports engineers in the automotive and racing world.
- Act as a platform for students interested in building an electric go-kart without investing huge amount.
- To assist teams how to design an electric go-kart.
- To improve the level of electric go-kart teams.
- To make student familiar with working of electric vehicle components.
- To prepare student for core industries.

ELECTRIC GO-KART CONCEPT CHALLENGE

EVENT DETAILS

- **Registration Start Date:** 28th May, 2020
- **Registration End Date:** 15th June, 2020
- **Final Event Date(s):** Scheduled on Saturday July 25 and Sunday July 26 according to team slots.
- **Event Hosting Platform:** GoToMeeting (Links will be provided to each team closer to the event).
- **Registration Fees:** INR 3499 + tax
- **Registration Link:** <http://registration.gkdc.in/e-GKDC-Concept-Challengen.aspx>

REGISTRATION PROCEDURE

Team Registration Details

- Registration fee: INR 3499 + 18% GST (or as per tax applicable on invoice date), non-refundable and non-transferable.
- Registration Dates: Opened until 15th June, 2020
- Pre-Registration form: <http://registration.gkdc.in/e-GKDC-Concept-Challenge.aspx>
- Account details for fees payment will be mentioned on the invoice.
- Maximum 3 team can register per institution

Participating Team Members (IMPORTANT INFORMATION)

- Only students from post-secondary institutions, with a graduation date of 2022 and above, are allowed to participate in this event. *(This rule is in full effect. Any team caught violating this clause will be disqualified from the competition).*
- Team must have minimum 5 or maximum 10 participants.
- Team Member Information (TMI) and details will be collected by 1st July, 2020

Certificates

- Registered team members will receive E- Certificates (i.e. electronic participation certificates).

RULES/GUIDELINES FOR PREPARATION

Go-Kart Concept Challenge shall use the following guidelines mentioned in <http://gkdc.in/subpages/Downloads.aspx> to prepare for the competition.

SUBMISSIONS & DEADLINES

All submissions format and deadlines related Go-kart Concept Challenge are:

Activity	Date	Procedure
Pre-Registration	15 th June, 2020	Online form
Team Member Information (TMI)	1 st July, 2020	Online form
Team Management Report (TMR)	5 th July, 2020	Upload in Google Drive
Design Specification Sheet (DSS)	10 th July, 2020	Upload in Google Drive
Drivetrain Design Report (DDR)	15 th July, 2020	Upload in Google Drive
Engineering Design Report (EDR)	18 th July, 2020	Upload in Google

		Drive
Presentation submission on given topic	20 th July, 2020	Upload in Google drive
Finals (Live presentation)	25 th -26 th July, 2020	GoToMeeting

NOTE:

- *Participating teams are required to submit reports and PowerPoint Presentation by the deadlines stated below. Through selected date and time slots, judges will run an online presentation followed by Q&A session and feedback session with participating teams.*
- *Should be a live presentation on gotomeeting platform.*
- *Where team members will be assigned as presenter [giving permissions for screen sharing and all] and the judges as viewers. Everyone can sit inside their homes and can take part in the event.*

AWARDS

Awards will be distributed according to following categories of Electric Go-kart Concept Challenge.

- Overall Event Winner: 1st Place Award+ 30% off on registration of GKDC
- Overall Event First Runner-up: 2nd Place Award +20% off on registration of GKDC
- Overall Event Second Runner-up: 3rd Place Award+ 10% off on registration of GKDC
- Best DSS Award: 50% off on WIP/Workshop [applicable for all members]
- Best EDR Award: 30% off on WIP/Workshop [applicable for all members]
- Best Drivetrain Award: 30% off on WIP/Workshop [applicable for all members]

Winners of the above categories will receive physical awards by post. Category Winners will get e-merit certificate and all participating teams will receive e-participation certificates for their entries.

COMPETITION DETAILS

The purpose of Electric Go-kart Concept Challenge is to provide teams with an opportunity to conceptualize and design an Electric Go-karts which meets the GKDC rulebook Guidelines <http://gkdc.in/subpages/Downloads.aspx> Students will have to prepare documents / presentations for the following categories involved in the challenge:

- I. Team Management Report (TMR)
- II. Design Specification Sheet (DSS)
- III. Engineering Design Report (EDR)
- IV. Drivetrain Design Report (DDR)

- V. Presentation Submission
- VI. Final Session

Team Management Report [20 pts]

The purpose of the Team Management (TMR) Report is to determine whether your team has a defined structure of roles and communication strategy for complete project, execution and completion of tasks.

- Report must contain 2 pages (A4 size) only. It must contain:
 - A list of team members, their roles and departments.
 - A hierarchy tree defining the structure of the team.
 - A communication protocols.
- Appendix: Any supporting documents such as team photos, chat logs etc., when and if necessary.
- Report must include Team Number, Full Team Name and Associated Institution Name on the top of each page on the report.
- Report will be judged on clarity of thought-process and strategy involved in team management

DSS Report [50 pts]

Preparation and submission of a Design Specifications Sheet (DSS). The template will be made available on the website or team login account.

DDR Report [50 pts]

Preparation and submission of an Engineering Design Report (EDR). The template will be made available on the website or team login account

EDR Report [150 pts]

Preparation and submission of an Engineering Design Report (EDR). The template will be made available on the website or team login account.

Presentation Submission

Teams are required to create and submit a presentation on the topic Electrical Go-Karting in Near Future.

The presentation will be judged on the engineering conceptual design presented (content), discussion of thought process, and demonstration, structure and delivery of presentation.

Final Session [230 pts]

The Question and Answer (Q&A) session is the final and most important event of the entire Electric Go-Karting Concept Challenge.

At the final session, judges will have the opportunity to clarify any concerns or queries that arose during the examination and reviewing of post submitted reports and recorded presentation by team participants.

Final session date and time slots may be selected by participating teams as per their availability on 25th or 26th July 2020. The session will include 5 mins sign in and setup time, 15 mins of the Q&A session and 5 mins for documentation feedback. It is highly recommended that all team members registered attend the online session.

SCORING

ACTIVITIES	POINTS
Team Management Report (TMR)	20
Design Specification Sheet (DSS)	50
Drivetrain Design Report (DDR)	50
Engineering Design Report (EDR)	150
Final Session	230
TOTAL	500

NOTE: As per the main go-karting competition, a physical prototype of the go-kart is not required for this challenge, however, it is recommended to present any physical components / assemblies, if available.

SUBMISSION GUIDELINES

- Submission will be done according to timeline given for each activity. Teams must create one email id with registered team name and upload reports as per the deadlines on google drive and email uploaded file links at gkdc@isnee.in.
- Documents must be named correctly and uploaded in the correct format by the deadline.
- Documents must be named as "TeamID_TeamName_DocumentName_Sub-01."
- Example: 201901_IsneeMotorsports_DSS_2020_Sub-01

DOCUMENTS	TEMPLATE AVAILABILITY	FILE FORMAT
TMR	No	.pdf
DSS	Yes	.xls / .xlsx
EDR	Yes	.pdf
DDR	No	.pdf

If submitting a revised document, please use the following format to name the file:

TeamID_TeamName_DocumentName_Sub-02

Example: 201901_IsneeMotorsports_DSS_2020_Sub-02

Guidelines for documents without templates:

Documents which have no templates assigned should contain following:

- Header of every page (where applicable) must contain the Team ID, Registered Team Name, Document Name.
- Footer of every page (where applicable) must include Page Number and Total Number of Pages (Example: Page 1/3 if referring to the 1st page out of 3 pages etc.)

PENALTIES

- Late submission of presentation will lead to 10 points penalties from overall score.
- Late submission of any document by 0 to 5 days post-deadline will result in 10 pts deducted per day from the relevant report. Late or no submission of any document till 6th day post-deadline will result in the team's de-registration from the competition and inability to compete at the event. The team will be notified of their de-registration.
- Incorrect naming of files will result in a penalty of 5 pts from that document score.
- Incorrect formatting of files (i.e. excess pages, incorrect header and footer layout for non-template documents, incorrect file type submitted) will result in a penalty of 2 point from that document per infraction.
- No-show at the scheduled Q&A session without prior notification, at least 48 hours before time-slot, shall result in an additional 50 pts deduction from the team's overall score.

QUERIES

Technical Queries at gkdc@isnee.in

Non-Technical queries at info@isnee.in