



# International Aerospace Olympiad 2022

Syllabus for Academic year 2022

## GROUP A (GRADE 1ST - 2ND)

- 1) Understanding basic of Aerospace, Aeronautics and Astronautics.
- 2) How Aeroplane Fly?
- 3) About Kalpana Chawla - An Astronaut
- 4) Length of day on different planets
- 5) Planet Travel Time
- 6) Chandrayaan 2 Mission
- 7) Mars Orbiter mission - The Mangalyaan

## GROUP B (GRADE 3RD - 6TH)

- 1) Aerospace, Aeronautics & Astronautics Concept – What is Aerospace, Aeronautics & Astronautics? Details of all three topics and how they are related to each other.
- 2) The forces on an Airplane - Basic concept on how do airplanes fly and about the forces that help (and hinder) airplane flight.
- 3) The pressure created by Air - The concept of air pressure and how air pressure creates a force on an object. Relationship between air pressure and the speed of moving air.
- 4) Space Mission on Mars & Moon - Every planned and successful mission of different Space Organization and upcoming mission on moon and mars.
- 5) Planetary Travel Time - Time taken by different rockets or satellite for the interplanetary missions.
- 6) ISRO Launch Vehicle - Different types of rockets or launch vehicle used by ISRO for their different satellites launch.
- 7) Earth Atmosphere & Weather - Different layers of Earth atmosphere and how weather change plays a role for takeoff and landing of Spacecraft.



# International Aerospace Olympiad 2022

Syllabus for Academic year 2022

## GROUP C (GRADE 7TH - 9TH)

- 1) Aerospace, Aeronautics & Astronautics Concept - Details of all three topics and how they are related to each other.
- 2) Evolution of Airplane - History timeline and beginning of the Aerospace sector in the world.
- 3) Flight flying mechanism - Bernoulli principle to understand pressure differences to make airplanes fly.
- 4) Force & Motion - Newton's three laws of motion.
- 5) Life in Space: Brief study of The International Space Station and all its related facts.
- 6) Being an Astronaut - Basic details of Astronauts, Space Suit evolutions, Benefits of suits etc
- 7) Space Mission on Mars & Moon - Total Planned mission of different Space Organization and upcoming mission on moon and mars.

## GROUP D (GRADE 10TH - 12TH)

- 1) Aerospace, Aeronautics & Astronautics Concept - Details of all three topics and how they are related to each other.
- 2) Basic of Space Mechanics and Launch Vehicles.
- 3) Rocket & Missiles - Brief understanding of Rocket & Missiles, the study of body structures, benefits etc.
- 4) Aerospace materials - Materials used in past, present, and future of Aerospace designing and manufacturing.
- 5) Aircraft Structures - Study of Aerospace structures include a fuselage, wings, an empennage, landing gear, and a power plant.
- 6) Space Mission on Mars & Moon - Total Planned mission of different Space Organization and upcoming mission on moon and mars.
- 7) Life of an Astronaut - Basic study of survival of astronaut in space and method to survive on different planets.
- 8) The forces on an Airplane - Basic concept on how do airplanes fly and details of all four forces that help airplane flight.