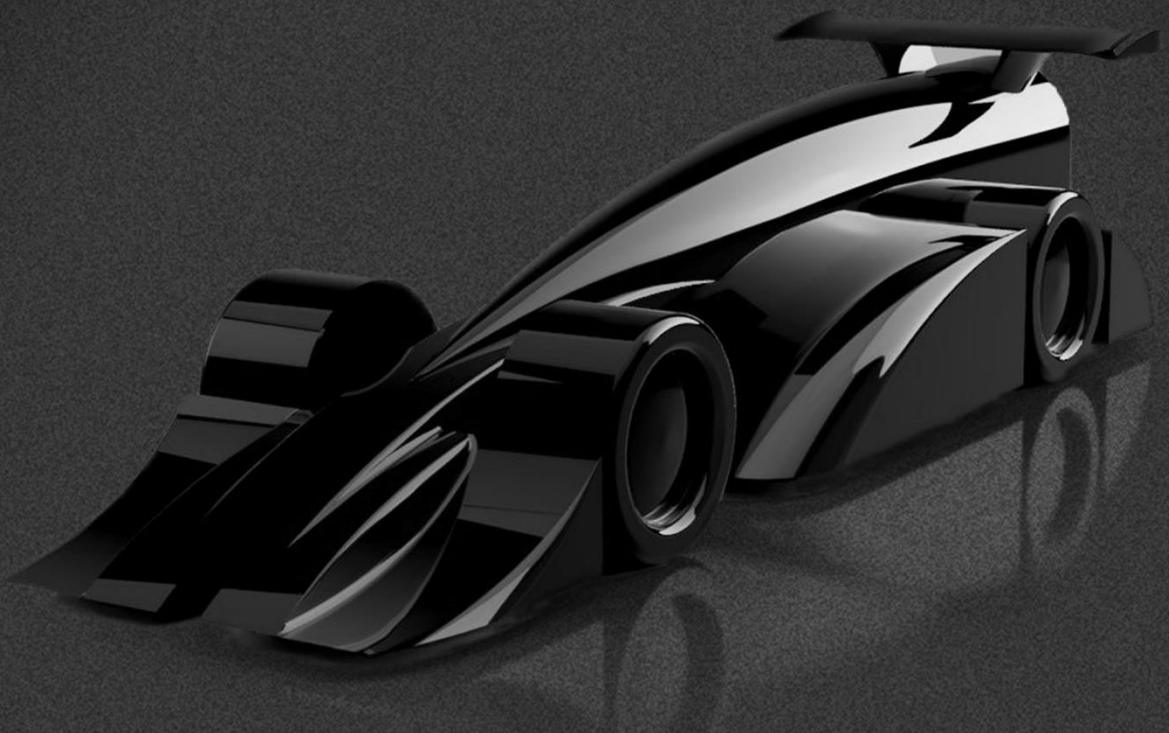
F1 in Schools
INDIA



SEASON 3

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C

COMPETITION REGULATIONS

NATIONAL CHAMPIONSHIP 2019-20

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F1 in Schools™ India

National Competition Regulation 2019-20

CONTENTS

ARTICLE C1 – DEFINITIONS 7

C1.1 NATIONAL CHAMPIONSHIP EVENT 7

C1.2 F1 IN SCHOOLS™ IN-COUNTRY CHIEF (ICC) 7

C1.3 PARC FERMÉ 7

C1.4 COMPETITION PROGRAM 7

C1.5 NATIONAL CHAMPIONSHIP TERMS AND CONDITIONS FOR ENTRY 7

C1.6 KEY PERFORMANCE INDICATORS (KPI'S) 7

C1.7 CAR RACE TIME VALUE 7

C1.8 TOTAL RACE TIME VALUE 8

C1.9 REACTION TIME VALUE 8

C1.10 PROJECT ELEMENTS 8

C1.11 RACE EVENT 8

C1.12 ENGINEERING DRAWINGS 8

C1.13 RENDERINGS 8

ARTICLE C2 – GENERAL INFORMATION 8

C2.1 COMPETING TEAMS 8

C2.2 COMPETITION PROGRAM, TEAM NUMBER BALLOT AND TEAM NAME 9

C2.3 TEAM RESPONSIBILITIES 9

C2.4 ROLE AND RESPONSIBILITY SUPERVISING TEACHER / ADULT 9

C2.5 REGULATIONS DOCUMENTS 10

C2.6 INTERPRETATION OF THE REGULATIONS 10

C2.7 SUPPLEMENTARY COMPETITION REGULATIONS 10

C2.8 DESIGN IDEAS AND REGULATION COMPLIANCE QUERIES 10

C2.9 MANDATORY PROJECT ELEMENTS REQUIRED FOR NATIONAL CHAMPIONSHIP ENTRY 11

C2.10 TEAM REGISTRATION AT THE EVENT 12

C2.11 SUBMISSION OF PROJECT ELEMENTS 12

ARTICLE C3 – COMPETITION AND JUDGING FORMAT 13

C3.1 COMPETITION PROGRAM 13

C3.2 JUDGING CATEGORIES 14

C3.3 JUDGING SCORE CARDS 14

C3.4 NATIONAL CHAMPIONS 14

C3.5 POINT ALLOCATIONS 15

C3.6 CRITICAL REGULATIONS 15

ARTICLE C4 – SPECIFICATION & SCRUTINEERING JUDGING (170 POINTS) 16

C4.1 WHAT WILL BE JUDGED? 16

C4.2 TEAM PREPARATION 16

C4.3 WHO NEEDS TO ATTEND? 16

C4.4 JUDGING PROCESS/ PROCEDURE 17

C4.5 RECTIFYING CRITICAL REGULATION FAILURE 17

ARTICLE C5 – DESIGN & ENGINEERING JUDGING (180 POINTS) 17

C5.1 WHAT WILL BE JUDGED? 17

C5.2 TEAM PREPARATION 18

C5.3 WHO NEEDS TO ATTEND? 18

C5.4 JUDGING PROCESS/ PROCEDURE 18

C5.5 DESIGN & ENGINEERING PORTFOLIO REQUIREMENTS 18

ARTICLE C6 – ENTERPRISE JUDGING (180 POINTS) 19

C6.1 WHAT WILL BE JUDGED? 19

C6.2 TEAM PREPARATION 19

C6.3 WHO NEEDS TO ATTEND? 19

C6.4 JUDGING PROCESS/ PROCEDURE 19

C6.5 ENTERPRISE PORTFOLIO REQUIREMENTS 19

C6.6 PIT DISPLAY SETUP AND PARAMETERS 20

ARTICLE C7 – MARKETING & DIGITAL MEDIA JUDGING (40 POINTS) 20

C7.1 WHAT WILL BE JUDGED? 20

C7.2 TEAM PREPARATION 21
C7.3 JUDGING PROCESS / PROCEDURE 21
C7.4 MARKETING & DIGITAL MEDIA STRATEGY DOCUMENT REQUIREMENTS 21
ARTICLE C8 – VERBAL PRESENTATION JUDGING (180 POINTS) 21
C8.1 WHAT WILL BE JUDGED? 21
C8.2 TEAM PREPARATION 22
C8.3 WHO NEEDS TO ATTEND? 22
C8.4 JUDGING PROCESS / PROCEDURE 22
C8.5 VERBAL PRESENTATION JUDGING PROVISIONS 22
C8.6 VERBAL PRESENTATION VIDEO RECORDINGS 22
ARTICLE C9 – RACING (250 POINTS) 22
C9.1 WHAT RACES WILL BE CONDUCTED? 22
C9.2 TEAM PREPARATION 23
C9.3 WHO NEEDS TO ATTEND? 23
C9.4 REACTION RACE PROCEDURE 23
C9.5 REACTION RACE SCORING 24
C9.6 KNOCK-OUT COMPETITION 25
C9.7 DNF(DID NOT FINISH) RACE RESULTS 26
C9.8 FALSE STARTS 26
C9.9 TRACK, TETHER LINE AND TIMING SYSTEM INFORMATION 26
C9.10 CAR DECELERATION SYSTEM 26
C9.11 CO2 RACE CARTRIDGES 27
C9.12 CAR WEIGHT CHECKS 27
C9.13 JUDGES HANDLING CARS 27
ARTICLE C10 – CAR REPAIRS AND CAR SERVICING 27
C10.1 CAR REPAIRS 27
C10.2 CAR SERVICING 28

ARTICLE C11 – JUDGES 28

C11.1 OVERVIEW 28

C11.2 CHAIR OF JUDGES 28

C11.3 THE JUDGING TEAMS 29

C11.4 JUDGING DECISIONS 29

ARTICLE C12 - AWARDS 30

SCRUTINEERING JUDGING SCORE CARD 31

DESIGN & ENGINEERING SCORE CARD 32

ENTERPRISE SCORE CARD 33

PIT DISPLAY BUILD ASSESSMENT SCORE CARD 34

MARKETING & DIGITAL MEDIA STRATEGY SCORE CARD 35

VERBAL PRESENTATION SCORE CARD 36

SPECIFICATIONS SCORE CARD 37

PROJECT ELEMENT SUBMISSION CHECKLIST 40

Please note: any amendments made prior to the event will be indicated using red underlined text.

ARTICLE C1 – DEFINITIONS

C1.1 National Championship Event

The National Championship event is managed by F1 in Schools™ India and is held over several days to include various programmed social and competition activities. The event aims to provide all participants with an educational and personal development 'Experience of a Lifetime'. Specifically, the competition aims to determine the National Champions of F1 in schools™ India according to the 2019-2020 F1 in schools™ India National Championship Technical and Competition regulations.

C1.2 F1 in Schools™ In-Country Chief (ICC)

Person/s and/or an organization approved by F1 in Schools to manage and co-ordinate F1 in Schools - The Formula 1® STEM Challenge within a specified country or region of the world.

C1.3 Parc fermé

A secure area where all submitted cars and components are held to prevent unauthorized handling, but to allow technical inspections to be conducted by the Judges. (Literal meaning in French of 'closed park').

C1.4 Competition Program

The competition program will detail the schedule of judging activities for all teams.

C1.5 National Championship terms and conditions for entry

This is a document issued by F1 in schools™ India which constitutes an agreement between F1 in Schools, ICC's and supervising teachers regarding participation by teams in the National Championship event.

C1.6 Key performance indicators (KPI's)

These are portions of text that feature on the score cards within a corresponding points range. The KPI's describe the type of evidence the Judges will be looking for in order to score the team appropriately.

C1.7 Car race time value

A 'car race time' value is the actual time taken for a F1 in schools™ India car to travel the track from start to finish, measured from the instant the launch pod fires to when the car breaks the finish line timing beam. In the case of reaction races, the 'car race time' value is calculated as the 'total race time' value displayed on the electronic start gate minus the 'reaction time' value displayed for that race.

C1.8 Total race time value

The 'total race time' value is displayed in the total time field on the electronic start gate at the conclusion of every race. This time is the sum of the 'car race time' value and any 'reaction time' value displayed on the electronic start gate. During time trial races where the automatic launch mode is used there is a zero-reaction time value.

C1.9 Reaction time value

A 'reaction time' value is the time recorded from the instant the five (5) start lights extinguish to the instant the start trigger is activated by the driver. This value is displayed in the reaction time field on the electronic start gate.

C1.10 Project elements

These are any materials and resources that the team presents as part of its entry for any judging activity.

C1.11 Race event

The National Championship competition includes two race events. These are: Reaction Racing and Knock-out Racing.

C1.12 Engineering drawings

Engineering drawings are CAD produced drawings, which along with relevant CAM programs, could theoretically be used to manufacture the fully assembled car by a third party. Such drawings must include all relevant dimensions, tolerances and material information. F1 in Schools engineering drawings must include detail to specifically identify and prove compliance for the virtual cargo and wing surfaces. Engineering drawings can include: orthographic projection, auxiliary projection, section views, isometric projection, oblique projection, perspective and annotated renderings.

C1.13 Renderings

Renderings are images intended to illustrate the three-dimensional form of an object. These can be generated in isometric projection, oblique projection or perspective.

ARTICLE C2 – GENERAL INFORMATION

C2.1 Competing teams

C2.1.1 Each team must consist of a minimum of 3 students to a maximum of 6.

C2.1.2 Only members of the official competing team (maximum 6) are permitted to wear the team's uniform

C2.1.3 During the competition, only the official core team members (maximum of 6) can represent the team at registration, Pit Display set up, Scrutineering review, Verbal Presentation, Design & Engineering judging and Enterprise judging, Critical rule fix, Racing, On-stage

presentations and any direct communication with the Chair of Judges or Event/Competition Directors.

C2.2 Competition program and team name

C2.2.1 F1 in schools™ India will issue the competition program showing all scheduled judging activities, with judging times listed against team competition numbers.

C2.2.2 No teams participating in the challenge are permitted to use any of the Formula One Word Marks (shown below) in their team name, logo, domain name, and/or any Digital media handle. For example “Infinity F1” is not allowed and should be changed to something similar such as “Infinity” or “Team Infinity”. No team will be permitted to use any of the prohibited word marks within their team name when participating in F1 in schools™ India from 2017 onwards.

The F1 IN SCHOOLS Logo, F1, FORMULA 1, FIA FORMULA ONE WORLD

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C2.3 Team responsibilities

C2.3.1 Teams must read the National Championship Technical Regulations carefully to ensure their cars comply with those regulations.

C2.3.2 Teams must read the National Championship Competition Regulations (This document) carefully to ensure that all project elements satisfy these regulations and that they understand the requirements and procedures for all aspects of the competition and judging.

C2.3.3 During the competition it is the team’s responsibility to ensure that team members are present at the correct time and location for all scheduled activities.

C2.3.4 Security of the pit display and its elements is the team’s responsibility during competition.

C2.4 Role and responsibility of supervising teacher / adult.

C2.4.1 All the supervising teachers / adults should carefully read and understand the terms and conditions for entry to the F1 in schools™ India National Championship event, and must have explained all relevant information within this agreement to their team/s.

C2.4.2 It is the primary responsibility of any event accredited supervising teacher/adult to ensure duty of care/well-being for all their student team members, as appropriate for their home country legislation. Any concerns arising during the event in relation to this should be brought to the attention of the F1 in schools™ India Event Directors immediately.

C2.4.3 The event accredited supervising teacher/adult is permitted to be present during any judging activity with their team, but must not interact in any way with the student team, Judges or judging process. Any incident considered inappropriate will be brought to the attention of the Chair of Judges and 10 penalty points may be applied to their associated team.

C2.5 Regulations documents

C2.5.1 F1 in schools™ India issues the regulations, their revisions and amendments made.

C2.5.2 Competition Regulations – (This document). The Competition Regulations document is mainly concerned with regulations and procedures directly related to judging and the competition event. Competition Regulation articles have 'C' prefix.

C2.5.3 Technical Regulations – A document; separate to this one which is mainly concerned with those regulations that are directly related to F1 in schools™ India car design and manufacture. Technical Regulation articles have a 'T' prefix.

C2.6 Interpretation of the regulations

C2.6.1 The final text of these regulations is in English, should any dispute arise over their interpretation, the regulation text, diagrams and any related definitions should be considered together for the purpose of interpretation.

C2.6.2 Text clarification - Any frequently asked questions that are deemed by F1 in schools™ India to be related to text needing clarification will be answered. The question and the clarification will be published to all teams at the same time.

C2.7 Supplementary competition regulations

Other documents may be issued by F1 in schools™ India that provide teams with further logistic and other important event information. Any supplementary regulations will be issued to lead teachers and team managers, where the team manager has supplied F1 in schools™ India with a contact email address. Copies of all supplementary regulations issued will be displayed on a notice board at event registration and available online either via the website or social media pages.

C2.8 Design ideas and regulation compliance queries

Teams are not permitted to seek a ruling from F1 in schools™ India or any competition official or judge before the event as to whether a design idea complies with the regulations. Rulings will only be made by the Judges at the National Championship event. Design compliance to the regulations forms part of the competition. As in Formula 1, innovation is encouraged, and F1 in schools™ India teams may also find, sometimes controversial ways, of creating design features by pushing the boundaries in order to get an extra competitive edge.

C2.9 Mandatory project elements required for National Championship entry

Following is a summary of the mandatory elements required for judging:

- Two (2) identical F1 in schools™ India cars including all optional replacement components
- Design & Engineering Portfolio
- Enterprise Portfolio
- A Pit Display
- A 10-minute Verbal Presentation
- Marketing & Digital Media Strategy document
- An electronic copy of all specified project data
- A set of engineering drawings including orthographic and 3D renders for Scrutineering judging
- Annexure C and Annexure D (If any Sponsors)

Project Elements Submission Checklist which must include the official F1 Model Block holographic stickers

The Deadline for Project Element Submission will be announced prior to the National Championship. Failing to Submit will attract a Penalty Points.

The above list is detailed in the remainder of ARTICLE C2.

C2.9.1 Cars - Each team must produce Two (2) identical F1 in schools™ India cars – two race cars.

C2.9.2 Portfolios - Each team must produce Two (2) 'Hard Copy' 11(10+1) page maximum Design & Engineering portfolio and Two (2) Enterprise portfolio presented in an A3 (or equivalent) sized format. Portfolio will be returned for exhibition within the team's pit display. Refer to ARTICLE C5 & C6 of these regulations along with the Design & Engineering and Enterprise judging score card for portfolio specification and content requirements.

C2.9.3 Pit display - Each team will be provided with a dedicated exhibition style space for set-up of their pit display elements. The specific style and size of this space will be announced in supplementary event competition regulations. Refer to ARTICLE C6 for further pit display specifications and content requirements.

C2.9.4 Verbal Presentation - Teams will be required to deliver a Verbal Presentation in relation to their project to the Judges. The presentation must not last longer than 10 minutes. Teams should bring their own laptop with any slide show or other multimedia files that need to be shown as part of their Verbal Presentation.

C2.9.5 Marketing & Digital Media Strategy Document (M&DM Strategy Document) – 'Hard Copy' submission of Marketing & Digital Media Strategy Document for judging - teams must submit their 4-page Marketing & Digital Media strategy document in pdf format to F1 in schools™ India 4 days prior to the National Competition. Teams are also required to submit a hard copy of Annexure D to F1 in schools™ India. The report section of Annexure D is to be submitted to the sponsor, if any, in the form of a Hard copy. **Please note:** **events@timeofsports.com** should always be put in 'cc' for all communications regarding F1 in schools™ India competition.

C2.9.6 Electronic data - Teams must submit all Engineering and other data specified below on a storage device compatible with the windows operating system e.g. USB memory stick.

Data submitted must include:

- All CAD parts and assembly files Hi-res realistic renders
- Full Design & Engineering and Enterprise portfolios
- Marketing & Digital Media Strategy Document
- All additional Engineering drawings and Renderings submitted for judging
- Any pit display multimedia files.

C2.9.7 Engineering drawings (refer ARTICLE C1.12) and Renderings (refer ARTICLE C1.13) for specification judging - Teams must submit a Hard copy of any engineering drawings and renderings of their car assembly and parts they wish to be referenced by the Engineering and Specification Judges. The drawing set must include an Orthographic Drawing - A 3rd angle orthographic projection, including plan, side and end elevations of the fully assembled car. 3D rendering/s of the final car design must also be included. These elements must be produced using CAD. The orthographic technical drawing should include dimensions and corresponding regulation numbers in order to illustrate regulation compliance. These drawings must be presented on paper only pages no larger than A4 in size. Please note, Engineering Drawings and Renderings will be stored along with your car and spare parts after Registration and Element Submission, so hard covers and / or large bindings are not advisable.

C2.9.8 Laptop for Design & Engineering judging - A laptop with the CAD software used by the team and with all CAD part and assembly data must be brought to the National Championship event. This will be needed during the Design & Engineering judging session so that the team can demonstrate their CAD work and better explain how they engineered their car design.

C2.10 Team registration at the event

C2.10.1 Teams will be required to register with F1 in schools™ India once arriving for the event. At this registration teams will be issued with National Championship accreditation, event programs and detailed welcome pack. The student team manager and supervising teacher for each team should attend. Each team will be given a specific time and location to register prior to their arrival, this time slot must be adhered to.

C2.10.2 F1 in schools™ India 30x15mm car decals must be fitted to each of the two cars by the team following registration and prior to the submission of their project elements.

C2.11 Submission of project elements

C2.11.1 A time and location will be published in the event program for when each team must submit their project elements. This will occur well before judging commences. Following is a list of the elements which must be submitted by each team at this time;

- 1 x nominated Car A identified using a white or black background F1 in schools™ India logo decal with the Car A
- 1 x nominated Car B identified using a white or black background F1 in schools™ India logo decal with the Car B
- Optional Replacement Components
    - rear wing / support structure – maximum of three (3)
    - front wing / support structure and / or nose cone

- maximum of three (3) wheel / wheel support system – maximum of three (3) car sets

- 2x 11 page(1 page front cover + 10 pages of content) Design Engineering Portfolio
- 2 x 11 page (1 page front cover + 10 pages of content) Enterprise Portfolio
- A4 Engineering drawings including orthographic view for Scrutineering judging
- A4 Car renders for Scrutineering judging
- Electronic copy of all specified project data (prior to the National competition)
- Marketing and Digital Media Document.
- Annexure C and Annexure D.

All elements must be submitted complete and ready for judging. Refer to ARTICLE C2.9.

C2.11.2 During project submission, each team will be given the opportunity to check the weight of their cars on the official National Championship scales. If either car being submitted is under the minimum weight, the team will be permitted 15 minutes to fix any issue in order that both cars can be submitted at or above the minimum weight.

C2.11.3 Small colored 'dot' stickers (approximately 17mm in diameter) and supplied by F1 in schools™ India, will be adhered to the underside of each car.

C2.11.4 once cars and replacement components have been submitted, they are considered as being in parc fermé.

ARTICLE C3 – COMPETITION AND JUDGING FORMAT

C3.1 Competition program

C3.1.1 Each team will be judged as per the competition program. The competition program will be formulated by F1 in schools™ India to best and fairly accommodate all judging and other competition activities. Teams will rotate around judging activities as per this program, with each rotation usually of 30 minutes in duration.

C3.1.2 Judging Streams – The competition program will normally be divided into three parallel judging streams (Stream A, Stream B and Stream C), to help ensure quality judging time intervals within the event time constraints. A number of strategies are implemented within the judging process, including judge briefings and judge reviews for cross-moderation to ensure there is consistency across the judging streams.

C3.2 Judging categories

There are six (6) main judging categories, each with its own team of Judges and specified judging activities as detailed in further articles.

- **Specification & Scrutineering Judging**
- **Design & Engineering Judging**
- **Enterprise Judging**
- **Verbal Presentation Judging**
- **Marketing & Digital Media Judging**
- **Racing**

C3.3 Judging score cards

The F1 in schools™ India National Championship judging score cards provide detailed information in relation to what the Judges will be looking for. They include key performance indicators which are referred to by the Judges in awarding points during judging activities. The 2019-2020 National Championship judging score cards can be found in the appendix of this document. READING THE SCORE CARDS CAREFULLY IS IMPORTANT. THEY PROVIDE CRITICAL INFORMATION FOR TEAMS AS TO WHAT NEEDS TO BE PRESENTED FOR EACH JUDGING CATEGORY.

C3.4 National Champions

F1 in schools™ India National Champions perpetual trophy will be awarded to the team with the highest sum total from all judging categories (ARTICLE C3.5). In the case of a tied points score, the team with the highest reaction time score will be determined the winner.

THE CHAIR OF JUDGE'S DECISION IS FINAL.

C3.5 Point allocations

Points will be awarded to teams across six (6) categories with maximum possible scores as detailed in the following table:

National Championship Judging Categories and Point Allocations	
Specification & Scrutineering Judging	
Specifications	**110 points**
Engineering Drawings	**20 points**
Rendering	**20 points**
Quality of Finish and Assembly	**20 points**
Design & Engineering Judging	
Design & Engineering Portfolio	**180 points**
Enterprise Judging	
Enterprise Portfolio Only Assessment	**100 points**
Team Identity	**20 points**
Pit Display	**60 points**
Marketing & Digital Media Judging	
Marketing & Sponsorship Strategy	**20 points**
Digital Media Strategy	**20 points**
Verbal Presentation Judging	
Technique	**80 points**
Composition	**40 points**
Subject Matter	**60 points**
Racing	
Reaction Racing	**150 points**
Knock-Out Racing	**100 points**
TOTAL	**1000 points**

The ICC may at their discretion add point scoring judging categories into the event such as a pressure challenge. This would be completed under controlled conditions during the competition.

C3.6 Critical regulations

C3.6.1 Some of the Technical Regulations have been identified as being critical regulations. If following scrutineering and time given to rectify any infringement (Refer C4.5), a team's race car is judged as being NON-COMPLIANT with any critical technical regulation, they will be INELIGIBLE for the following awards:

- **National Champions**
- **Fastest Car**
- **Best Engineered Car**

C3.6.2 The critical Technical Regulation articles are:

T3.1 / T3.2 / T3.3 / T3.4 / T3.5 / T3.6 / T3.7 / T4.1 / T4.2 / T4.4 / T5.2 / T5.3 / T5.4 / T5.6 /

T7.1 / T7.4 / T8.1 / T8.2 / T8.3 / T8.4 / T8.5 / T8.10 / T10.1 / T10.3 / T10.5 / T10.6

IMPORTANT: Article numbers are from the 2019-2020 National Championship Technical Regulations. Please take extra time to check your cars don't break any of the above critical Technical Regulations.

ARTICLE C4 – SPECIFICATION & SCRUTINEERING JUDGING (170 points)

C4.1 What will be judged?

Specification & Scrutineering judging is a detailed inspection process where BOTH race cars plus the optional replacement components are assessed for compliance with the F1 in schools™ India National Championship Technical Regulations. The Engineering drawings, renderings and quality of finish & assembly will also be assessed. Refer to the scrutineering and specification judging score cards for scoring details.

C4.1.1 Optional replacement components must be identical to those fitted to both cars (Car A & Car B) and must be submitted with the cars. Only the following replacement components are permitted:

Rear wing/support structure – maximum of three (3)

Front wing/support structure and / or nose cone – maximum of three Wheel/wheel support system – maximum of three (3) car sets

Submitted replacement components that are determined by the Judges to not be identical to that which are fitted to the car will not be allowed to be used. Submitted components will remain in parc fermé and only be handed back to the team if needed during racing and / or car servicing.

C4.2 Team preparation

Teams must ensure that their cars (Car A & Car B) and any optional replacement components are complete and ready for specification judging and racing before they are submitted. Notice is also drawn to the critical technical regulations, refer ARTICLE C3.6. Teams must have also submitted an electronic copy of all specified project data such as scrutineering engineering drawings, which may all be referenced. Refer ARTICLE C2.9

C4.3 Who needs to attend?

Specification & Scrutineering judging is a closed activity that no team member or supervising teacher may attend. There will be a specification review session scheduled that must be attended by the team manager, team design and manufacturing engineers as a minimum.

C4.4 Judging process / procedure

Teams begin specification judging with a full allocation of 110 points. Any infringements of the Technical Regulation articles, on either car, will result in points being deducted as detailed in the Technical Regulations.

There are three (3) parts to the specification & scrutineering judging process.

A. Specifications – this is conducted within the confines of parc fermé, where the specification Judges will scrutineer both cars and optional replacement components for compliance to the Technical Regulations. A series of specially manufactured gauges will be used to broadly check compliance. Accurate measuring tools, such as Vernier calipers will then be used to closely inspect any dimensions found to be near to dimensional limits per the initial gauge inspection. Scrutineering commences as cars and optional replacement components are submitted. During specification judging, T3.6, T3.8, T5.2, T5.4, T5.6, T8.6, T8.7, T10.6 (please refer to the 2019-2020 National Championship Technical regulations) will be measured with a full 8g race cartridge inserted into the cartridge chamber.

Scrutineering Judging (Engineering Drawings, Rendering and Quality of Finish & Assembly) - this is conducted within the confines of parc fermé, where the specification Judges will assess both cars and the Engineering Drawings and 3D Renders and Quality of Finish & Assembly as per the Scrutineering score card.

Specification Review Interview – each team will be scheduled a period of time for a review of any specification infringements ruled. The Judges will highlight to the team any regulation infringements and provide necessary explanations. The team is then given opportunity to explain to the Judges why they feel any identified infringements should be considered as permissible. Following the teams explanation, the Judges may choose to reverse their original decision or uphold it. No further discussion will then be permitted.

C4.5 Rectifying critical regulation failure

Teams that have been judged during initial scrutineering to have incurred a critical regulation failure will be provided with a special 20-minute car service time, prior to the commencement of racing. If during this service time the car can be modified so as to comply with the failed regulation(s), the team will then only incur HALF the point's penalty for that infringement, without being classified as having incurred a critical regulation infringement. In case of exceeding the given time limit 5 points will be deducted for every 5 minutes.

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ARTICLE C5 – DESIGN & ENGINEERING JUDGING (180 points)

C5.1 What will be judged?

The Design & Engineering Judges will examine each team 11-page Design & Engineering portfolio so that they can assess the team's car design and use of CAD/CAM technologies along with the quality of manufacture of both race cars submitted. The specific areas to be assessed are:

- **Design Concept**
- **3D Modelling**
- **Application of Computer Aided Analysis**
- **Use of CAM/CNC**
- **Other Manufacturing & Assembly**
- **Research & Development**
- **Testing**
- **Design Process Evaluation**
- **Quality & Clarity**

Refer to the Design & Engineering judging score card for key performance indicator information.

C5.2 Team preparation

A laptop needs to be ready and taken to Design & Engineering judging along with any other items which may help the team explain any engineering or manufacturing concepts. The Design & Engineering Judges will not have access to the team pit display for judging purposes. Preparation should include careful reading of the score card. The key performance indicators for the design process, application of CAD / CAM, analysis and associated data organization, describe what the Judges will be looking for.

C5.3 Who needs to attend?

This judging session must be attended by the team manager and team design and manufacturing engineers as a minimum.

C5.4 Judging process / procedure

Teams will be awarded points as per the key performance indicators shown on the Design & Engineering score card. Judges will review the Design & Engineering portfolio in a 'closed to teams' session programmed before the commencement of scheduled judging sessions. The scheduled Design & Engineering judging interview session will focus on the overall engineering and design of the car. This is an informal interview where Judges will ask the team to demonstrate their CAD / CAM work and query teams on what they have done. The quality of car manufacture and car assembly will be judged during a separate 'closed to teams' session.

C5.5 Design & Engineering Portfolio requirements

The Design & Engineering portfolio must be in a printed 'hard copy' format of A3 or similar size. The portfolio is limited to 11 pages (1 page front cover + 10 pages of content). This can be a single page front cover plus 10 single sided or 5 double sided sheets. If a portfolio comprises more than 11 pages, the Judges will only review the first 11 pages for assessment purposes. There MUST be content related to the use of CAM and CNC manufacturing included in the portfolio and this will be referenced by the Engineering Judges. Content related to the car, design ideas, design development, research, testing and evaluation should be presented within the portfolio.

ARTICLE C6 – ENTERPRISE JUDGING (180 points)

C6.1 What will be judged?

The Enterprise Judges will examine each team 11-page Enterprise Portfolio and Pit Display so that they can assess the following specific areas.

- **Enterprise Portfolio**
  - **Project Management**
  - **Team Work**
  - **Sponsorship & Marketing Summary**
  - **F1 in schools™ India Project Evaluation**
  - **Quality & Clarity**
- **Team Identity**
- **Pit Display**
  - **Content**
  - **Design**
  - **Pit Build Assessment**

Refer to the Enterprise judging score card for detailed point scoring and key performance indicator information.

C6.2 Team preparation

Each team must prepare an Enterprise portfolio and pit display as per ARTICLE C2.9. Most importantly, teams need to read the Enterprise judging score card carefully to ensure that all areas to be assessed are included within the context of their Enterprise portfolio and pit display. It is each team's decision how and where each area is presented. Teams should be mindful of the time constraints of judging when making these decisions.

C6.3 Who Needs to attend?

All team members must be present during the portfolio and display judging session.

C6.4 Judging process / procedure

The Enterprise judging will take place at each teams Pit Display. The Judges will usually introduce themselves then ask the team to stand clear of their display so the Judges can conduct assessments. Team members may be asked questions by Judges to help them find certain content and or seek further explanation. In addition to the scheduled judging session, the Judges will also be given time to conduct pre-judging and review of each teams Pit Display and Enterprise portfolio. This will be a 'closed to teams' session programmed before the commencement of scheduled judging sessions.

C6.5 Enterprise Portfolio requirements

The Enterprise Portfolio must be in a printed 'hard copy' format of A3 or similar size. The portfolio is limited to 11 pages (1 page front cover + 10 pages of content). This can be a single page front cover plus 10 single sided or 5 double sided sheets. If a portfolio comprises more than 11 pages, the Judges will only review the first 11 PRINTED pages for assessment purposes. There MUST be content related to project management, the team, marketing achievements, F1 in schools™ India project evaluation and quality & clarity.

C6.6 Pit Display setup and parameters

C6.6.1 F1 in schools™ India will provide each team with a self-contained exhibition style display space including integrated lighting and 1 x power supply with 2 plug points and rating configured to the host country format. Teams need to supply any power adaptors they may require. Display spaces are normally of approximate dimensions 2m wide x1m deep x 2.4m high.

C6.6.2 Pit display content should be transported to the competition venue either as delivered freight or arrive at the hotel with the team as hand carried items. If freight is not delivered as instructed in the freighting information released closer to the event a penalty of up to 5 points may be applied at the chair of judge's discretion.

C6.6.3 A time period will be scheduled for when all teams will set-up their pit displays. A time limit of **90 minutes** will be enforced; this will be confirmed in supplementary regulations. F1 in schools™ India reserves the right to apply a penalty of up to 20 points at the discretion of the Chair of Judges for teams that do not complete their set- up within the time limit, do not leave their stand in a safe state and clear their pit and surrounding area of all rubbish.

C6.6.4 No part of the teams completed Pit Display is allowed to protrude beyond the physical dimensions of their allocated pit space. This includes anything that might protrude above the pit space highest point e.g. flags.

C6.6.5 ONLY student team members are permitted to set-up their pit displays. There must be no supervising teacher / adult or other outside assistance, unless deemed by F1 in schools™ India to be a health and safety issue.

IMPORTANT HEALTH & SAFETY: Health and Safety measures must be considered when working on all aspects of your Pit Display. F1 in schools™ India expects teams to produce a risk assessment and method statement to ensure all team members are aware of any risks in the construction of the pit display. This is to also ensure displays are safe for other participants and visitors to the event. F1 in schools™ India reserves the right to apply a penalty of up to 20 points at the discretion of the Chair of Judges for unsafe activity.

C6.6.6 F1 in schools™ India and / or the Chair of Judges may instruct a team to take action to reduce noise or remove display inclusions deemed to be inappropriate. F1 in schools™ India will instruct teams to remove or alter any display inclusions considered to be a safety hazard.

C6.6.7 Any electrical appliance connected to the power supply must be safe and compatible with the host country power rating.

ARTICLE C7 – MARKETING & DIGITAL MEDIA JUDGING (40 points)

C7.1 What will be judged?

The Marketing & Digital Media Judges will assess each team's maximum 4 page or a maximum 2,000 words (whichever is less) **Marketing and Digital Media Strategy document and Annexure D:**

1. **Marketing & Sponsorship Plan - Outline the team's marketing plan and justify marketing activities in relation to sponsorship.**
2. **Digital Media Strategy - Explain the team's Digital media strategy and how the team intends to implement it.**

C7.2 Team Preparation

Each team must prepare a Marketing & Digital Media document and Annexure D as per ARTICLE C2.9. Most importantly, teams need to read the Marketing & Digital Media judging score card carefully to ensure that all areas to be assessed are included within the context of their document.

C7.3 Judging process / procedure

Marketing & Digital media judging will take place during the National Championship. If required the judges will visit the team at the pit display for a simple Q&A related to sponsorship and marketing strategy.

C7.4 Marketing & Digital Media Strategy Document Requirements

The Marketing & Digital Media strategy document must be formatted in A4 or similar size. The document is limited to 4 pages or 2,000 words (whichever is less) and **submitted in hard copy prior to the National competition** as per the instructions under ARTICLE C2.9.5. The Judges will only review the first 4 pages or 2,000 words for assessment purposes. There MUST be content relating to the marketing, sponsorship & Digital media strategies included in the document. The judges will also review Annexure D for assessment purpose.

ARTICLE C8 – VERBAL PRESENTATION JUDGING (180 points)

C8.1 What will be judged?

The Verbal Presentation Judges will assess each team 10-minute verbal presentation across the areas of technique, composition and subject matter:

Presentation technique

- **Use of visual aids – effective use of multimedia and / or other 'props'**
- **Team contribution – effective participation by all team members**
- **Dynamic – levels of enthusiasm and energy**
- **Engagement – audience interest and excitement Presentation composition**
- **Concepts clarification – clear and concise explanations where required**
- **Use of time – how effectively was the 10 minutes used**
- **Innovation – detail key innovations related to car design, project management, marketing or any other aspect of the team's project**
- **Collaboration – detail any partnerships or mentoring from outside the team and justify in terms of improving project outcomes**
- **Learning experiences – explain how the F1 in schools™ India project has benefited team members**

Refer to the Verbal Presentation judging score card for detailed point scoring and key performance indicator information.

C8.2 Team preparation

Each team is required to prepare a Verbal Presentation as per the requirements at ARTICLE C2.9. Any multimedia content, slides etc. must be saved on, and shown, using the teams own laptop. Teams need to have all presentation resources tested and ready with them for verbal presentation judging. Most importantly, teams should read the Verbal Presentation judging score card carefully to ensure their verbal presentation features all elements and content that the verbal presentation Judges will be looking for.

C8.3 Who needs to attend?

All team members must be present during the Verbal Presentation judging session.

C8.4 Judging process / procedure

Verbal Presentation judging is scheduled for the same duration of other judging sessions, usually 30 minutes. Teams will be given an opportunity at the start of their time to set- up and test their laptop and any other presentation technologies and resources. The team will inform the Judges when they are ready to begin. The Judges start timing the 10-minute duration and will provide a discreet time warning signal when one minute of presentation time remains. The team will be asked to cease presenting when the time limit has been reached. At the conclusion of the teams' presentation time, the Judges may choose to provide some feedback and / or ask any clarifying questions they feel necessary.

C8.5 Verbal presentation judging provisions

F1 in schools™ India will provide a dedicated private space, such as a small meeting room, where each team will deliver their presentation to the Judges. This space will include a data projector and screen, or LCD screen and multimedia sound system. These will be in fixed positions but usually with sufficient cable length to allow teams some freedom for choosing where they wish to locate their laptop. A single table will also be made available with its use and location in the presentation space being optional.

C8.6 Verbal presentation video recordings

The Verbal Presentations of all teams may be video recorded by F1 in schools™ India for the purpose of judging review and/or post event publicity and promotional purposes by F1 in schools™ India.

ARTICLE C9 – RACING (250 points)

C9.1 What races will be conducted?

The F1 in schools™ India National Championship racing points will be awarded through the staging of two types of race events:

- Reaction Racing – manual launch mode, 4 races in total, Two races in each lane
- Knock-out Competition Races – manual launch mode.

Reaction racing will be split over four races. The single fastest 'car race time' value from all reaction races will determine the Fastest Car Award. The knock-out competition is the last of the scheduled races. Refer to ARTICLE C3.5 and further information following for details on how points are calculated and awarded.

C9.2 Team preparation

C9.2.1 Teams should be familiar with the operation of the F1 in schools™ India Race System. There will normally be a section demonstration track within the venue where teams can practice race starts during free time prior to their scheduled races.

C9.2.2 Manual / driver starts - One or more team members (driver/s) must be appointed for launching of the teams' car using the manual launch method. The driver must stand within the dedicated starting area.

C9.2.3 Finish line management - At least one member of the team must be appointed as responsible for managing the finish line Car Deceleration System or team's own system (refer C9.11), and return of car along the track to the start.

C9.2.4 Start line car staging – one team member may be appointed as being responsible for 'aligning' the car. This team member is only permitted to set the alignment of the car behind the start line, with respect to the launch pod and track under close supervision from the race track Judges. Team members are NOT permitted to interfere in any way with the CO2 cartridge or vertical alignment of the launch pod. This process must be completed within a time limit of 30 seconds. Appointment of this team member is optional. All four wheels must be in contact with the track surface after completion of the car staging time. The race Judges can assist or perform this task for the team.

C9.2.5 Teams must ensure that both cars are race ready, a car service session will be provided before the next race event (refer C10.2). If a teams' car is damaged beyond achievable repair then teams will forfeit any races that the car would have been used for.

C9.3 Who needs to attend?

All team members must be present during their scheduled racing sessions and should assemble at the track start for briefing by the race track Judges at their scheduled time.

C9.4 Reaction race procedure

Cars are launched in manual / driver reaction mode during two racing sessions, each comprising of four (4) races total per team, two (2) races in each lane. The TOTAL RACE TIME displayed and the REACTION TIME displayed for each race is recorded. The reaction races will be conducted as follows:

a) Teams race in order as shown in the competition program. To begin racing, the lowest team number will start in lane 1. All cars will be loaded onto the track, Car A first then Car B

b) One team member to track finish for deceleration system control

c) Judge arms launch pod - SAFETY ON – makes initial launch pod adjustments

d) Race 1 (Car A) - Judge sets cars on track / tether line and inserts CO2 cartridge

e) A team member is then allowed 30 seconds to 'fine tune' the alignment of their car, please see C9.2.4 for more detail

f) Driver and team stand trackside with corresponding lane start trigger

g) Judge checks deceleration system is ready and track is clear for racing, switches launch pod - SAFETY OFF

h) Judge presses the start system reset button – cars are launched by driver pressing start trigger

i) Judge records TOTAL RACE TIME and REACTION TIME displayed on start gate

j) Team member at finish moves car into storage zone at the end of the track

k) Race 2 (Car B) conducted in same lane as above, driver can be inter- changed as nominated

l) Team member at finish control returns car and empty CO2 cartridge along track to the start with minimum handling.

m) Cars removed from track and returned to Parc Fermé

C9.5 Reaction race scoring

All four (4) 'total race times' recorded from the reaction races are considered. The fastest of these four (4) times is used in the following formulae to calculate the points awarded:

- **Fastest 'total race time' = 150 pts**
- **2nd fastest 'total race time' = 143 pts**
- **3rd fastest 'total race time' = 136 pts**
- **Slowest 'total race time' = 25 pts**
- **Base Time = 120% of 3rd fastest 'total race time'**
- **4th fastest and all other teams score points using the following formula:**

  Team Points = 5 + (120 / (Base Time – fastest 'total race time')) x (Base Time – teams fastest 'total race time')

- **Any team with a best 'total race time' that is slower than the base time will score 5 points. To further discriminate between any teams scoring 5 points, a deduction of 1 point will be made for any did not finish (DNF) reaction race result.**

C9.6 Knock-out Competition

Teams will take part in a knock-out (single elimination) competition. Teams will be issued the knock-out competition seeding and competition bracket prior to the race event commencing. **Any team which fails to follow even one critical regulation will not be allowed to participate in the Knock-out Competition.**

C9.6.1 Knock-out competition procedure - During the knock-out competition ONE race car will be used. Cars are launched in manual / driver reaction mode, with one (1) race total, for each round of the knock- out. The team with the fastest 'total race time', as displayed on the start gate, from the race conducted, is the winner of that knock- out round. The knock-out competition will be conducted as follows:

a) Teams race in order of the competition draw. Top of draw in lane 1.

b) Prior to the cars being set on the track for each round, each team will be required to nominate which car (A or B) they will use for their race.

c) One team member to track finish for deceleration system control.

d) Judge arms launch pod - SAFETY ON – makes initial launch pod adjustments.

e) Judge sets all cars on track / tether line and inserts CO2 cartridge

f) A team member is then allowed 30 seconds to 'fine tune' the alignment of their car, please see C9.2.4 for more detail.

g) Driver stands trackside with corresponding lane start trigger.

h) Judge checks deceleration system is ready and track is clear for racing, switches launch pod - SAFETY OFF.

i) Judge presses the start system reset button – cars are launched by driver pressing start trigger.

j) Judge records TOTAL RACE TIME displayed on start gate.

k) Cars removed from track and returned to Parc Fermé.

C9.6.2 Knock-out competition scoring

Points are awarded based on the round of competition a team is eliminated as follows:

- **Eliminated before Pre Quarter Finals=13 pts**
- **Eliminated in Pre Quarter Final = 27 pts**
- **Eliminated in Quarter Final = 50 pts**
- **Eliminated in Semi Final = 73 pts**
- **Eliminated in Final = 87 pts**
- **Knock-out Winner = 100 pts**

C9.7 DNF (Did not Finish) race results

Damage or part separation occurring during a race, before the car crosses the finish line, (e.g. wheel or any other part of the car separating), or a car not crossing the finish line at all, effects in a DNF race result. The Judges may refer to video evidence to verify a DNF result.

C9.8 False starts

C9.8.1 A false start (jump start) occurs when the driver depresses the trigger button before the 5 start gate lights have extinguished. This will be signaled with the outer red light above the lanes illuminating.

C9.8.2 All reaction false starts will incur a 2.5 point penalty and by default forfeit that race.

This penalty does not apply to knock-out racing.

C9.8.3 During knock-out racing – If one team false starts (jump starts), the other team should continue to race as normal. The team who false started forfeits that race, scoring a DNF, and the other team's time is recorded. If both teams false start, the race counts as one of the two (2) runs.

C9.8.4 During any manual / driver starts, if a driver false starts and distracts the other driver the race will be re-run and the driver who caused the distraction will forfeit their race.

C9.8.5 Distractions outside of the race start area will be assessed by the lead track judge and track officials to determine if the race should be re-run. All competitors must, and other spectators will be instructed to, keep noise down to a minimum and to not use flash photography.

C9.8.6 If a false start occurs on race 1 of a racing session or the first race of a knock-out then the car(s) shall be walked to the end of the track and placed in the storage zone.

C9.9 Track, tether line and timing system information

C9.9.1 The F1 in schools™ India Elevated Race Track, supplied by Denford Ltd will be used. The official length of the track, from start line to finish is 20 meters. A monofilament tether line of diameter 0.6mm, fixed at the finish end, passes down the centre of each lane. At the start end the line passes through 90 degrees over a single pulley then attached to a 1.0kg mass suspended above the floor.

IMPORTANT: Teams are not permitted to add anything to the race track until 250mm after the finish line/gate.

C9.9.2 Launch/Timing - The F1 in schools™ India Launch/Timing System will be used for launching cars and timing races and driver reaction times to 1/1000th of a second.

C9.10 Car Deceleration System

C9.10.1 The Car Deceleration System acts to bring cars to rest once crossing the finish line.

C9.10.2 Teams may supply their own deceleration system and the team will be responsible for its management. The Car Deceleration System maximum length is 1500mm. Any system supplied by a team must be simple to setup within 1 minute and must not impede the opposing track lane, race car or the race schedule in any way. Teams must be able to safely reset their deceleration system by the time the start line car staging time is complete. The Judges, at their discretion, can rule any system supplied by a team to be inappropriate and revert to use of the standard deceleration system.

C9.10.3 Deceleration systems must be located a minimum of 250mm after the finish line.

C9.10.4 The final 350mm of the track after deceleration systems is reserved for a storage zone to store raced cars before they are returned to the track start.

C9.11 CO2 Race cartridges

CO2 cartridges to be used for all National Championship competition races will be supplied by F1 in schools™ India. All race cartridges will be kept in a temperature controlled environment of 21 degrees Celsius.

C9.12 Car weight checks

Cars will have their weight checked at the race track prior to commencing a race event. This is done to ensure each car remains at a legal weight during all races. If a car is judged to have gone under weight whilst stored in parc fermé, the Judges will add ballast to return the car weight to what it was when first submitted to parc fermé, without penalty.

C9.13 Judges handling cars

The race Judges will not be required to comply with any special car handling requests made of them by teams. This includes use of any special gloves or tools.

ARTICLE C10 – CAR REPAIRS AND CAR SERVICING

C10.1 Car repairs

C10.1.1 All damage issues and related repair work during racing is at the Judge's discretion and may be referred to the scrutineering Judges and/or Chair of Judges for a final decision.

C10.1.2 No items can be removed or added to a car during racing, other than CO2 cartridges, except in the case of a repair.

C10.1.3 If a race car sustains damage during racing and this damage is ruled to be related to engineering deficiencies and a repair is achievable then a repair will be allowed. If this repair can be undertaken using any of the defined replacement components (including those already part of the car assembly, refer T3.8) in under 30 seconds and be race ready, then no penalty will be applied. The 30 seconds will start when the race official places the damaged car on the official repair table. If the repair takes longer than 30 seconds, doesn't use the defined replacement components or the car is not race ready, then a 5-point penalty will be applied. Please note, the Best Engineered Car award is calculated using a number of scores from the competition, including penalty points incurred through damage during racing. Please see the Awards Matrix in the appendix of this document for more information.

C10.1.4 Engineering deficiencies may include but not limited to damage to car body, wings & wheels as part of racing including damage occurring within the deceleration area.

C10.1.5 Curing time for adhesives must be included in 30 second repairs.

C10.1.6 The Judges may choose to suspend racing in order that repairs can be made.

C10.1.7 if the Judges rule that damaged sustained was not due to engineering deficiencies, immediate repairs will be permitted without penalty.

C10.1.8 No penalty is applied for damage incurred during knock-out racing or a car's final race of any race event.

C10.2 Car servicing

C10.2.1 Teams will be scheduled time to carry out penalty free maintenance on their race cars in the designated car service area. The length of time will be the same as other judging sessions, normally 5 minutes.

C10.2.2 Only team members and Judges are allowed to enter the car service area.

C10.2.3 Tool kits are allowed to be taken into car service. Teams must supply all of their own tools and other necessary resources. Judges will not be able to assist teams with any additional resource requirements.

C10.2.4 Maintenance and alterations can only be made to the front and rear wings, nose cone, tether line guides, wheels and wheel support systems. The car body MUST NOT be modified or substituted.

ARTICLE C11 – JUDGES

C11.1 Overview

There will be six (6) teams of Judges plus officials that form the entire judging panel. Each judging team will have one judge appointed as the Lead Judge. Judges are nominees from ICC's and other education and industry experts invited by F1 in schools™ India. All Judges sign a 'declaration' to ensure there are no conflicts of interest with respect to Judges and the teams they are judging.

C11.2 Chair of Judges

An independent authority appointed by F1 in schools™ India to oversees all judging procedures. The Chair of Judges will determine the final judging decision where a protest has been submitted or other judging issue needs resolution. The Chair of Judges will also preside over a meeting of all Lead Judges to ratify the final results along with nominations and winners for relevant awards.

C11.3 The Judging teams

C11.3.1 Specification & Scrutineering Judges - will assess both race cars plus the rendered images and engineering drawings as per the Specification & Scrutineering score cards.

C11.3.2 Design & Engineering Judges - will assess each team as per the Design & Engineering score card.

C11.3.3 Verbal Presentation Judges – will assess each team as per the Verbal Presentation score card.

C11.3.4 Enterprise Judges – will assess each team as per the Enterprise score card. C11.3.5 Race Judges – will oversee and rule on all race events and any incidents.

C11.3.6 Car servicing officials – will oversee all car service activities and rule on any infringements that may occur.

C11.3.7 Marketing & Digital Media Judges – Will assess each team's use of marketing and Digital media.

C11.4 Judging Decisions

THE DECISION OF THE JUDGES AND OFFICIALS IS FINAL.

ARTICLE C12 – AWARDS

C12 List of awards to be presented

1. National Champions
2. 1st Runners-up
3. 2nd Runners-up
4. Best Engineered Car Award
5. Scrutineering Award
6. Team Sponsorship & Marketing Award
7. Innovative Thinking Award
8. Research and Development Award
9. Fastest Car Award
10. Team Identity Award
11. Outstanding Sportsmanship Award
12. Pit Display Award
13. Verbal Presentation Award
14. Enterprise Portfolio Award
15. Judges Special Award
16. Digital Media Award
17. Knockout Competition Winners
18. Women in Motorsport Award
19. Best Engineered Car Award – Newcomer
20. Scrutineering Award – Newcomer
21. Pit Display Award – Newcomer
22. Newcomer Enterprise Portfolio Award
23. Newcomer Digital Media Award
24. Verbal Presentation Award – Newcomer

Scrutineering Judging Score Card		Team Number: Team Name:		
Scrutineering				
Engineering Drawings	Little or no detail, Little or no annotation	Third angle orthographic projection. Excessive or insufficient detail	Third angle orthographic projection and unrendered isometric view or similar. Parts list/bill of materials. Additional views to show sufficient detail. Regulation compliance shown	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Rendering	Poor quality	Different views, some inconsistencies with final car	Different views. Perfect match to final car including branding. Environment and lighting. High end render technique	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Quality of Finish and Assembly	Reasonable finish with some inconsistencies	Good overall finish quality and assembly with attention to details	Showcase' finish quality on all components. Exceptional attention to detail across all assembly and finishing. Two cars are identical.	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Scrutineering Total =	/60
Notes:				

Design & Engineering Score Card	Team Number: Team Name:			
Design & Engineering Portfolio Only Assessment				
Design Concepts	Single or basic concepts	Multiple concepts with links to research	Several technically inspired ideas for different car components	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
3D Modelling	Basic application. Only final design 3D modelled	Appropriate 3D modelling in development stages. Dimensional constraints of F1 model block considered	Advanced Use of 3D modelling techniques through. Highly detailed modelling Designed for manufacture considerations (i.e. fillets)	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Application of Computer Aided Analysis	No or minimal CFD/FEA analysis shown	Appropriate analysis shown. Results applied to development	Advanced and relevant. Virtual analysis integrated throughout design development	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Use of CAM/CNC	No or minimal evidence of CAM/CNC understanding	Effective use and understating of CAM/CNC processes used	Evidence of excellent understanding of CAM/CNC technologies. Appropriate techniques and processes used to achieve manufacturing goals	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Other Manufacturing & Assembly	No or minimal manufacturing presented. Outsourcing with minimal understanding or justification	Manufacturing process and stages described. Appropriate use of manufacturing resources documented (i.e. tools, finishes, jigs, fixtures)	Details all manufacturing stages and processes. Quality assurance and workplace safety considerations evident. Appropriate outsourcing justified	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Research & Development	No or limited evidence of R&D	Some scientific & mathematical theories and principles considered. Logical research based design developments explained	Relevant R&D throughout the entire product design & development justified from research & test findings	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Testing	No or little evidence of testing	Limited testing. Some evidence of method and outcomes.	Purposeful testing with method and outcomes documented. Evidence of virtual and physical testing on fully assembled car and individual components	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Design Process Evaluation	No or limited design process evaluation	Ideas or process evaluations at different stages	Excellent ongoing idea evaluations linked to improvement actions	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Quality & Clarity	Difficult to follow with basic presentation standard	Clear structure, well organized.	High impact and professional throughout. Consistent and clear organization	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Design & Engineering Portfolio Only Assessment Total =	/180
Notes:				

Enterprise Score Card			Team Number: Team Name:	
Enterprise Portfolio Only Assessment				
Project Management	No or Very Limited project management	Simple management and planning used to guide progress. A range of projects resources identified. Basic team budget	Comprehensive project management. A range of factors considered: e.g. scope, time, resources and project risks. Plan changes discussed. Comprehensive financial management	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Team Work	Limited team work evident	Evidence of effective team work with roles defined	High structured team with clear roles. All team members had effective and critical contributions. Role interactions recognized.	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Sponsorship & Marketing Summary	Limited Evidence	Sponsor/partner hierarchy and roles described. Some evidence of sponsorship ROI	Range of relevant sponsor/partners. Creative activities linked to ROI. Evidence of F1 in Schools program marketing	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
F1 in Schools Project Evaluation	No or Limited project evaluation	Good evaluation of some project areas e.g. team work	Excellent ongoing project enterprise evaluation linked to improvement actions	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Quality & Clarity	Difficult to follow with basic presentation standard	Clear structure, well organized	High impact and professional throughout. Consistent and clear organization	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Enterprise Portfolio Only Assessment Total	/100
Team Identity				
Overall Team Identity	Inconsistent, limited or obscure identity	Effective team identity consistent through various project components e.g. car matches team uniform	Excellent and highly effective team identity. Team 'brand' consistently applied through all project elements	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Team Identity Total	/20
Pit Display				
Pit Display Design Process	Limited evidence of design process	Some ideas & justification of design. Some consideration of constraints e.g. freight packing	A range of ideas, clearly justified creative final design. Evidence of development considering factors e.g. team identity, budget, sustainability and time constraints	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Pit Display Content	Repetition of Portfolio contents. Disorganized layout	Clear and effective presentation and messaging. Multimedia used to enhance display	Clean, well-organized with high impact. Highly professional with attention to detail. Excellent integration of technology and multimedia	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Pit Display Built Assessment	Please See Pit Display Build Assessment Score Card			
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Pit Display Total	/60
			Enterprise Portfolio Only Assessment + Team Identity + Pit Display = Enterprise Total =	/180
Notes:				

Pit Display Build Assessment Score Card	Team Number: Team Name:

Pit Display Build Assessment

All teams will start with a full allocation of 20 points. Points may be deducted as per the criteria below

Heading	Penalty	Assessment Details	Notes	Points
Freight C 6.6.2	-5	Pit Display content should be transported to the competition venue either as delivered freight or arrive at the hotel with the team as hand carried items. If freight is not delivered as instructed in the freighting information released closer to the event a penalty of up to 5 points may be applied at the chair of judge's discretion.		
Set-Up Time C 6.6.3	5 points per 5 minutes over time rounded up to the nearest 5 minutes	A time period will be scheduled for when all teams will set-up their pit display. A time limit of one and a half hours will be enforced; this will be confirmed in supplementary regulations. F1 in schools™ India reserves the right to apply a penalty of up to 2o points at the discretion of the Chair of Judges for teams that do not complete their set-up within the time limit, do not leave their stand in a safe and clear their pit and surrounding area of all rubbish.		
Pit Display Size C 6.6.4	-5	No Parts of the completed Pit Display is allowed to protrude beyond the physical dimensions of their allocated pit space. This includes anything that might protrude above the pit space highest point e.g. flags. Teams may be instructed by the chair of judges to rectify and infringements. Time taken to rectify outside of the outside of the set-up time limit will incur penalty points as per C 6.6.3.		
Only students team member C 6.6.5	-5	Only student's team members are permitted to set-up their pit displays. There must be no supervising teacher/ adult or other outside assistance, unless deemed by F1 in schools™ India to be health and safety issue.		
Health & Safety C 6.6.5	Up to -20	Health & Safety measure must be considered when working on all aspects of your Pit Display. A penalty of up to 20 points may be applied at the discretion of the chair of Judges.		
			Pit Display Build Assessment =	/20

Notes:

*A team that runs over by 30 seconds would be rounded up to 5 minutes and therefore will incur a 5 point penalty

Please note: These points are migrated onto the enterprise Score Card

Marketing & Digital Media Strategy Score Card		Team number: Team Name:		
Marketing & Digital Media Strategy				
Marketing & Sponsorship Strategy	Limited or irrelevant.	Some planned Marketing activity. Some development of sponsorship strategy explained.	Creative and effective activities linked to marketing, sponsorship & sponsor 'return on investment' (ROI).	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Digital Media Strategy	Limited or irrelevant.	Some development, some impact, some consideration of audience and platforms.	Clear, developed high impact Digital media strategy. Careful Consideration of target audience and suitable platforms.	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Marketing & Digital Media Strategy Total =	/40
Notes:				

Verbal Presentation Score Card			Team Number: Team Name:	
Technique				
Visuals	Little use of aids	Some aids used effectively	Highly professional aids effectively improve communication	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Team Contribution	Minimal team Participation	Good Contributions from most team members	Excellent team work with all members participating effectively	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Dynamic/Energy	Artificial and/or low energy	Speakers generally enthusiastic with lively delivery	Passionate with effective and appropriate levels of liveliness	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Engagement	Minimal engagement	Some audience connections at time	Audience fully engaged and excited throughout presentation	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Technique Total =	/80
Composition				
Concept Clarification	Several concepts lacked clarification	Clear and appropriate concept explanation	Everything presented was understood through excellent explanations	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Time/Presentation	Too fast or ran out of time. No structure presented	Good timing. Balanced topic depth and pace. A basic structure/ outline provided and could be followed by audience	Ran on time or under. Excellent balance of depth for each topic. Clear presentation outline/ overview. Excellent connections between topics and easy for audience to follow	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Composition Total=	/40
Subject				
Innovation	Little Project innovation presented	Project innovation described and justified	Originality. Clever innovations with high positive project impact	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
Collaboration	Little Collaboration discussed	Links with industry or higher education described	Collaborations justified with links to learning and project outcomes	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
F1 in Schools Learning Experience	No real reflections discussed	Good explanations of some learning outcome	A range of personal, life-long learning and career skills acquired and identified as project outcome for a range of team members	
	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	
			Subject Total =	/60
			Technique Total + Composition Total + Subject Total = Verbal Presentation Total =	/180
Notes:				

Specification Score Card

Team Number:

Team Name:

For Clarification on individual regulations, refer to the Technical Regulation

(CO2) - measured with full 8g Co2 cartridge

Initial Scrutineering

Reg.	Regulation overview	Min/Max Quick Guide	Penalty Per car	Car A	Car B	Remarks
ARTICLE T3 - FULLY ASSEMBLED CAR						
T3.1.1	Designed and engineered using CAD/CAM		NA			
T3.1.2	Body manufactured using CNC only	Check unfinished body	NA			
T3.1.3	Race cars identical geometry	visual check	NA			
T3.2.1	Safe Construction - Specification judging	Check T3.2.1	-5			
T3.3	Undefined features	Check T1.1	-6			
T3.4	Total length	Min:170 Max :210	-6			
T3.5	Total width	Max:85	-6			
T3.6	Total height (CO2)	Max:65	-6			
T3.7	Total weight	Min: 50.0g	-6			
T3.8	Track Clearance	Min:1.5	-6			
T3.9	Status During Racing	Nothing Removed	-6			
T3.10	Replacement Components	Identical to fitted				
	Rear wing/support structure	Max: 3	-6			
	Front wing/support structure	Max: 3	-6			
	Wheel/wheel support system	Max: 3 car sets	-6			
ARTICLE T4 – BODY						
T4.1.1	Body Construction	F1 Model Block only	-6			
T4.1.2	F1 in Schools holographic sticker	Must be supplied	-6			
T4.2	Virtual cargo - See T4.2 for dims	Between axles	-6			
T4.3	Virtual Cargo identification	Check Eng. Drawing	-3			
T4.4	Exclusion zones	15mm x width of front wheels	-6			
T4.5	F1 in Schools Logo decal location	T1.12	-6			

Page 1 Notes:

Specification Score Card

Team Number:

Team Name:

For Clarification on individual regulations, refer to the Technical Regulation

(CO2) - measured with full 8g Co2 cartridge

- Initial Scrutineering

Reg	Regulation overview	Min/Max Quick Guide	Penalty Per car	Car A	Car B	Remarks
ARTICLE T5 - CO2 CARTRIDGE CHAMBER						
T5.1	Diameter	Min:19 Max:19.5	-3			
T5.2	Distance from track surface	Min:30 Max:40	-6			
T5.3	Depth	Min:45 Max:58	-6			
T5.4	Max angle of chamber (CO2)	Min:-3° Max:3°	-6			
T5.5	Chamber Safety Zone (CO2)	Min: 3	-3			
T5.6	CO2 cartridge visibility (CO2)	Min: 5mm Top View	-6			
ARTICLE T7 - TETHER LINE GUIDES						
T7.1	Location	2line guides firmly secured	-6			
T7.2	Guide separation	Min:120	-6			
T7.3	Internal diameter	Min:3.5 Max:6	-6			
T7.4	Tether Line guide safety	200g test, safe to race	-3			
ARTICLE T8 – WHEELS						
T8.1	Number and location	4, 2x2	-6			
T8.2	Distance between opposing wheels	Min: 30	-6			
T8.3	Diameter	Min:26 Max 34	-6			
T8.4	Width	Min:15 Max:19 exc. Chamber/fillet	-6			
T8.5.1	Visibility of wheels	Top & Bottom views	-6			
T8.5.2	Visibility of wheels	Side Views	-6			
T8.6	Visibility in front view (CO2)	Max obscured 15mm	-6			
T8.7	Race track contact	All 4 in contact	-2			
T8.8	Rolling surface	Consistent, no tread	-3			
T8.9	Wheel support system	Cylindrical volume	-3			
T8.10	Rotation	Abs. Min rolling incline:2°	-6			

Page 2 Notes:

Specification Score Card

Team Number:

Team Name:

For Clarification on individual regulations, refer to the Technical Regulation

(CO2) - measured with full 8g Co2 cartridge

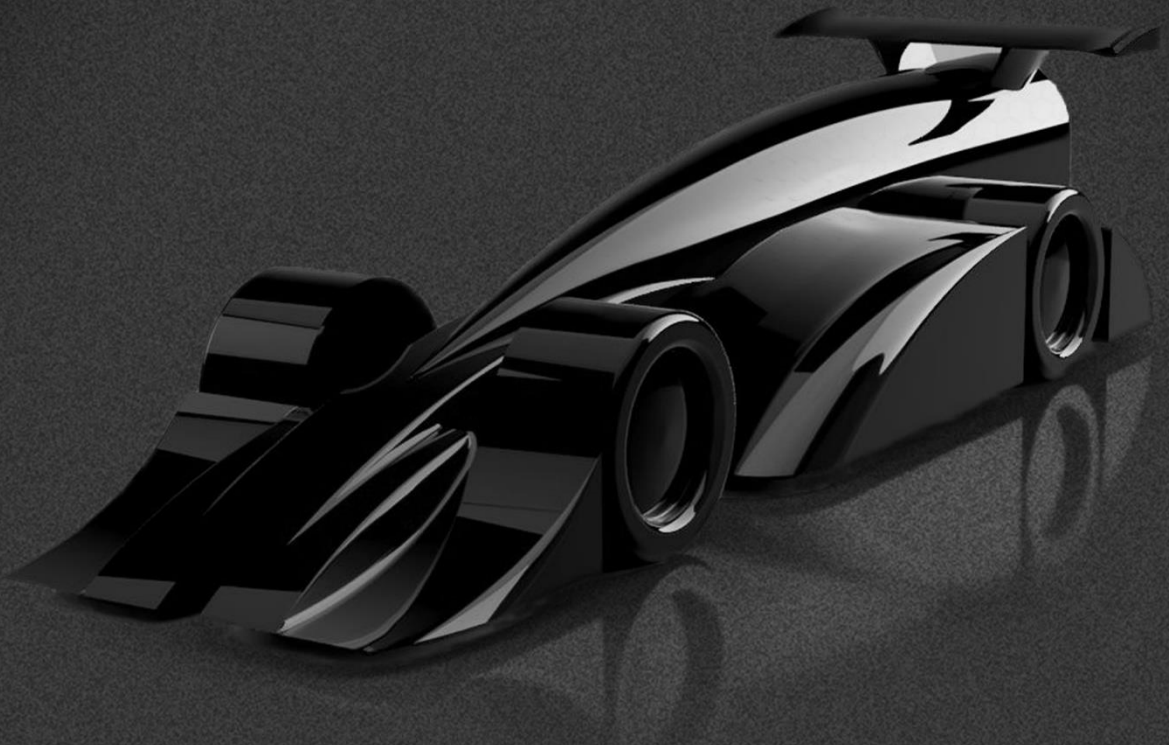
Initial Scrutineering

Reg	Regulation overview	Min/Max Quick Guide	Penalty Per car	Car A	Car B	Remarks
ARTICLE T10 - WINGS AND WINGS SUPPPORT STRUCTURE						
T10.1	Description and placement	F & R & height	-6			
T10.2	Wing identification	Check Eng. Drawing	-6			
T10.3	Front wing location	In front of CL of front wheel	-6			
T10.4	Visibility of front wing	Visible from front	-3			
T10.5	Rear wing location	Behind CL of rear wheel	-6			
T10.6	Rear wing height (CO2)	Min:34	-6			
T10.7.1	Front wing span	Min:40	-3			
T10.7.2	Rear wing span	Min:40	-3			
T10.8.1	Front wing chord	Min:15 Max:25	-2			
T10.8.2	Rear wing chord	Min:15 Max:25	-2			
T10.9.1	Front wing thickness	Min:1.5 Max:6	-1			
T10.9.2	Rear wing thickness	Min:1.5 Max:6	-1			
T10.10	Clear airflow	5mm clear 'air' space	-6			
T10.11	Construction and rigidity	Span constant during racing + rigid	-6			
			TOTAL DEDUCTIONS :			

Page 3 Notes:

Project Element Submission Checklist			
Team Number			
Team Name			
School			
Project Element	**Checked by Team**	**Received by F1 in Schools India**	**Comments: (Completed by F1 in Schools India Officials only)**
2 x 11 Page Design & Engineering Portfolio			
2 x 11 Page Enterprise Portfolio			
A4 Engineering drawings			
A4 Car Renderings			
1 x Car A (Green Dot)			**Weight: g**
1 x Car B (Red Dot)			**Weight: g**
Rear Wing / Support Structure (Optional)			**Max: 3 sets Number Submitted:**
Front Wing / Support Structure (Optional)			**Max: 3 sets Number Submitted:**
Wheel / Wheel Support System (Optional)			**Max: 3 car sets Number Submitted:**
Marketing and Digital Media Document			
Annexure C			
Electronic copy of all specified project data in a pen drive			
Sign - Off By	**Name**		**Signature**
Team Manager:			
F1 in Schools India Official:			

F1 in Schools
INDIA



SEASON 3

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