Savitribai Phule Shikshan Prasarak Mandal's
SKN SINHGAD COLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to PAH Solapur University, Solapur)
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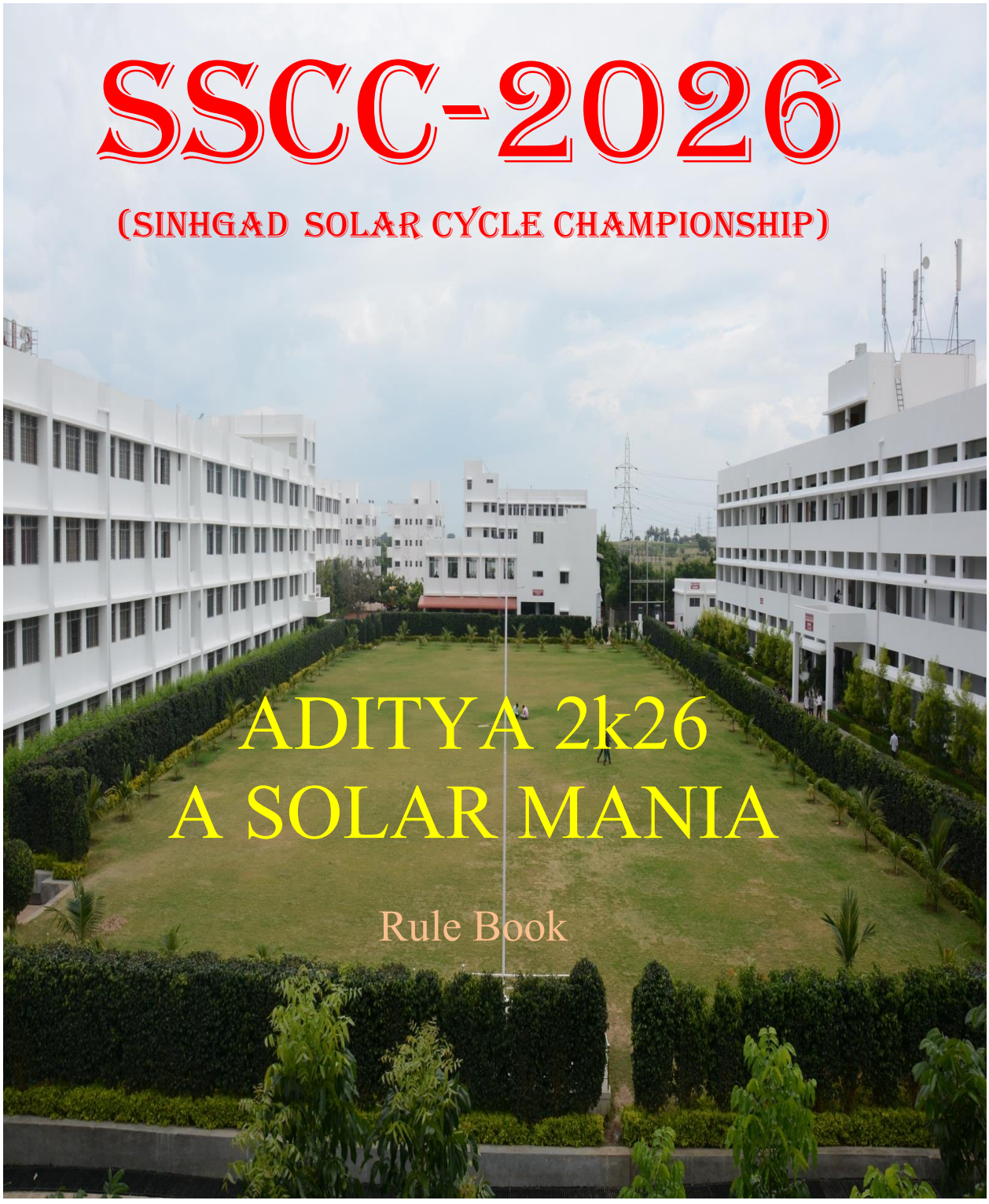
SSCC-2026

(SINHGAD SOLAR CYCLE CHAMPIONSHIP)



ADITYA 2k26
A SOLAR MANIA

Rule Book

Event Date- 27th March 2026

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3.3 Points allocated

SECTION 1

1.1 Introduction

1.1.1 About us

SKN Sinhgad College of Engineering, Pandharpur was established under the able and dynamic leadership Prof. M. N. Navale with an objective of providing quality education in the field of engineering, Management, Computer and school education, Kindergarten onwards.

All the institutes under the SKN Sinhgad College of Engineering are recognized by the concerned statutory authority and meticulously meets the norms and standards laid down by them.

SKN Sinhgad College of Engineering has handpicked eminent personalities from the field of education and industry as members of the management committee who are committed to provide necessary guidance on academic and professional fronts from time to time.

To serve the interest of the student's community as well as the corporate and industrial sectors SKN Sinhgad College of Engineering maintains a close liaison with the industry and other leading organizations. There are experts from different fields contributing their valuable experience to build the institution as a place of learning and discipline.

Entrusted by society to create a sustainable world and enhance the global quality of life, engineers serve competently, collaboratively, and ethically.

SECTION 2

2.1 Overview of Event

2.1.1 Team eligibility and Requirements

This competition is open to graduate and undergraduate students (from first year to final year) as well as diploma students, emphasizing an engineering design focus. A meaningful and inspiring name is essential. Each team must designate a captain and a vice-captain. Each team must have at least one team advisor from their institute, university or industry. Each team requires minimum of 8 members and maximum of 15 members from same institute. Each team member must bring his/her adhar card and

college identity proof at the time of final event. Each team must have a minimum of two drivers. It is highly recommended that all drivers wear fire-resistant underclothing. A driver, while driving, must wear a fire resistant suit that covers the body. A helmet, neck support, and gloves are required for the Vibrant round.

2.1.2 Technical Specifications

Every team must have their own first aid box to be used in emergency during the event. Each cycle must have Fire extinguisher of 1kg. The cycle's weight must not exceed 100 kg (excluding the weight of the driver). If the cycle exceeds this weight limit, penalties will be applied accordingly. Maximum length of the cycle is restricted to 75 inches. Height and width of the solar cycle must not exceed 63 inches and 35 inches respectively. The cycle should be equipped with either Hydraulic braking system or "Brake-by-wire" systems at least on the rear wheel which is operated by a single control. The cycle must be equipped with a red brake light. Every brake light must be easily visible from the rear even in bright sunlight. Teams must design their cycle to operate within the specified parameters: a maximum motor power of 1 kW and a restricted operating voltage of 60 volts throughout the circuit. No restriction on battery uses. There must be one kill switch installed in the cycle. All electrical systems must be appropriately fused. Fusing rate should be capable to fuse all electric and electronic system on spot when tractive system current exceeds its peak value. Various types of PV solar systems are permitted for use, depending on the design. For charging of cycles, Solar Charging stations are preferred.

SECTION 3

The teams have to compete in two rounds, Still round and the Vibrant round. Points are distinctively divided for the two rounds.

3.1 Still Round

All the teams must submit design reports as per the schedule. Corrections (if required) will be suggested by technical committee Aditya2K26.

The design report must encompass chassis design and analysis, braking system design, suspension selection/ design (if applied), and drive-train design, including all relevant calculations. Additionally, it should include CAD/CAE models of the cycle chassis. The cost report should include technical specifications and dimensions of all parts, systems, and sub-systems, along with supplier details. Mechanical and Electrical & Electronic Control system of the cycle should be included in the report. Design consideration for Energy storage system, electric systems, safety features, Solar photovoltaic charging station system should include in the report. More focus must be on innovations in the cycle.

Marking System for Still Round will be as bellow.

S.NO	CATEGORY	POINTS
1.	Design Evaluation	350
2.	Cost Report	150
3.	Innovation	300
4.	Presentation	200
5.	Total	1000

Note: - This Still round is just a qualifier round. The marks obtained in this round will not be considered in the final evaluation. The teams, who qualify this round, will be allowed to participate in the vibrant round. Those teams, who doesn't qualify this round will not be disqualified and will not be able to take part in the vibrant round.

3.2 Vibrant Round

3.2.1 Technical Assessment:

Technical Assessment is done to check whether the cycle is able to participate safely and reliably in the event. T.A will also check for compliance with the Rule book.

There are no points for this round. Each team must qualify this round. The Technical Assessment will progress through several stages, each meticulously examining various aspects of the cycle. At each stage, specialists in the corresponding area will meticulously inspect the cycle. Teams have to clear all the stages of the Technical Assessment. The stages in the technical Assessment will cover Safety, Weight and dimensional test, Solar and other electrical systems, charging unit, Battery, braking and Cost Report and original bills. Only Two members along with driver are allowed per team during T.A. Team. It is team caption's responsibility to bring all the documentation during T.A.

Two attempts will be given during this T.A. It is the inspector's decision whether to allow the team for third attempt or not. Technical inspector's decision will be final. After successfully passing the Technical Assessment (T.A.), no modifications to the cycle will be permitted. Any cycle found to have been modified will be disqualified.

3.2.2 Design Innovation round:

Our judges will thoroughly evaluate the team's design prowess and innovative concepts. They reserve the right to inquire about the cycle's design and any innovative features from any member of the teams.

3.2.3 Dynamic Performance:

To participate in any of the Vibrant events, all cycles must successfully pass the Dynamic Performance round. This event assesses the cycle's straight-line acceleration, from a standstill over a 100-meter distance on flat pavement. The cycle must come to a complete stop in a straight line within a maximum distance of 10 meters after the brakes are applied. Each cycle will have three attempts to pass the brake test.

3.2.4 Precision Driving Challenge:

This round is designed to evaluate the cycle's cornering ability on a flat surface, testing both the cycle's handling capabilities during constant-radius turns and the driver's skill. In this round, cycles are required to navigate through a track designated by the organizers. This round is designed to assess the cycles' handling, cornering, acceleration, and braking capabilities. Cycle should reach the finish line with in minimum time. Teams with least time to reach the finish will get maximum points. In this round teams can get maximum of 200 points. The detailing about the penalties will be announced at the start of round.

3.2.5 Durability Challenge:

The Durability Challenge is meticulously crafted to evaluate the comprehensive efficiency of the cycles. During this event, solar panels, batteries, and motors undergo rigorous testing. This round consists of two stages. A short technical Assessment may be done of each cycle before participating in the Durability Challenge. The lineup of cycles during this event will be determined based on the points earned in the previous rounds. Teams with maximum points will be lined up in the beginning. Teams can use any driver of their choice, from the same registered team. For this Durability Challenge teams has to drive continuously for 3 hours using their manual power and battery power combined. The driver is allowed to use his/ her energy to drive cycle by operation paddle. Only one driver is allowed to drive throughout this round, no change in driver will be allowed. Total number of laps cover will be noted.

3.2.6 Manual performance round

This will be the second Durability test. Manual performance round will check the efficiency of the driver and total cycle system. The cycles have to drive only using manual energy of driver without connecting to batteries or other power saving devices.

3.3 Points allocated for Vibrant round will be as follows.

S.NO	Technical specifications	POINTS
1.	Weight Test	100

2.	Innovation	300
3.	Dynamic Performance Test	200
4.	Precision Driving Challenge	200
5.	Manual round	200
6.	Durability Challenge	500
	Total	**1500**