STEM WORLD

A UNIQUE & EXCITING MAGAZINE ON STEM EDUCATION!

JUNE - JULY 2024

ISSUE # 3

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STEM WORLD

Editors Note

Dear Readers,

Greetings! This is our third issue and we hope that each issue is giving you a good coverage of STEM related activities in various schools. It is our goal to feature only original content. If you have a story to tell, please do contact me at the earliest.

Schools are opening for the new academic year in India and we wish you a very joyful and exciting year ahead! Please do include/increase the amount of STEM activities in your school. We are always there to help, guide and inspire you. It would be great if you could forward this E-Magazine around to as many people as possible.

Wishing all the Teachers in the Gulf "Happy Holidays!" as you get ready to end the current term by the months end.

Thank You & Best Regards,

Dr. (Hon.)M.R.K. Menon
Managing Editor
STEM WORLD
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STEM WORLD

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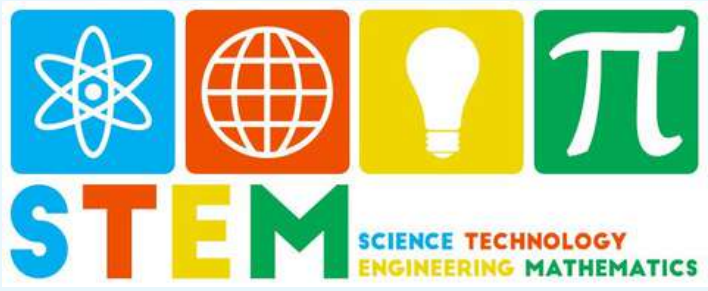
What is STEM ?

Since STEM is something new and not much understood we are reposting this article from our inaugural issue in April since more than 1000 new International Schools have been added to our mailing list. Kindly read it once more as it gives a very clear idea of STEM in Schools.
Thank You.
Dr.(Hon).M.R.K.Menon

Dr (Hon.) M.R.K. Menon
Founder Global AeroSports
A Recognized Expert in STEM and Aerospace Education.
ID: mrk.menon@yahoo.com

STEM is a buzzword in School Education in India. Schools are all promoting STEM in their school as a unique selling proportion to the market, mostly without fully understanding the acronym or having the necessary training/resources to implement STEM correctly in their institutions. At the same time, there are innumerable opportunities for creating Jobs, Products and Processes that can harness STEM for the benefit of a vastly populated country like India. This article seeks to describe STEM in simple terms and throw light on several job opportunities that can be made available with a modest investment.



STEM: Science, Technology, Engineering & Mathematics. The acronym came into being roughly around 2001 in the USA, mostly because of the efforts made by the National Science Foundation based in Washington DC. It all began as a result of a study on the performance of US High School students in the field of Maths, Science and English when compared to students of the same age from Europe or Asia. It was found that American school students were nowhere near the top when compared to students from other countries. As a corrective action several Presidents notably, George Bush - IInd , Barack Obama and Donald Trump have set up funding of several hundred million dollars to improve the delivery of Science in American high schools. The goal was to make a careers in Science and Technology more interesting so that high school students would take up related courses and careers.

This would create an adequate pool of highly trained and proficient scientists and engineers in the US who could then work on solutions for most of the problems humanity faces. Most of these wide-ranging problems have scientific solutions. They accomplished all this by setting up Improved Science Labs, Specialized Training for Teachers, Industry Participation etc. At the same time, the demand for STEM trained personnel shot up, and so did salaries associated with STEM jobs. The Immigration Department also increased the stay-back period for STEM graduates from other countries who were pursuing Advanced STEM Degrees in US Universities.

Simply stated, STEM is a method of teaching where the emphasis is on the practical application of Science rather than just teaching the theories associated with Science. You will recall the story of five blind men trying to describe what an elephant is. Each one is correct, but it is only when you put all their observations together that a clear picture of an elephant begins to form. To make it easy to understand, listed below are the key elements of a STEM class… say in Physics.

1. State the law of Physics, for example, Newton's Third Law of Motion, and give clear-cut examples.
2. Engage the Students in a Do-It-Yourself type experiment which clearly demonstrates the application of Newton's Third Law of Motion. In this case, the Children can design, build, and launch a model rocket.
3. While teaching Physics integrate it with a bit of Maths and Chemistry that goes into making a Rocket. Discuss the Size and Shape of the Rocket, Composition of Rocket motors etc.
4. Discuss careers in STEM in detail.
5. Take the students to a factory, lab or R&D Center where products like Rockets, Missiles, Satellites are made. Now they can see real-life applications of various Principles of Physics.
6. Involve the local industry in your classes. For example, you can have lectures from engineering companies in the locality of the school. In Atlanta, Delta Airlines supports STEM education in a few selected schools.

There are instances of well-known schools which advertise themselves as a STEM Schools, and no one in those schools knows what it's all about. In GCC market, it is interesting to note that one leading Indian School in Abu Dhabi, Mayoor Pvt School, has taken up STEM activities in a very serious fashion and made significant investments and progress. They recently won the Best STEM and Innovation award from TEACH Magazine. Meanwhile, ADEK (Abu Department of Education & Knowledge) has been promoting STEM in High Schools through its ADEK Innovator Competition. Similarly, the EMIRATES FOUNDATION has been conducting the THINKSCIENCE FAIR, which is conducted for 21 days across the 7 Emirates. These are perfect examples of STEM activities in schools. We are yet to see such a mass movement in India. However, the ATAL TINKERING LABS is an approach in the right direction to promote STEM in schools but lack the resources it needed to make a significant difference. In many Schools, these Government Funded Labs are un- utilized due to a lack of trained instructors.

The main problems in implementing STEM in Indian Schools are as follows:

1. The absence of a guiding and implementing authority, be it the Government or a Private entity.
2. Lack of training programs for Science, Maths and IT teachers.
3. A lack of general awareness amongst Parents, Teachers, Principals, Management etc., regarding STEM.
4. A lack of suppliers of various types of STEM Kits at affordable costs.

THE PROBLEM:

There are a large number of technically qualified youth, especially Engineering students, who are Unemployed/Under Employed.

THE SOLUTION:

There are several ideas for creating jobs and also changing the way Science is taught. There is a STEM-based Program for High School Students called the Aerospace Ambassador Certificate Program and also as the Junior/Senior Engineer Certificate Program. It has been successfully Tested in Schools in 6 Countries. More than 100,000 students and 200+ teachers have attended our various STEM courses.

THE OPPORTUNITY:

There are 1.5 Million Schools in India that need to be serviced. There are also 1000 + Atal Tinkering Labs that do not have the right trainers. A Clear opportunity to create 100,000 Good STEM TRAINER JOBS with people working from home. Training for the selected applicants to train students in high schools for our STEM-based programs covering " Aeromodelling, Model Rocketry, Drone Technology, Space Technology, Astronomy, Design Software, 3 D Printing and Arduino Robotics etc." There is a 10-Hour STEM Certificate Program for Science, Maths and IT teachers. Eventually, a STEM certification will be as important as a B.Ed for Science Teachers. Global Aerosports helps in setting up STEM Labs focusing on Aerospace and related STEM activities The main idea being to share these resources with schools in the neighborhood. As a special gesture to readers of the THE NFA POST the writer has made available a 92 Page, Colored, Illustrated STEM Training Manual Free of Cost if you could contact the writer via Email.

If you would like to engage with the writer of this article, he may be contacted as follows: **mrk.menon@yahoo.com**

STEM TEACHER OF THE MONTH

Interview with...

Mr. Shobhit Agrawal

- **Engineer specializing in 3D Printing**
- **STEM Teacher**

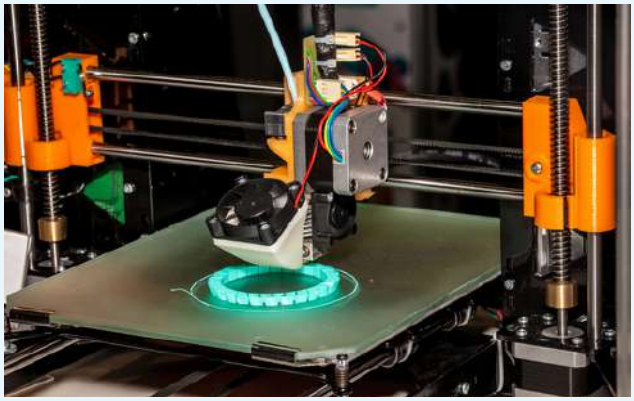
Interviewed by

Dr.(Hon.)M.R.K. Menon

- **ISRO Space Tutor**
- **Editor "STEM World"**

Q Please Introduce your good self?

A I am Shobhit Agrawal, an engineer from Maharashtra, specializing in 3D printing. I currently work as a technical manager and senior drone and 3D printing trainer at Global Aerosports. I am passionate about teaching 3D printing to school students and teachers.



Q How did you get into 3D Printing?

A I got into 3D printing out of sheer curiosity and a desire to explore new technologies. I was fascinated by the idea of creating physical objects from digital designs and wanted to learn more about the process.

Q What are your Educational Qualifications and Work experience?

A I hold a degree in engineering and have been working in the field of 3D printing for the past 4 years. My experience includes working with Global Aerosports and teaching 3D printing to various groups.

Q Is it difficult to learn 3D Printing?

A While 3D printing can seem intimidating at first, it is not difficult to learn with the right guidance and resources. With practice, anyone can master the basics of 3D printing and start creating their own designs.

Q **Are you teaching 3D Printing to School Students?**

A Yes, I am actively involved in teaching 3D printing to school students and teachers. I believe that introducing 3D printing at a young age can help students develop valuable skills and inspire them to pursue careers in STEM fields.

Q **What is the response from students?**

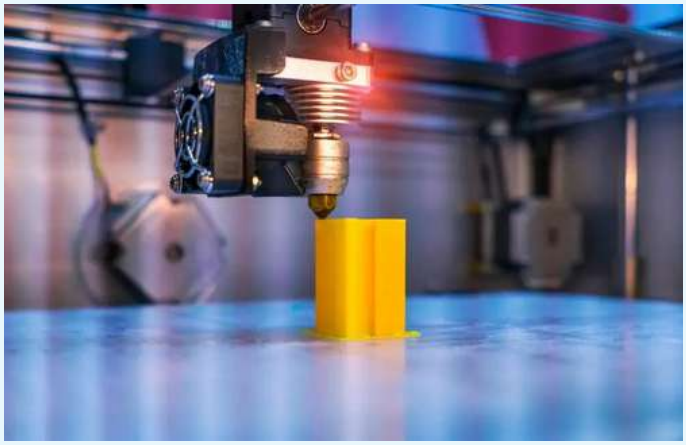
A The response from students has been overwhelmingly positive. They are excited to learn about this cutting-edge technology and are eager to create their own designs. Many students have shown a keen interest in pursuing further studies in 3D printing and related fields.

Q **Is 3D Printing a STEM Activity?**

A Yes, 3D printing is a STEM activity. It involves the use of science, technology, engineering, and mathematics to design and create physical objects. It encourages students to think critically, solve problems, and innovate, making it an ideal activity for STEM education.

Q **How much does it cost to implement a simple 3D Printer in a school lab?**

A The cost of implementing a simple 3D printer in a school lab can vary depending on the brand and model. On average, a basic 3D printer suitable for educational purposes can cost anywhere from $200 to $1000.



Q **Tell us something about your company Switch 3D.**

A Switch 3D is a company that specializes in providing 3D printing solutions to individuals, businesses, and educational institutions. They offer a wide range of 3D printers, filaments, and accessories, along with training and support services.

Q **How do you like working for Global Aerosports?**

A I thoroughly enjoy working for Global Aerosports. It provides me with the opportunity to work with cutting-edge technologies and share my knowledge and passion for 3D printing with others. The company's focus on innovation and excellence aligns with my own values, making it a perfect fit for me.

STEM ENTREPRENEUR OF THE MONTH

Interview with...

Mr. Sajeevan N S
Managing Director,
Augmenta Innovations (P) Ltd.

Interviewed by

Dr.(Hon.)M.R.K. Menon
- **ISRO Space Tutor**
- **Editor "STEM World"**

Q Please Introduce yourself & Where is your company located and what does it do?

A I am Sajeevan NS, Managing Director, Augmenta Innovations (P) Ltd.
Our company, Augment Innovations (P) Ltd is a startup company, under Kerala start up mission. We are located at Kochi. We make & supply AR VR Labs for schools. Kerala NRI Club Services, an NRI owned company is doing the marketing of our products & Services.

Q What is AR & VR

A AR is Augmented Reality and VR is Virtual Reality. In AR Pictures & videos on different topics will be augmented in devices like Tab or Mobile. It can be mirrored in bigger screens like TV or Interactive boards. VR is virtual Reality is the technology where we get immersive experience of objects & videos in a virtual world. To experience VR a VR headset is needed.

Q How are AR & VR products used in educational field

A Through AR & VR students will get immersive experience in subjects they study. By using AR & VR, Student's retention memory of the subject will increase when compare to a normal text book, video learning. Teachers also will get a brilliant teaching aid to support their teaching.

Q What is the cost of establishing a AR VR lab in a school.

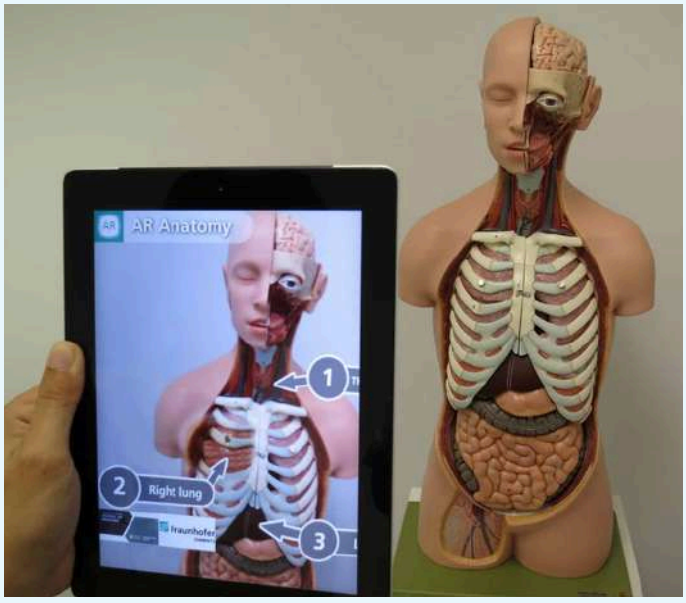
A We offer package which starts from less than one Lakh

Q **Please tell something about your products**

A AR VR technology in widely used in various segments like Education, Travel, Construction, safety etc. Facebook has changed their name to Meta and invested $9.4 billion in the first three quarters alone In 2023 for AR VR developments. Tourism segment is using AR VR technology for travelers to experience various tourist places before they physically reaching there.

Q **Are you planning to establish Demo centers in different places of Kerala**

A Yes. Since AR & VR should be experienced by people. It is difficult to take the whole Packs to each school (Pack contains AR VR boards, Chrome Cast, google TV, VR Headset etc). Experience center could be set up at various places where people can reach at their convenience and get the experience of AR & VR. Company is also planning to diversify AR VR to various other sectors like tourism, construction, etc where investors of the centers could generate income. Experience centers could also generate income through VR experience shows in their premises and in schools.



Q How are AR VR Products created

A AR is based on the seamless integration of digital and physical components. It overlays dynamic visuals and data on top of the real world using sensors, markers, spatial mapping, transparent displays, and other tools

Q What is the future of AR VR in India

A In order to secure a larger share of the projected $1,274.4 billion USD market in 2030, business people need to seek advice from specialists and venture into this field.

The anticipated developments in AR and VR technologies are predicted to completely transform how we interact with one another and move us closer to the realm of "digitally augmented."

Please Contact :
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Mr. Sajeevan N S : 9946763787
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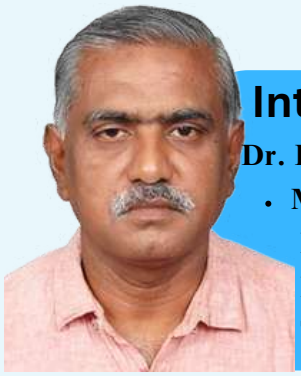
STEM IN RUSSIA



Interview with...

Dr. Bollu Bhaskaran

- **Managing Director of Medovaya Consultants Private Limited, Madurai, Tamilnadu, India**

Interviewed by

Dr.(Hon.)M.R.K. Menon

- **ISRO Space Tutor**
- **Editor "STEM World"**

Q **Please describe your Education and Experiences in Russia?**

A I was doing my Integrated Master Degree program at Odessa, Ukraine, USSR (Union of Soviet Socialist Republic) from 1984 - 1990. I did my Post Graduate Degree in Ocean Engineering...During 1991 the Soviet Union, (USSR) was collapsed and Ukraine become an independent republic. The Ukraine Soviet Socialist Republic became an Independent Country called as Ukraine in August 1991.. During 1990 - 1993 I did my Ph.D in Ocean Dynamics at the same institute in Odessa, Ukraine..

During eighties there was no UG Program in USSR. Only Integrated PG Program (5 year duration) was there. Foreign students do their education only in Russian Medium... Foreign students from Africa, Asia and Latin America were studying in various universities in USSR and in Ukraine.

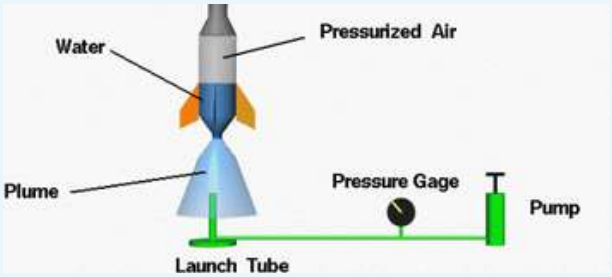
The Soviet Engineering education was an excellent system of that time which gave hands on experience to students...

Today Foreign Graduates from Ex USSR are working in various countries with an excellent knowledge and sharing their professional experiences with the younger generation students...

Since 1994 working as an Freelance Technoprenur, to promote the advance technologies and equipment from Ex USSR republics such as Russian Federation, Ukraine, Republic of Belarus, Republic of Moldova etc...

Q Where is your organization located and what does it do?

A M/s Medovaya Consultants Private Limited is incorporated in Madurai, Temple city in the state of Tamilnadu.. We promote STEM Educational Kits in Rocketry and Space Science. Our products are manufactured by Education of Future LLC, Moscow, Russian Federation, and Voltbro, Moscow. Curriculum was developed by the experts team experienced in Roskosmos (Russian State Space Agency). We offer water rockets and solid fuel rockets. Students can assemble and re assembles multiple times and also writes their own program to launch the rocket. Our rockers are designed to launch up to 30-50 Meters so that students can visually see the parachute opening and landing.
We also offer academic curriculum in the form of text book and also video lessons designed by experienced experts in the field of Rocketry and Space Engineering.

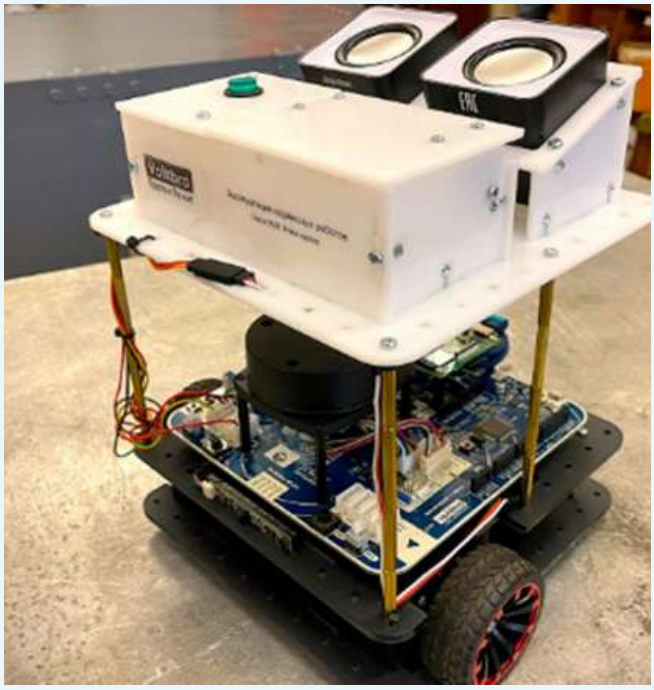


Q Where is your organization located and what does it do?

A Today's Russian Education System is at bar with the European Education system.

Russian Federation currently follows an 11 year (4+5+2) system of education, consisting of 4 years of primary school, 5 years of lower secondary school and two years of upper secondary school.
Russia's education system is coordinated by the Russian government, and the state schools are free for everyone to attend.

In Russian Federation out of school education concept is existing. Accordingly the Government is having one or two centers in each big city. Such centers are funded by the Government. Students can come and join in these centers, to teach subject of his or her interest with practical experience, such as painting, shipbuilding, dance, singing, satellite construction, Rocketry, Artificial intelligence, Machine Learning, IoT etc. Also Government is conducting competition among students, Olympiad, etc.
STEM in different form of education is thought in Russian Federation since 1917.



Q How come you are interested in Model Rocketry?

A When I came to know about the STEM education in Rocketry and Space Engineering in Russia, I got interest to know more about that. Regarding, this I visited Moscow during September 2023.
Education of the Future LLC, Moscow Russia Federation and their associate company in Moscow called as Voltbro, is manufacturing and supplying the Educational Kits for Rocketry and Satellite Construction Engineering. While I was in Moscow, I visited to their company and they have explained about their product in detail
Indian Space Agency ISRO is playing significant role in the study of space engineering and rocket sciences.
Today private rocket launching companies and startups are there in the market for launching cubesat, can sat, Pico sat etc.

In India Students are showing more and more interest in STEM Program in Rocketry. We at Medovaya Consultants Private Limited, Madurai, India is appointed by the Education of Future LLC, Moscow, Russian Federation, as an Global Marketing associate for promotion products and services of the Education of Future LLC, Moscow, Russian Federation in India as well as other countries.

Q How come you are interested in Model Rocketry?

A Medovaya Consultants Private Limited, Madurai, Tamilnadu, India is, appointed as a Marketing Associate of the Education of Future LLC, Moscow, Russian Federation to promote the products and services designed and manufactured by the Education of Future LLC, Moscow Russian Federation, in India as well as in other countries.

Q **Do you have actual products to sell? If so please provide details.**

A **Yes we have following actual products**.

a) Water rocket education construction kit VRO-1

b) Water rocket Launch table with radio

c) Set “Water rockets” for 15 students (5 teams)

d) Solid fuel rocket education constructor kit K3 MAX (without engine)

e) Solid fuel rocket Launch table with radio

f) Set "Solid fuel rockets" for 15 students with a launcher (5 teams)

g) Introsat Basic Educational Kit

h) Introsat Educational Kit. Barocam Testing Stend Construction Kit

i) Introsat Educational Kit. Magnetism

j) "Terra" complex of space environment simulators

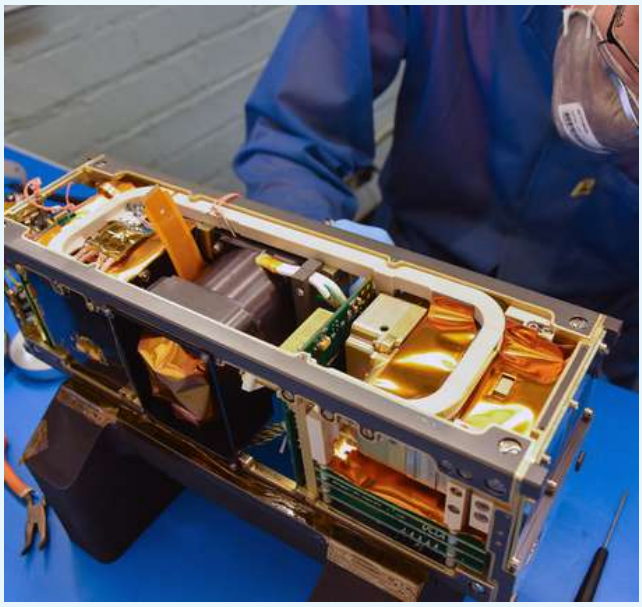
k) Introsat Lab. Standart

l) Engineering Laboratory "Spacecraft Design"

m) Platform TurtleBro + WS a wheeled robot assembly and a set of equipment for preparation for competitions in the competence "Service robotics" of the championship of professional skill

n) "Orbita Challenge"a software simulation platform to simulate the satellite launch, calculate payload etc

o) And many more related to Satellite Construction, Rocketry, Antenna for Receiving Data’s from Satellite etc More details about our products please visit to www.introsat.com



Q **Do you have a tie up with Global Aero sports? If so, what is its nature?**

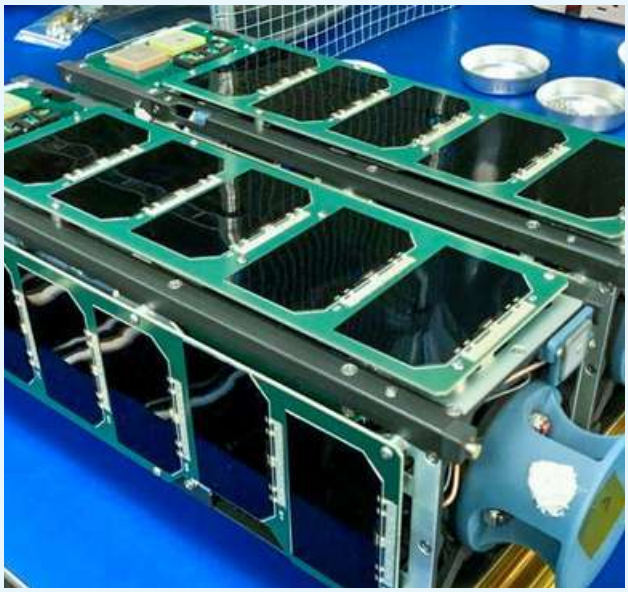
A We are in discussion with Dr.M.R.K Menon, Secretary of Global Aerosports and Model Rocketry Society of India, for conducting First National Level Rocketry competition among Indian School students. This two days competition we are planning to conduct during the third or fourth week of September 2024.
Also we are joining hands with Global Aerosports and Model Rocketry Society, India for promoting “Educational Kits, Curriculum, in Rocketry and Space Engineering” in Indian Schools.

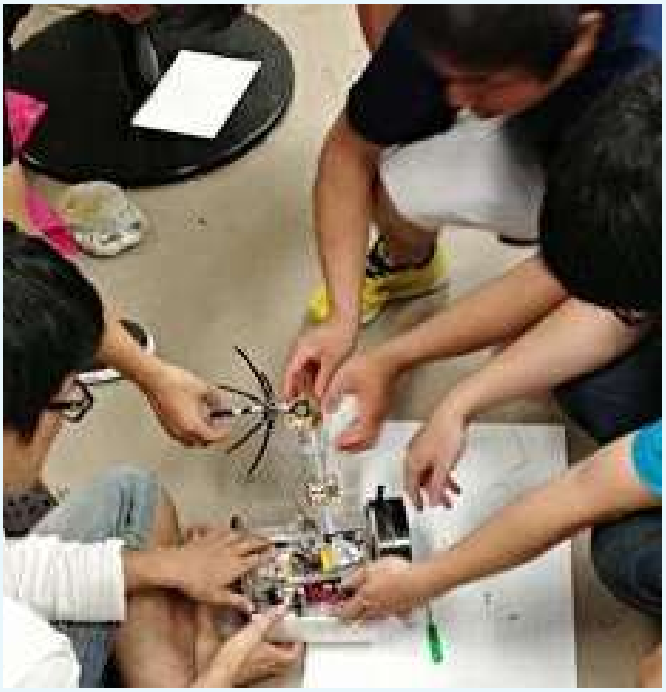
Q **Will you be sponsoring the Model Rocketry Competition to be held on Kerala in September this year?**

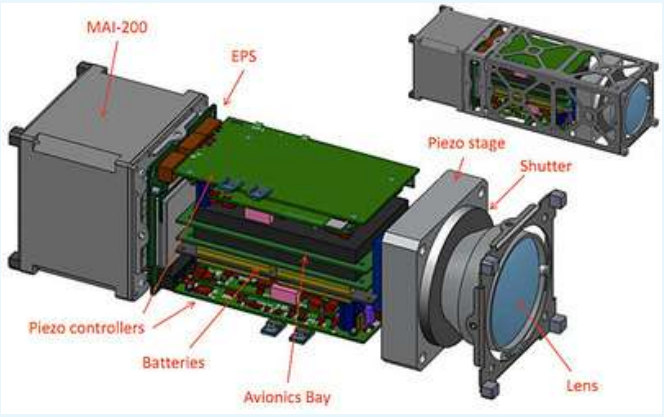
A Yes, Education of Future LLC, Moscow, Russian Federation is a Main Sponsor for this event.
School children from Russian Federation too will participate in this event.
In future, we will coordinate so that Indian students too will participate in the Rocketry competition conducted in Russian Federation, regularly.

Q **How is education in Russia different from our Indian school system?**

A As I have said earlier Russian Education System is more practical oriented. Students are getting hands on experience during their studies. The whole education is in their own mother tangue Besides Russian Language, students are thought, English, French, Germany etc







Q **Do you think our High School Students should get into Internships and Volunteer Assignments while at School?**

A Yes... Such kind of internship will help them to interact with foreign students and get experience in STEM Program..

Name: Dr. B V Baskaran,
Contact Phone No: +91-9443495455 / +91-8754366022,
Email: medovayaconsultants@gmail.com
Website: www.introsat.com

STEM SCHOOL OF THE MONTH

Empowering the Future: The Importance of STEM Education at Mayoor Private School, Abu Dhabi

In the rapidly evolving landscape of the 21st century, Science, Technology, Engineering, and Mathematics (STEM) education has emerged as a cornerstone for innovation and economic growth. STEM fields are not only pivotal in driving advancements in technology and industry but also in addressing some of the world's most pressing challenges. As we stand on the brink of unprecedented technological progress, the importance of fostering a robust STEM education system cannot be overstated.

Why STEM Matters

STEM disciplines are integral to our everyday lives. From the smartphones we rely on, to the medical technologies that save lives, to the engineering marvels that connect our world, STEM is at the heart of modern society. The integration of these fields drives innovation, enhances problem-solving skills, and creates new opportunities for economic growth and employment.

According to the U.S. Bureau of Labor Statistics, STEM occupations are projected to grow significantly faster than non-STEM occupations in the coming decade. This growth underscores the urgent need for a workforce that is well-versed in STEM skills. Moreover, STEM education promotes critical thinking, creativity, and analytical skills, which are essential for navigating the complexities of the modern world.

STEM at Mayoor Private School, Abu Dhabi

At Mayoor Private School, Abu Dhabi, we are dedicated to providing our students with exceptional STEM education. Our commitment is reflected in the various programs and events we organize to inspire and engage students in these critical fields.
One of our standout initiatives is the Aerospace Ambassador Program. This program selects motivated students to act as ambassadors, taking on leadership roles in our Aerospace Club. These ambassadors organize hands-on activities that delve into the fascinating world of aerospace engineering and technology. By leading these initiatives, our ambassadors not only deepen their own understanding but also inspire their peers to explore the limitless possibilities of aerospace.

Hands-On Learning and Innovation

We believe that practical, hands-on experience is vital for fostering a love for STEM. Our Aerospace Club regularly engages students with various activities like debates, exhibitions, projects that include building rockets. These activities not only make learning fun but also help students grasp complex scientific concepts through real-world applications.

Furthermore, our school has embraced drone technology as an innovative tool for learning and engagement. Our students are trained to operate drones, which are then used to cover school events, providing a unique perspective and practical experience in handling cutting-edge technology. This integration of drones in our curriculum highlights the real-world applications of STEM education and helps students understand the importance of technology in modern society.

STEM and the UAE's Vision

The United Arab Emirates has positioned itself as a global leader in technology and innovation. Initiatives such as the UAE Vision 2021 and the National Innovation Strategy underscore the country's commitment to fostering a knowledge-based economy driven by STEM fields. At Mayoor Private School, Abu Dhabi, we align our STEM education programs with these national goals to ensure our students are prepared to contribute to the UAE's ambitious vision for the future.

Our focus on aerospace, for instance, complements the UAE's significant investments in space exploration, highlighted by the launch of the Emirates Mars Mission and the upcoming lunar mission. By cultivating an interest in aerospace engineering, we are preparing our students to be part of these groundbreaking endeavors.

The Future of STEM at Mayoor

As we look to the future, the role of STEM in shaping our world will only become more pronounced. Advances in artificial intelligence, renewable energy, biotechnology, and other cutting-edge fields will transform industries and create new opportunities. To harness the full potential of these advancements, we must continue to invest in STEM education and ensure that all students have access to high-quality learning experiences.

Our school's commitment to STEM education is unwavering. We provide a dedicated period of i-lab in the class timetable where students brainstorm ideas, work on hands-on projects and come up with solutions to real life problems. We are continuously exploring new ways to integrate STEM into our curriculum and provide our students with the skills and knowledge they need to succeed in a rapidly changing world.

STEM education is more than a pathway to lucrative careers; it is a vital component of our societal and economic progress. At Mayoor Private School, Abu Dhabi, we empower the next generation to drive innovation, solve critical problems, and contribute to the betterment of society. By fostering a strong foundation in STEM, we ensure that our students are equipped to navigate and shape the future, in alignment with the UAE's vision for technological and scientific advancement.

By
Ms. Vijayalaxmi Buttu
Secondary Supervisor
Mayoor Private School

STEM CAREER CORNER

Interview with...

Ms. Ujwala Khot

- **Business Development Officer of Regent Middle East**

Interviewed by

Dr.(Hon.)M.R.K. Menon

- **ISRO Space Tutor**
- **Editor "STEM World"**

Q Please introduce yourself..?

A I am Ujwala Khot, Business Development Office of Gulf Cooperation Council and South East Asia

Q What is so you unique about your Institution?

A Courses are Vocational Based module/80% of Practical Knowledge, Hands on experience, Industry Ready

Q What are the advantages of studying in the UK?

A Easy Pathway Program to UK for final year of Bachelor's program, after studying Bachelor's 1st and 2nd Year Higher National Diploma Programs from our Dubai Campus.

Q What programs does your institution offer to students finishing +2?

A

- Computing
- Cyber Security
- Network Engineering
- Artificial Intelligence
- Hospitality Management
- International Travel and Tourism
- Hospitality management

Q Please tell us something about your facilities in the Dubai campus?

A Located surrounding with IT MNC companies helps sudents for part time job amnd Internship Programa, Well equipped Computer Lab and Library facility , Well Qualified and certified Academic Staff

Q Do you place emphasis on STEM at your Institution?

A Yes, We do.

Q **What is the financial cost of studying the three year twinning program?**

A 2 Years in Middle East will cost 60,000AED and Final Year in UK London 1 year program will Cost 60,000 AED

Q **Which University in the UK gives the Degree and what is it's standing?**

A Our own Campus located in London Uk Provide TOP Up bachelors and Certificate is accredited from University of Bolton

Q **Do you focus on Vocational Education?**

A Yes, We are focusing Vocational Education

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https://regenteducation.ae/

Q **Do you focus on Vocational Education?**

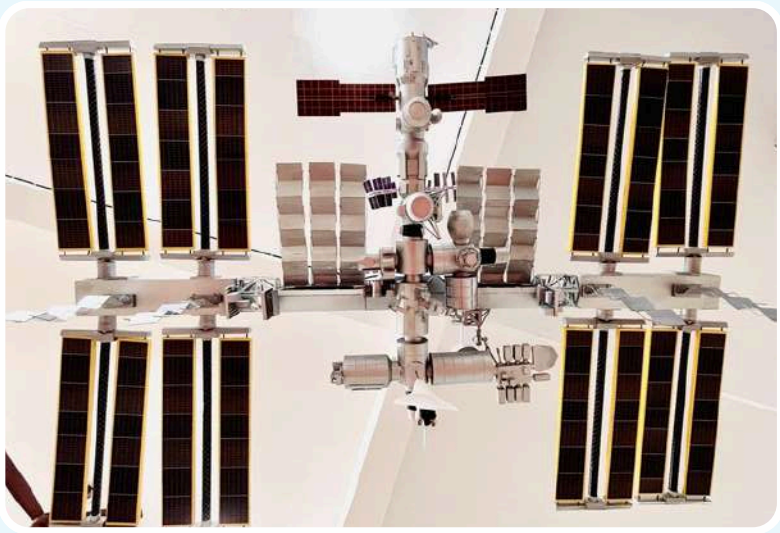
A Multicultural Environment with Students studying from different nationality around the world/Global connections/collaboration, Collaborative and Personalized learning

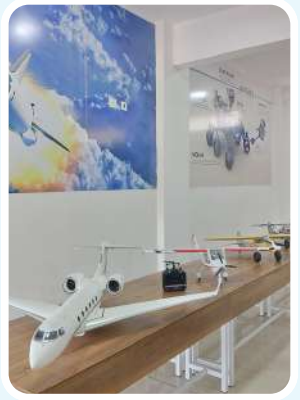
STEM GALLERY

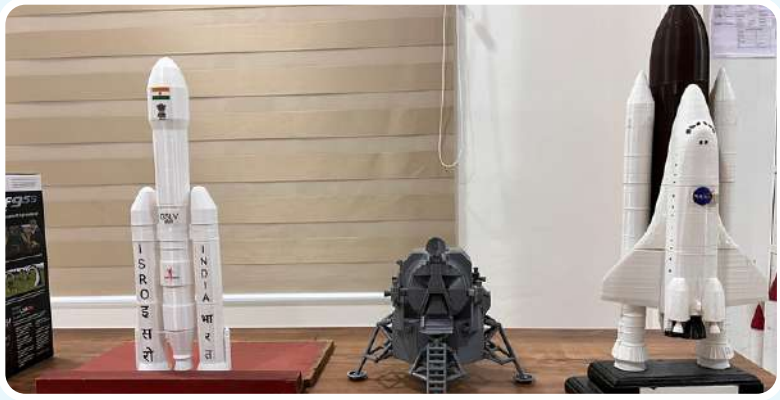
Aerospace Museum at Algebra Global School

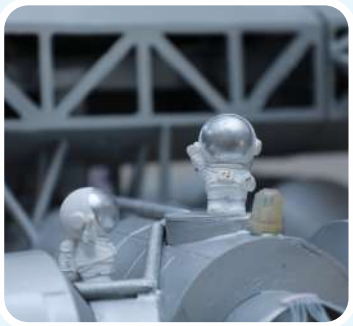
Pattambi, Kerala, India

Operated by: GLOBAL AEROSPORTS







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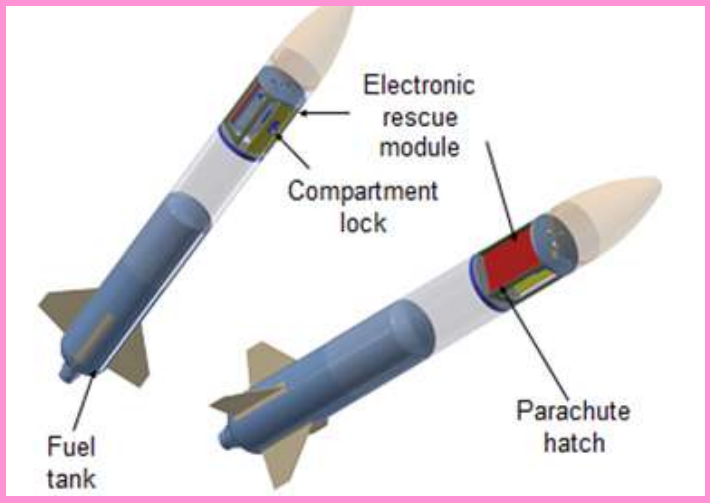
Medovaya Consultants Private Limited, Madurai, Tamilnadu, India

STEM ORGANISATION OF THE MONTH

Every year, thousands of engineering graduates pass out of college, but only a tiny handful of them are trained in the skills that employers need now. Over 80 percent of them are unemployable for any job in the knowledge economy, says a report by employability assessment company Aspiring Minds.

STEM (Science, Technology, Engineering and Mathematics) learning activities teach a variety of abilities, including logical reasoning, critical thinking, problem-solving, hands - on training, innovation, creativity, inquiry, team work etc. STEM education is undergoing significant transformation in India as well as in Global Education Industry.



This hand on teaching methods improves decision making and strategic thinking abilities among the student's communities.

STEM education in India is gaining momentum, with a significant increase in student interest and educator participation. According to official reports, 70% of top-paying jobs globally require highly skilled STEM graduates. As such, the Indian education sector is focusing on creating an environment that nurtures creativity, critical thinking, and practical skills.

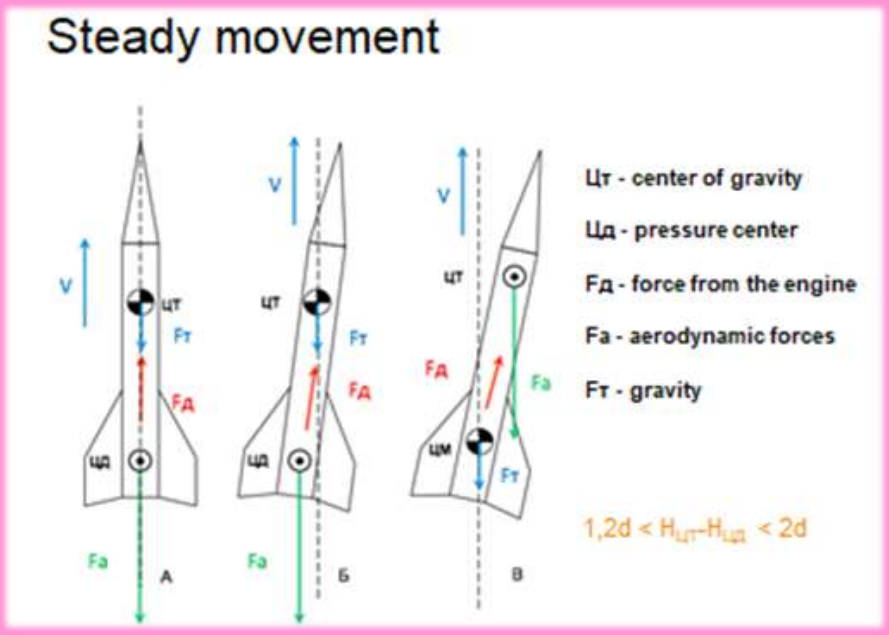
STEM in Rocketry and Satellite Construction

We are talking lots about the STEM Courses such as 1) Robotics, 2) AI and ML, 3) IoT (Internet of Things), 4) Coding, 5) Drone, 6) Data Science, 7) 3 D Printing etc...But in India we rarely hear about the STEM Courses such as Rocketry and Satellite Construction...

Medovaya Consultants Private Limited, Madurai, Tamilnadu, India, in association with Model Rocketry Society, Trissur, Kerala, is offering educational kits manufactured and curriculum developed by Education of Future LLC, Moscow, Russian Federation, for Rocketry and Satellite Construction courses for School Children and College Students.

We offer the following Educational Kits in Rocketry:

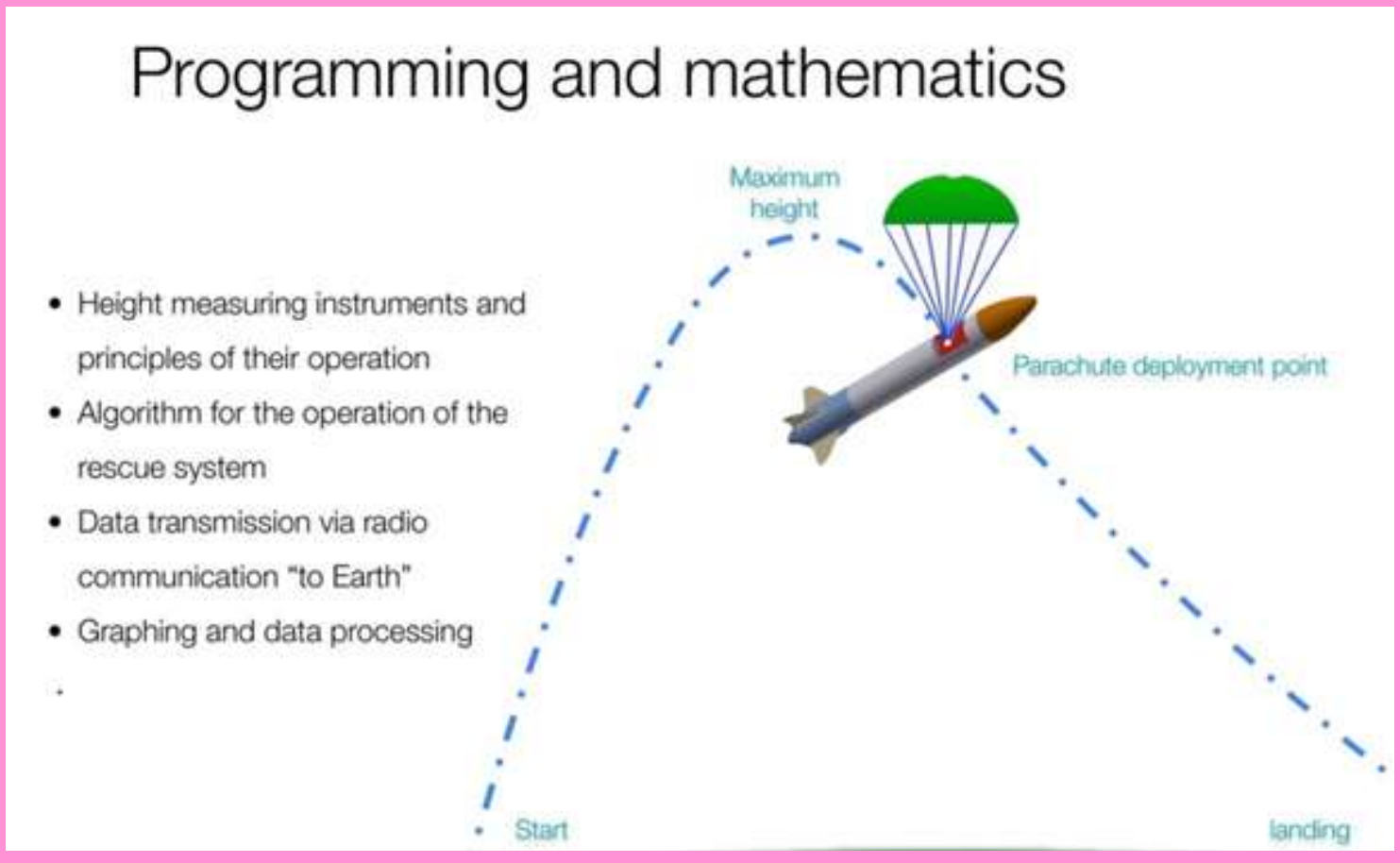
- Water Rocket Education construction kit VRO-1;
- Water Rocket Launch Table with Radio
- Set "Rocket Science" for a course for 5 students
- Set "Rocket Science" for a course for 15 students
- Solid fuel rocket education constructor kit K3 MAX (without engine)
- Solid fuel Rocket Launch Table with Radio;
- Set "Solid fuel rockets" for 15 students with a launcher (5 teams)
- Set “Water Rockets” for 15 students (5 teams)

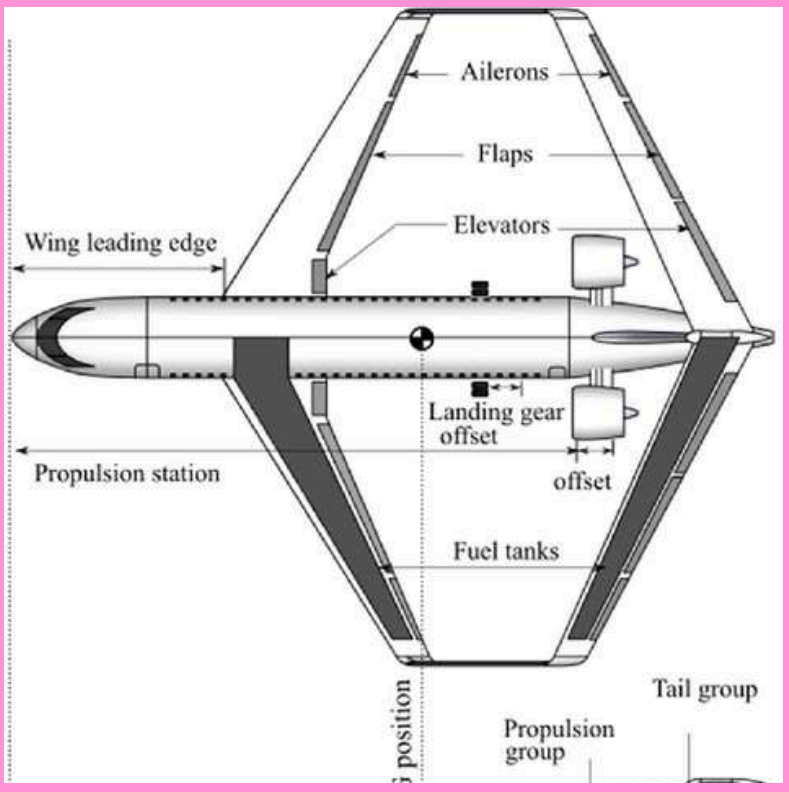


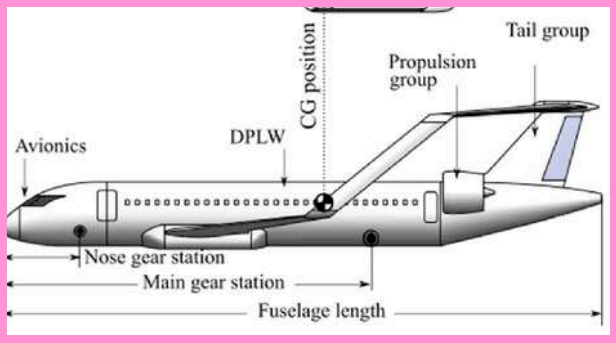
By doing Rocketry STEM course students will get theoretical and practical hands on experience in Rocket Science, understand better about the outer space, Karman line, Construction of Rocket and its physical principles. Besides that the students able to write coding for rocker launch and safe parachute landing of the Rocket....

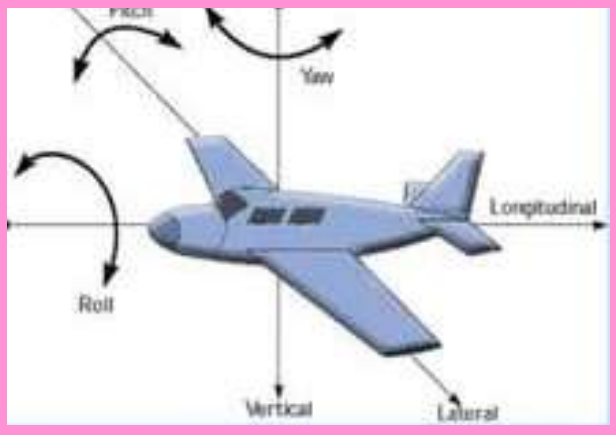
Topics Covered:

Following topics will be covered while undergoing STEM Education in Rocketry: History of rocket science, designing rocket models, 3D modeling, manufacturing of rocket parts on a 3D printer, laser cutting machine, Electronics - Arduino, sensors, programming in the Arduino IDE (Arduino Integrated Development Environment)









Additionally, students will gain hands-on experience in essential engineering skills, including Modeling, Design, Study of Flight Physics, work with electronics, microcontroller programming, the calculation of flight characteristics and their experimental verification.

To spark interest among students, Dr. M.R.K Menon, Secretary of Model Rocketry Society, India suggested conducting a National Level Rocketry Competition among school students. Education of Future LLC, Moscow, Russian Federation as a Main Sponsor, Model Rocketry Society, India in association with Medovaya Consultants, Private Limited and Algebra Global School is planning to conduct a two day National Level Rocketry Competition in the City of Trissur, Kerala State, India in late September 2024.

We hope that this event will inspire the student community to construct and launch more rockets, fueling their passion for exploring outer space. Such initiatives aim to ignite curiosity, foster innovation, and prepare the next generation of aerospace engineers.

By
Ms. B.B Roopavathy
Chairman and Managing Director
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(Option 1)

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ONLINE CLASSES

DURATION : 10 HOURS

1. NASA Modules
2. Astronomy Basics
3. Career Assessment & Counselling
4. Experimental Rocketry Design, Construction & Launching.
5. Basic RC Aircraft Technology

DATE, DAY & TIMING

TO BE DECIDED BY SCHOOL

ALL INCLUSIVE

BASIC AEROMODELLING

DURATION : 20 HOURS

LIVE Classes Delivered by Dr.(Hon.) M.R.K.Menon ISRO Space Tutor

1. Detailed Introduction to the Course.
2. Introduction to 'Aeromodelling, Rocketry & Drone Technology'.

2. Parts of an Airplane
3. Theory of Flight
4. Basic of Physics
5. Tools/Materials/ Techniques
6. Piper Cub Model Construction

3. Diorama Construction
4. Introduction to Chuck Gliders
5. Construction of Sr. Chuck Glider

4. Introduction to Rubber Powered Models
5. Construction of Stratus Rubber Powered Model

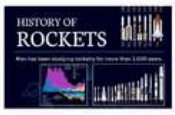
5. Construction, Diagnosis, and Flying of Chuck Glider and Rubber Powered Models.

Competition 1: Diorama Model
Competition 2: Model Flying

ADVANCED MODEL ROCKETRY

DURATION : 20 HOURS

LIVE Classes by Rocketry Experts Associated with the University of Moscow, Russia



1. History of Rocket Science
2. The Basic Design parameters of the rocket.
3. The Study of Flight Physics

2. The Ballistics of the Rocket Flight
3. Designing of Rocket Models
4. 3D Modeling

3. Manufacturing of parts on a 3D printer
4. Electronics - Arduino, Sensors
5. Programming in the Arduino IDE

4. Parachute Election
5. Cansat Basics
6. Cansat Construction
7. Cansat Demo

5. Radio Communication
6. Types of Antennas and Telemetry Transmission

Competition 3:Rocketry Construction Competition

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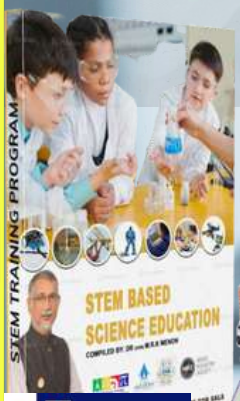

3 Written test & 1 Project Work

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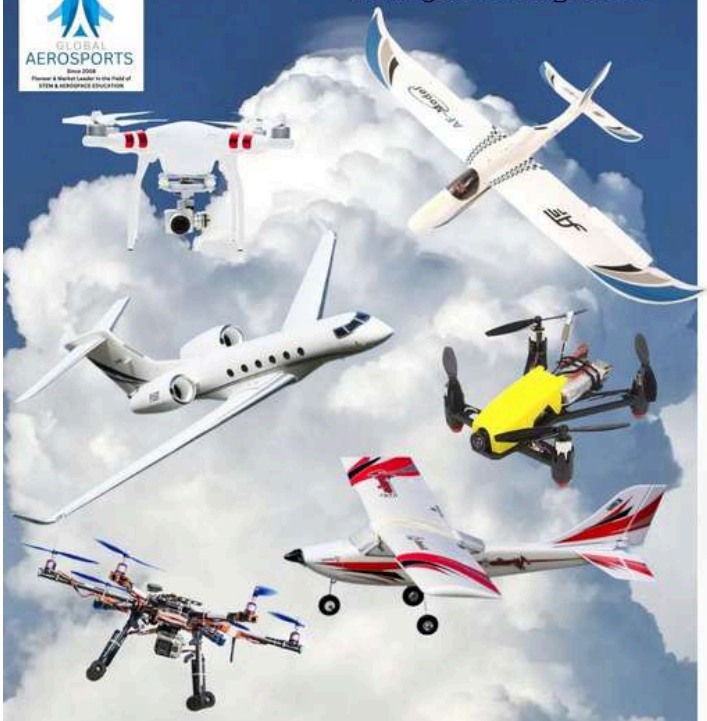

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   - Construction of Sr. Chuck Glider

4. Introduction to Rubber Powered Models
   - Construction of Stratus Rubber Powered Model

5. Construction, Diagnosis, and Flying of Chuck Glider and Rubber Powered Models.

Competition 1: Diorama Model
Competition 2: Model Flying

DRONE TECHNOLOGY

DURATION : 20 HOURS

LIVE Classes Delivered by Mr. Shobhit Agarwal Drone Expert

1. Introduction to Drone Technology
   - Construction of Micro Drones

2. Construction of Commercial Drone
   - Drone RC Electronics

3. Drone Flight Simulators

4. Drone Project Work

5. Drone FPV, WPP, RTH etc.
   - Drone Regulations
   - Drone Applications

Competition 3:Drone Racing Competition

MODEL ROCKETRY SOCIETY

C/O GLOBAL AEROSPORTS

PRESENTS

India's First Model Rocketry Competition




Host : Algebra Global School

OUR DISTINGUISHED JUDGES

MS. ALISA ZARIPOVA
Satellite Expert

MR. KLIMOV KONSTANTIN
Rocketry Expert

VENUE : ALGEBRA GLOBAL SCHOOL, KOPPAM, PATTAMBI, PALAKKAD, KERALA, INDIA

MONTH : SEPTEMBER 2024

Our Sponsors : Education of Future LLC, Moscow, Russian Federation

50 Schools will be invited to take part in this Unique & Exciting Program

Please Contact us If you are interested in participating;

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