

**GKDC CONCEPT CHALLENGE  
ORGANISED BY ISNEE MOTORSPORTS**

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## **1. ABOUT GKDC CONCEPT CHALLENGE**

Go-Kart Concept Challenge is a concept category introduced by ISNEE Motorsports under Go-kart Design Challenge (GKDC). Teams registering under this event do not require to fabricate karts for event, they just have to prepare their reports and design the concept of the kart that has to be presented in front of the Judges/Experts online. Being in the design competition teams gain experience from it and learn various techniques of product design and development followed by the exposure to the manufacturing skills of the same for the main event in forthcoming years.

### **1.1. OBJECTIVE**

The objectives of the design challenge include the following:

- To provide students the intense comprehensive learning and technical skills.
- Act as a platform for students interested in building a go-kart without investing huge amount.
- To assist teams how to design a go-kart.
- To improve the excellence level of go-kart teams.
- To make students familiar with working of race car and its components.
- To prepare student for core industries.

## **2. GKDC CONCEPT CHALLENGE**

### **2.1. EVENT DETAILS**

- **GKDC concept challenge subdivided into two categories**

**CV Category:** Teams design the karts with engine capacity not more than 150 CC. For more details, refer to 8<sup>th</sup> GKDC Rulebook.

**EV Category:** The maximum power drawn from the battery must not exceed 6kw using maximum of 72V. For more details, follow section D2 in 8<sup>th</sup> GKDC rulebook.

- **Registration Start Date:** 5<sup>th</sup> Jan, 2021
- **Registration End Date:** 10<sup>th</sup> Feb, 2021
- **Final Event Date(s):** Scheduled on 25<sup>th</sup> – 30<sup>th</sup> April, 2021 according to team slots.
- **Event Hosting Platform:** Online (Links will be provided to each team closer to the event)
- **Registration Fees:** ₹7999+18% GST

### **2.2. REGISTRATION PROCEDURE**

- Teams can register themselves on Registration Link given below:  
<http://registration.gkdc.in/e-GKDC-Concept-Challenge.aspx>
- Registration fee: Registration Fee (**₹7999/- + 18% GST**) is to be paid immediately after successful online registration of the team.
- The registration money can be paid through the online payment gateway (2.46% extra convenient charge) or NEFT/IMPS, UPI/Paytm/Google pay etc. (no extra charges)
- Team Members Information can be added in the team account any time after successful fee payment before the final event.

**Note:** A Team can have minimum 5 members while the maximum number of members is limited to 25 (15+10), out of which 15 members can be registered without any extra charges while the other 10 members can only be added with member registration fee of ₹860/- per member.

### 3. EVENT TIMELINE

Activity	Date	Procedure
Registration	5 <sup>th</sup> Jan-10 <sup>th</sup> Feb, 2021	<a href="http://registration.gkdc.in">http://registration.gkdc.in</a>
Registration fee	15 <sup>th</sup> Feb 2021	NEFT/IMPS/UPI/Online Payment Gateway
Webinar (Optional)	20 <sup>th</sup> March, 2021	Online as per guidelines
Engineering Design Report (EDR)	2 <sup>nd</sup> April , 2021	Google Drive
Cost Report	5 <sup>th</sup> April, 2021	Google Drive
Innovation Report	8 <sup>th</sup> April, 2021	Google Drive
Business Plan	10 <sup>th</sup> April, 2021	Google Drive
Final Round	25 <sup>th</sup> – 30 <sup>th</sup> April, 2021	Online as per guidelines

### 4. REPORTS TO BE SUBMITTED

GKDC Concept Challenge shall use the following guidelines mentioned in 8<sup>th</sup> GKDC rulebook available on [www.gkdc.in](http://www.gkdc.in).

#### 4.1. Engineering Design Report:

The Design Report (DR) must not exceed 14 pages including the cover page. One page of the EDR must be dedicated to the various drawings and dimensions while the last page must have the hierarchy of the team. EDR consists of following reports-

- 4.1.1. Design Report –
- 4.1.2. CAE Report
- 4.1.3. DFMEA
- 4.1.4. DVP
- 4.1.5. Gantt chart

**4.2. Cost Report:** The Cost Report must-

- a. Use the standardized Cost Tables available in your account.
  - b. List and cost every part on the prototype vehicle. This includes any equipment fitted on the vehicle at any time during the competition. The cost of any on-board fire suppression system, rain tires, video or radio system, and transponder does not need to be included in the Cost Report.
  - c. Be based on the estimated costs of materials, fabrication, purchased parts, and assembly of the kart. The costs must be calculated as defined in these rules.
  - d. Be based on the actual manufacturing technique used on the prototype.
  - e. Include tooling (e.g. welding jigs, moulds, patterns and dies) for processes requiring it.
  - f. Exclude R & D and capital expenditures (e.g. plant, machinery, hand tools and power tools). There is no maximum cost. Receipts are not required for any items.
- Additional information about the Cost and Manufacturing Event including Cost Tables and other information may be obtained from the team account.
  - For more information regarding cost report follow 8<sup>th</sup> GKDC rulebook page 33 to 36 (Point F7)

**4.3. Innovation Report:**

The Innovation Report (if any) should be prepared taking following points into consideration:

1. Innovation Idea
2. Requirement of Innovation
3. Innovation Design
4. Cost vs Utility
5. Impact on Environment
6. Reliability of the Innovation throughout the Event

Although there is no page limitation on the innovation report but it should be kept as brief as possible without compromising the quality of report. The report must be prepared in IEEE format.

#### **4.4. Business Plan:**

- The objectives of the business plan are to teach participants about the factors that need to be considered when a company embarks on development of a new product.
- These include: cost; identification of market and likely sales volume; profitability; the key features applicable to the selected vehicle concept and target market size.
- For more information regarding Business Plan follow 8<sup>th</sup> GKDC Rulebook page 32 (Point F6)

### **5. FINAL ASSESMENT**

- Team have to give brief presentation for final session which includes presentation slides of cost report, CAE report, innovation report (Optional), Design report and at last the business Plan presentation.

**Note:** Teams have to present their reports one by one,

- The Question and Answer (Q&A) session is the final and most important event of the entire GKDC 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.
- The session will include 5 min sign-in and setup time, 25 min of the presentation and 10 min Q&A session and 5 min for documentation feedback.
- 200 marks of final sessions are subdivided into 50 marks of presentation quality, 50 marks of cost report explanation, 50 marks for Question-Answer session and 50 marks for other reports presentation (business plan etc.).

### **6. SCORING:**

<b>ACTIVITIES</b>	<b>POINTS</b>
Engineering Design Report (EDR)	100
CAE Report	40
Business Plan	80
Cost Report	80

Final Round	200
<b>Total</b>	<b>500</b>

*NOTE: The physical prototype of the vehicle is not required for this challenge.*

## **7. SUBMISSION GUIDELINES**

- Submission will be done according to timeline given for each activity. All the document uploads must be accomplished by the registered mail id only. The uploaded file link (with open sharing permission) must be sent to [gkdc@isnee.in](mailto:gkdc@isnee.in) on or before the given timeline.  
Note: Please don't forget to provide us the access for opening of the submitted Google drive link.
- Documents must be named correctly and uploaded in the correct format. Like: "TeamID\_TeamName\_DocumentName\_Sub-01."

Example: 202101\_ISNEE Motorsports\_EDR\_Sub-01

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

TeamID\_TeamName\_DocumentName\_Sub-02

Example: 202101\_ISNEE Motorsports\_EDR\_Sub-02

## **8. PENALTIES**

- Late submission of any document by 0 to 5 days post-deadline will result in 5 points deduction per day from the relevant report. Late or non-submission of any document till 6<sup>th</sup> day after deadline will result in the team's disqualification from the competition and inability to compete at the event.
- Violation of guideline in submission of particular report will result to penalty of 5 points from total points of that report.
- 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.

## **9. AWARDS**

Awards will be distributed according to following categories of GKDC Concept Challenge.

- Overall Winner CV
- Overall Winner EV
- Overall Runner-up CV
- Overall Runner-up EV
- Best Design (best among all categories)
- Best Innovation (best among all categories)
- Best Business Plan (best among all categories)

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.

Note: The prize money (if any) will be announced after the registration procedure gets over.

## **10. QUERIES**

Technical Queries at [gkdc@isnee.in](mailto:gkdc@isnee.in)

Non-Technical queries [info@isnee.in](mailto:info@isnee.in)