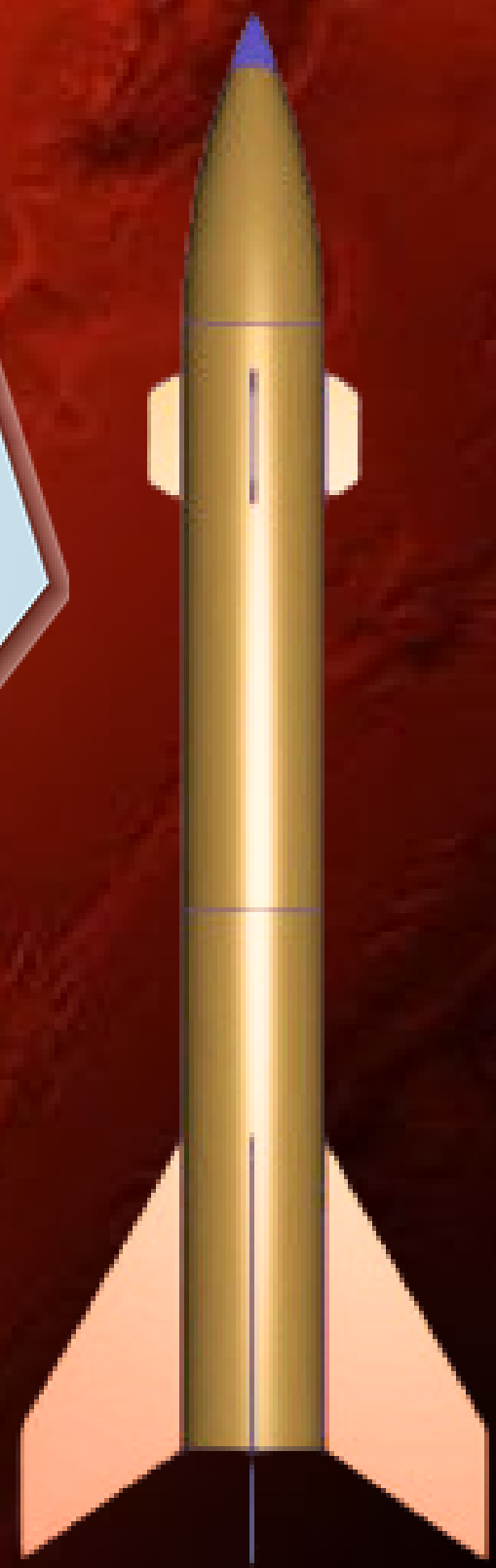
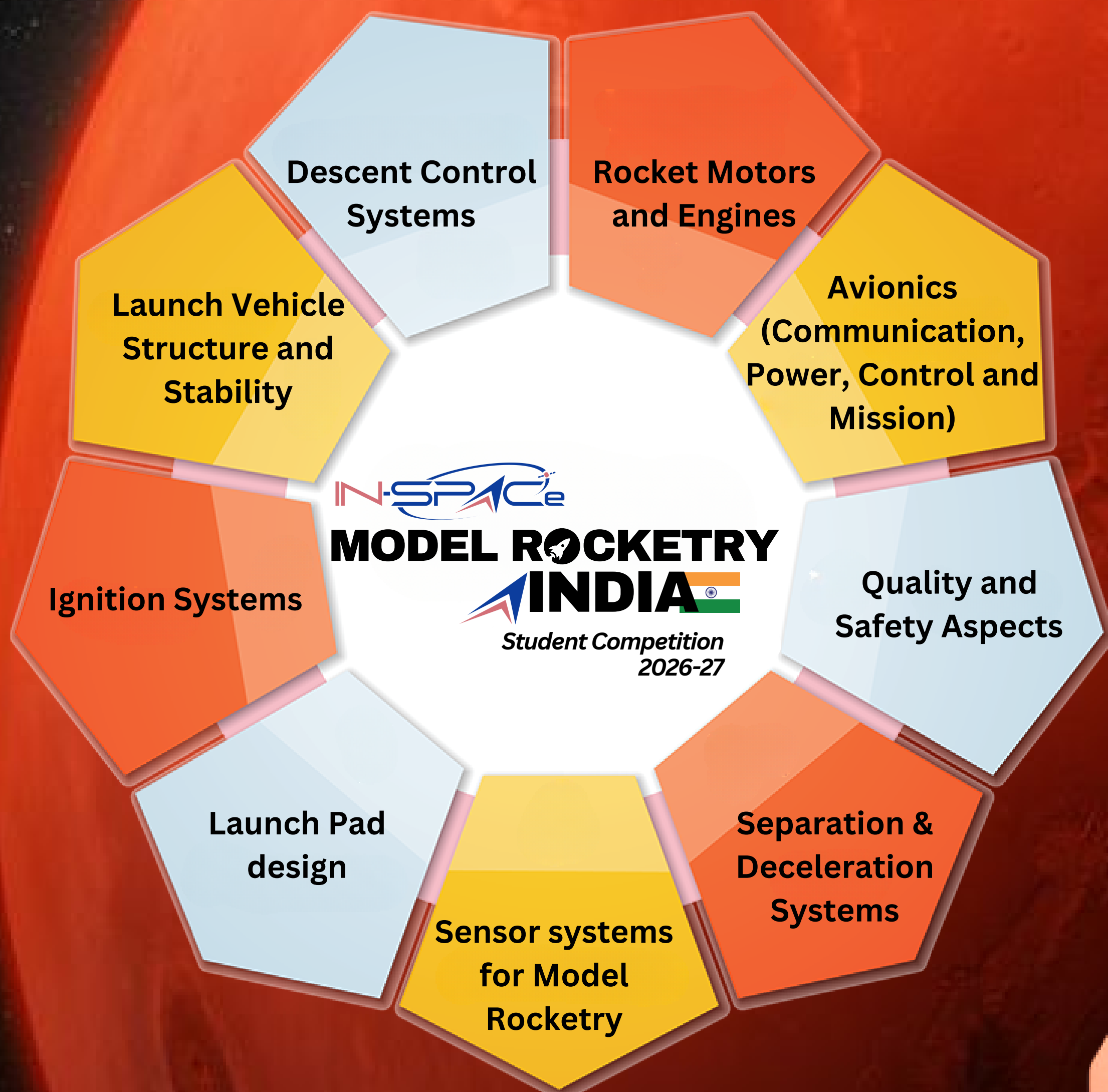




Workshop on Essentials of Model Rocketry for Participating Teams of IN-SPACE Model Rocketry/CAN-7USAT India Student Competition 2026-27



Workshop on Essentials of Model Rocketry for Participating Teams of IN-SPACe Model Rocketry/CAN-7USAT India Student Competition 2026 – 27



OBJECTIVE

This workshop aims to introduce students to the exciting world of model rocketry. Through a blend of theoretical instruction and hands-on activities, participants will gain a deep understanding of the fundamental principles behind model rocket design, propulsion systems, deployment and separation systems and mission design. By the end of the workshop, students will be equipped with the necessary skills to design, build, and launch their own model rockets, meeting specific mission objectives and performance criteria.

IN-SPACe Model Rocketry Workshop



WORKSHOP INFORMATION

The participating teams will be trained on Rocketry through a one-week IN-SPACe skill development program. The skill development program shall have hands-on workshop for the participating teams in order to train the students in the practical aspects of rocket modelling. The areas of rocketry that the students shall be exposed to include Design of Propulsion Systems, Structural Design, Flight Dynamics and Control, Mechanical Systems design and Engineering, Parachute Systems, Telemetry and Data Acquisition Systems, Technical Project Management

- To give exposure to students about the know-how of fundamentals aspects of Rocketry
- Impart practical training about the aspects of various elements of Rocketry / Launch Vehicle
- To develop understanding about the safety and reliability aspects of Launch Vehicle / Rocketry



EXPECTED OUTCOME

Inaugural Session (24-08-2026)			
TIME	Keynote Talk		
15:00-18:00 Hrs.	Inaugural Session	"Journey of Indian Rockets Development"	TBD
DAY-1 (25-08-2026)			
08:30-09:30 Hrs.	Basics of Rocketry	L1: Introduction to Model Rocketry (Basic Principles of lift, drag, thrust and Weight, types of rockets viz. Model, amateur and Professional, anatomy of model rockets i.e. fuselage, nose cone, fins, motors and recovery and deployment systems)	Prof. Priyank Kumar, BIT Mesra
09:30-10:30 Hrs.	Launch Vehicle Structure & Stability	L2: Aerodynamics & Structural Analyses with RASAero, FEAST etc.	Dr Krishnadasan C K, Prof of Partice in IIT Madras Formed DD, VSSC/ISRO
10:30-11:00 Hrs.	Tea Break		
11:00-12:00 Hrs.	Avionics Systems	L3: Basics of Avionics systems for Launch Vehicle	Shri. Paramasivam Outstanding Scientist / Former GD
12:00-13:00 Hrs.	Test & Validation	L4: Validation of Avionics Systems	Shri. Paramasivam Outstanding Scientist / Former GD
13:00-14:00 Hrs.	Lunch Break		
14:00 - 15:00 Hrs.	Launch Vehicle Structure & Stability	L5: ISRO Rockets for Exploring Middle and Upper Atmosphere and introduction to Rocket Aerodynamics	Dr. Pankaj Priyadarshi PD, ATVP, VSSC / ISRO
15:00-15:30 Hrs.	Tea Break		
15:30-18:00 Hrs.	Hands-on Practical	P1: Design and Fly your own Rocket	NGE

Day-2 (26-08-2026)			
Time	Module	Title of Talk	Faculty / Course Instructor
08:30-09:30 Hrs.	Separation & Deceleration	L6: Fundamentals of Various Separation Systems and Deployment Mechanism	Dr. P V Satyanarayana Murthy, Chief Scientist & Head UAV Division, CSIR-National Aerospace Laboratories, Bangalore
09:30-10:30 Hrs.	Avionics Systems	L7: Mission Design and Sensor systems for Model Rockets	Mr. Priyanshu Mishra, AERO, VSSC / ISRO
10:30-11:00 Hrs.	Tea Break		
11:00-12:00 Hrs.	Launch Pad design	L8: Design of Launch rails	Thrustech
13:00-14:00 Hrs.	Lunch Break		
14:00-15:00 Hrs.	Hands-on Practical	P2: Design and Fly your own Rocket	NGE
15:00-15:30 Hrs.	Tea Break		
15:30-18:00 Hrs.	Hands-on Practical	P3: Design and Fly your own Rocket	NGE
Day-3 (27-08-2026)			
08:30-09:30 Hrs.	Separation & Deceleration	L9: Different types of Model Rocketry Separation Systems and Mechanisms	Shri. UA Subramanian, Former GD, ASMG, VSSC / ISRO
09:30-10:30 Hrs.	Communication & Power	L10: Power Systems for Model Rocketry	Smt. TD Mercy Former DD, PCM, VSSC / ISRO
10:30-11:00 Hrs.	Tea Break		
11:00-12:00 Hrs.	Separation & Deceleration	L11: Descent Control Systems, recovery systems viz. parachute, streamers & Winglets for Model Rocketry	Shri. UA Subramanian, Former GD, ASMG, VSSC / ISRO

Time	Module	Title of Talk	Faculty / Course Instructor
12:00-13:00 Hrs.	Test & Validation	L12: Validation of Motors on a static stand	Shri. Eshwaran V , Former DD, SPRE VSSC/ISRO Sr.Vice President(Tech) Propulsion Skyroot Aerospace Pvt Ltd, Hyderabad
13:00-14:00 Hrs.	Lunch Break		
14:00-15:00 Hrs.	Hands-on Practical	P4: Design and Fly your own Rocket Preparing for launch; launch site selection, checking weather conditions & assembling the rocket	NGE
15:00-15:30 Hrs.	Tea Break		
15:00-18:00 Hrs.	Hands-on Practical	P5: Design and Fly your own Rocket Rocketry Simulations using computer software to design and test.	NGE
Day-4 (28-08-2026)			
08:30-09:30 Hrs.	Propulsion Systems	L13: Rocket Motors and Propulsion Systems (Solid)	Dr Jeenu R, Former Sci-H,GD, VSSC / ISRO
09:30-10:30 Hrs.	Launch Vehicle Structure & Stability	L14: Development of Inertial Systems	Shri. TR Haridas, Former DD, IISU / ISRO
10:30-11:00 Hrs.	Tea Break		
11:00-12:00 Hrs.	Quality	L15: Manufacturing & Quality Assurance of Rocket Motors	Shri. A R Murali Sankar Resident Expert, IN-SPACe
12:00- 13-00 Hrs.	Communication & Power	L16: RF & communication systems for Model Rockets	Shri. K K Mukundan Sci/Engr-H, Former GD, RFSG Avionics Systems, VSSC / ISRO
13:00- 14-00 Hrs.	Lunch Break		
14:00- 15-00 Hrs.	Hands-on Practical	P6: Design and Fly your own Rocket Preparing for launch; launch site selection, checking weather conditions & assembling the rocket	NGE
15:00- 15-30 Hrs.	Tea Break		
15:00- 18-00 Hrs.	Hands-on Practical	P7: Design and Fly your own Rocket	NGE

DAY-5 (29-08-2026)			
Time	Module	Title of Talk	Faculty / Course Instructor
08:30-09:30 Hrs.	Avionics Systems	L17: Check out system for launch mission	Shri. T. Gopalakrishnan Former Deputy Director, Systems & Reliability, VSSC / ISRO
09:30-10:30 Hrs.	System Integration	L18: Mechanical Configuration, Design assembly integration and testing.	Shri. G Narayanan APD, LVM3 (Retd)
10:30-11:00 Hrs.	Tea Break		
11:00-13:00 Hrs.	Demonstration	P8: ANSYS Application for Mission Analysis and Trajectory Simulation	By ANSYS team ANSYS Technical Experts
13:00-14:00 Hrs.	Lunch Break		
14:00-15:00 Hrs.	Quiz		
15:00-15:30 Hrs.	Tea Break		
15:30-18:00 Hrs.	Hands-on Practical	P9: Design and Fly your own Rocket	NGE
Day-6 (30-08-2026)			
08:30-10:30 Hrs.	Competition	Prepare for the Competition	Location of Launch: Gautam Buddha University (GBU), Yamuna Expressway, Greater Noida, Gautam Budh Nagar, Uttar Pradesh, India
10:30-11:00 Hrs.	Competition	Presentation & Flight: Team-1	
11:00-11:30 Hrs.	Competition	Presentation & Flight: Team-2	
11:30-12:00 Hrs.	Competition	Presentation & Flight: Team-3	
12:00-12:30 Hrs.	Competition	Presentation & Flight: Team-4	
12:30-13:00 Hrs.	Competition	Presentation & Flight: Team-5	
13:00-14:00 Hrs.	Lunch Break		
14:00-15:00 Hrs.	Competition Analysis	Post Launch Analysis : Evaluating Flight Performance and Identifying areas for Improvement	
15:00-16:00 Hrs.	Valedictory Session		

संवर्धक
PROMOTER



समर्थक
ENABLER



प्राधिकृतक
AUTHORISER



पर्यवेक्षक
SUPERVISOR



IN-SPACE



Eligible Participants

PDR qualified student teams of IN-SPACE Model Rocketry/CAN-7USAT Student India competition 2026-27.

How to Apply?

Intrested Students can submit their detail along with course fee at www.inspace.gov.in.

Workshop Director: Mr. Ganesh Mohan, Deputy Director, IN-SPACE

Workshop Coordinator: Shri. Ankit Gupta, Assistant Director, IN-SPACE

Commencement of Workshop : August 24, 2026

Workshop Duration: August 24-30 , 2026

Venue: GNEC IIT Roorkee, Plot no. 20, Knowledge Park, Greater Noida, UP.

Workshop Fee : ₹ 15,000/- excluding boarding & lodging charges. Payment shall be made through Bharatkosh only.

Note:

- Accommodation at course venue is available on request and at payment basis paid directly to IIT Roorkee, on twin sharing basis Rs 700+GST/Per head/ Per Night
- Workshop participants are advised to report at venue on August 24, 2026 before 14.00 Hrs



IN-SPACE Headquarters

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 www.inspace.gov.in

Available @   

In case of any clarification please contact
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