



IESL
JIY

**JUNIOR INVENTOR OF
THE YEAR 2025**

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வழிகாட்டல் புத்தகம்
BOOK OF GUIDELINES**



Junior Inventor of the Year 2025

INSTITUTION OF ENGINEERS, SRI LANKA



The above competition has been organized by the Institution of Engineers, Sri Lanka in collaboration with the Ministry of Education for the Sri Lankan youth between the ages of 12-19 to enhance the creativity and skills of the younger generation.

1.0 Introduction

1.1 What is an Invention?

An invention is the creation and introduction of some product, appliance, or a concept that is not in use at present.

1.1.1 Invention

An invention is the designing, processing, and introducing of a new product or technique, made on a basic concept that is not in existence at present.

1.1.2 Innovative Design

An innovative design differs from an invention, which is defined as the creation of an entirely new product having thoroughly studied the existing designs, appliances, or techniques and functions which will address the needs of the society. This must not be a replica of an existing design of a product.

1.2 The methods of presenting an Invention

1.2.1 Basic Design

This means an invention that demonstrates all of its main aspects built to full scale. It could either be a working unit or a non-working unit.

1.2.2 Working Models

This is a scaled model of an invention that works in the same way as the basic design.

1.2.3 Workable Models

As a workable model, even if the model is not giving the final intended outcome, it could be used to exhibit the basic functions of a working model.

2.0 Instructions for applying

2.1 The students can showcase their innovative product, appliance, or the concept with or without the basic design or a working model, using a computer simulation, software, video or a poster. However, the presentation of a working physical or digital model will carry a higher weight.

2.2 Applications and all relevant details of the competition can be obtained

- By visiting the <https://jiy.iesl.lk> website or
- Sending an email to jiy@iesl.lk (insert subject heading as 'Information on JIY') or
- Sending an envelope of 9 × 4 inches in size to the address given below. Write "Junior Inventor of the Year Application" on the top left corner of the envelope:

Deputy Executive Secretary (Education),
The Institution of Engineers, Sri Lanka,
No. 120/15, Wijerama Mawatha, Colombo-07.
Telephone: 011-2698426
Fax: 011-2699202
E-Mail jiy@iesl.lk

All applicants are encouraged to use the website for this purpose.

2.2 The competition is open to **individual or groups of students** who are eager to showcase their solutions to existing issues in households and national level. A team shall not exceed **five members**. Individual applicants and each applicant of the team should submit the J application separately (All the members of the team participants should mention the same information regarding the invention or innovation on the J application).

2.3 Registration procedure

2.3.1 STEP 1 – Initial registration (should be completed on or before 30th of April 2025)

All applicants should register for JIY through the website (<https://jiy.iesl.lk>)
(or by visiting www.iesl.lk □ Home □ Chapter & Forum □ Forums □ IESL JIY □ Registration)

2.3.2 STEP 2 – J application submission (should be completed on or before 31st of July 2025)

The J application is for compiling member details and collecting details on inventions and innovations. Please refer to below point 2.4 before filling the J2 part of the J application. It is compulsory to submit the J application to complete the registration for the JIY competition.

2.3.3 Students may fill and submit the J application by following the method given below,

- Fill in the J application through the website.

Beginning from JIY 2025, applicants are not allowed to submit applications through email or postal methods.

2.4 Details of the product, appliance, or the concept (innovation) and its functions should be included in the J application. Applications without such details will not be considered for the initial screening process. If there are any revisions to the invention or innovation suggested, they can be incorporated after the submission. However, when the final invention is submitted for the initial screening process, relevant revision details should be presented along with it. Further, with the final invention, a logbook endorsed with experiments, observations, results, and issues that cropped up during the invention process should be submitted for evaluation.

3.0 The basis of instructions and evaluation of the invention

3.1 Instructions regarding the invention

- 3.1.1** The presentation of the invention is preferable to be simple.
- 3.1.2** The invention should be useful and fulfill a social need.
- 3.1.3** The invention should match with the country's development goals.
- 3.1.4** The winning inventions should possess qualities stipulated in the basis of evaluation.
- 3.1.5** In the case of electro-mechanical designs, except for the bearings, motors, and electronic parts, all other parts must be inventions by the applicant.
- 3.1.6** In mechanical designs, welding and bracing should be used only in places where essential.
- 3.1.7** Explosive material or other hazardous substances should not be used in the invention.
- 3.1.8** The product, appliance or the concept should not raise a threat to any living being.
- 3.1.9** Models and copies of existing objects and working processes will not be accepted as inventions or innovations.
- 3.1.10** Any products, appliances or concepts borrowed from the Internet should be cited and undergo prominent modifications to avoid being a copy of the borrowed item. It is advised to borrow only the idea and innovate a new product.

3.2 Basis of evaluation of Designs

The following assessment criteria will be used in evaluating inventions and innovations presented at the competition.

- 3.2.1** Originality and creativity
- 3.2.2** Relevance to the JIY 2025 themes
- 3.2.3** Social and economic impact
- 3.2.4** Execution of the idea with a working model
- 3.2.5** Feasibility and ease of implementation (to address a real-world problem)
- 3.2.6** Market readiness
- 3.2.7** Presentation and communication

3.3 Themes for JIY 2025 and Ideas for Innovations

Innovations for JIY 2025 are classified under seven (7) themes based on local social and economic challenges, and technological frontiers in alignment with the Sustainable Development Goals. Your innovation shall be listed under one theme. The panel of judges reserves the authority to reclassify the submission if they determine that it fits under a different theme.

The key focus areas of JIY 2025 are digital transformation, human-machine interaction and entrepreneurship, which are applicable to all themes explained below. Description given under each theme are merely to provide a guidance on the direction and scope, and applicants are free to develop their own innovations to fit any of the themes according to its overall impact.

3.3.1 Promoting Sustainable Energy and Environmental Conservation

Applicants may develop innovative clean energy solutions, environmental conservation techniques, and create waste management systems like recycling and waste-to-energy technologies. These solutions shall reduce pollution, conserve resources, and support a sustainable future, empowering communities to adopt greener practices and contribute to sustainable development goals.

3.3.2 Improving Quality of Life

Innovative solutions may address household activities, public transportation, public service delivery, but not limited to inventions that ultimately enhance well-being, efficiency, and accessibility, making daily life easier for Sri Lankans across the nation.

3.3.3 Promoting Health and Safety

Innovations may promote health through the development of improved medical technologies, digital health solutions, and accessible healthcare services, ensuring better diagnosis, and treatment, but not limited to these aspects. In terms of safety, advancements in workplace protection, disaster response systems, and smart monitoring technologies help prevent accidents and enhance security in daily life, but are not limited to these innovations.

3.3.4 Value Addition to Sri Lanka's Local Resources

Applicants can explore ways to add value to Sri Lanka's natural resources (e.g., minerals such as graphite, sands, phosphate...), traditional technologies (e.g., blacksmith, clay products, handicrafts...), and systems creating value added products and services. This can boost exports, support sustainable practices, and promote economic growth, ensuring the sustainable use of natural resources for future generations.

3.3.5 Promoting Cultural Heritage and Modern Tourism

Innovative ideas can blend Sri Lanka's rich cultural heritage with modern tourism. This includes virtual tours, augmented reality, and eco-friendly travel. Promoting local crafts, music, and cuisine alongside sustainable tourism practices can preserve culture while providing visitors with modern, enriching experiences, boosting the tourism sector.

3.3.6 Improving Agriculture and Food Security

Innovative farming technologies, such as precision agriculture, can optimize crop yields (e.g. export crops such as tea, coconut, rubber, spices, sea weeds) and sustainability. Improved irrigation, pest control, and food distribution through digital platforms can reduce waste and ensure food security, strengthening Sri Lanka's agriculture sector and ensuring consistent food production for the population.

3.3.7 Innovative Tools for Education and Skills Development

Innovations in education can provide access to digital learning, skill-building platforms, systems, and interactive tools like apps and virtual classrooms. These solutions can bridge educational gaps, engage students, and enhance vocational training, empowering young people with the skills needed for employment and contributing to future economic growth.

3.4 Reasons to Reject Nominations

- 3.4.1 Products using explosives or radioactive materials.
- 3.4.2 Models of existing products and processes.
- 3.4.3 Products that can cause harm to humans and animals.
- 3.4.4 Products/models that contain/use live specimens.
- 3.4.5 Products/models that contain/use firearms.
- 3.4.6 Equipment that operates on 440 volts and above.

3.5 Information sharing sessions will be organized in due course to increase the awareness on the themes and outcomes of the competition.

4.0 Competition Timetable

- Provincial evaluations – August 2025
- Final evaluation – October 2025

5.0 Awards

5.1 Following awards will be presented to the overall winners of the competition.

Table 2: Awards for Title Winners

| | |
|-----------------------|--|
| 1 st Place | The esteemed title of the 'Junior Inventor of the Year' Cash Prize of Rs. 100,000/= A Gold Medal and Certificate(s). |
| 2 nd Place | Cash Prize of Rs. 75,000/= A Silver Medal and Certificate(s) |
| 3 rd Place | Cash Prize of Rs. 50,000/= A Bronze Medal and Certificate(s) |

5.2 The winners of the competition for innovations in the seven (7) themes will receive the prices given in Table 3.

- Theme 1: Promoting Sustainable Energy and Environmental Conservation
- Theme 2: Improving Quality of Life
- Theme 3: Promoting Health and Well-being
- Theme 4: Value Addition to Sri Lanka’s Natural Resources
- Theme 5: Promoting Cultural Heritage and Modern Tourism
- Theme 6: Improving Agriculture and Food Security
- Theme 7: Innovative Tools for Education and Skill Development

Table 3: Awards for Category Winners

| | |
|-----------------------|---|
| 1 st Place | The esteemed title of “The Most Innovative Solution Under the Theme..... ” Cash Prize of Rs. 25,000/=, a Gold Medal, and Certificate(s). |
| 2 nd Place | Cash Prize of Rs. 20,000/=, a Silver medal, and Certificate(s). |
| 3 rd Place | Cash Prize of Rs. 15,000/=, a Bronze Medal, and Certificate(s). |

5.3 In addition, the winners will receive the following rewards.

- Scholarships will be awarded to the three title winners, to cover the expenses until the end of University education.
- The three title winners and the seven category winners will be given a research internship at the University of Moratuwa.
- If the title winner is studying at a school, the IESL Challenge Cup with a Cash Prize of Rs. 100,000 will be awarded to the school.
- The best teacher who is recognized to have guided participants in this competition will be awarded a special certificate and a monetary prize of Rs 50,000.
- All provincial winners will be rewarded with a certificate.

5.4 First three title winners and category winners will receive their medals, certificates, and Prizes, at the session held at BMICH, from the chief guest, concurrent with the annual sessions 2025 of the Institution of Engineers, Sri Lanka. Other winners will receive their prizes and certificates from the Chief Guest, at the IESL Techno exhibition.

5.5 The winners will get an opportunity to display their inventions at the National Engineering Exhibition - "Techno 2025", which will be held at the BMICH in October 2025.

6.0 Regulations

6.1 This Competition will be open to all Sri Lankan students who are between the ages of 12-19 years as of 20th October 2025.

6.2 Every possible endeavor should be made to present a unique invention by the applicants. An invention presented to a competition organized by IESL or any other institution will be accepted only if it has been considerably improved subsequently, and an award has not been granted on an earlier occasion. A declaration to this effect should be submitted with a clear description, with details of the invention and the subsequent improvements in detail.

6.3 Supportive evidence should be presented to prove that the basic idea and the invention are an effort of the inventor, him/herself. However, this will not hamper the opportunity to seek assistance from the elders.

6.4 A duplicate of a product that is in the market at present or with minor changes, will not be accepted at the competition.

6.5 A few examples of the inventions presented repeatedly for the same purpose are listed below. Presentation of such inventions will be disadvantageous to the competitors.

- Fruit pickers
- A model of an existing vehicle or machine
- Common electronic circuits
- Sand or flour strainer/sieve
- Mechanical appliances for removing cobwebs
- Water level indicator
- Elephant collars

- 6.6** The conditions and rules of the competition will be changed at the discretion of the IESL. Such changes will be notified to the prospective candidates in advance.
- 6.7** If a winning invention of the JIY competition is to be exhibited in another competition/ exhibition, a signboard of 20cm × 10cm in size should be displayed along with it, stating that, it has been presented to the Junior Inventor of the Year competition organized by the IESL, and has won the respective award for that year. This presentation should ONLY be done by the winner him/herself, with the written approval of the IESL.
- 6.8** In the event that a person who has received an award is discovered subsequently to have violated a condition or a rule of the competition, the award will be revoked and the person will be required to return all rewards, including prizes, medals, and certificates. He/she will be debarred from appearing for any other competition organized by the IESL.
- 6.9** IESL does not recommend spending a large amount of money on the projects, under any circumstances. The committee or the judges will not consider the monetary value of the project for the evaluation, and will not be liable to reimburse any of the expenses incurred.
- 6.10** The competitors should strictly abide by the rules and regulations of the competition. If any candidate does not comply, they will be disqualified from entering the competition. The decision by the IESL concerning the awards of the competition will be final.

Jiy winners who received international recognitions in the past are given below.

Jiy WINNERS 2007

1. **Yasith Kanchana Lokuge - Colombo**
 - Intel ISEF 2008 Finalist - Atlanta, USA
 - Herbert Hoover Medal - International Exhibition for Young Inventors
 - Award for Mechanical Structural Design - Silver
 - Award for Safety & Healthy Enhancement – Bronze

2. **Sajeewa Dinesh Hendurugoda - Kandy**
 - Intel ISEF 2008 Finalist - Atlanta, USA

Jiy WINNERS 2008

1. **Chandula Padmasiri - Colombo**
 - Intel ISEF Grand Award - Third place

2. **Janith Kalpa Gunarathna - Colombo**
 - National Society of Professional Engineers, USA Award

3. **Ganindu Nanayakkara - Colombo**
 - National Society of Professional Engineers, USA Award

4. **Jayasanka Dushan Abayaprema - Colombo**
 - Intel Excellence Award

5. **Chaga Thejo Bandara Edirisinghe - Gampaha**
 - Yale Science & Engineering Association Award

Jiy WINNERS 2009

1. **Ganindu Nanayakkara - Colombo**
 - Intel ISEF Grand Award
 - Intel excellence Award
 - China Association for Science & Technology Award
 - Symantec Corporation Award
 - National Collegiate Inventors & Innovators Alliance/The Lemelson Foundation Award

2. **Maduranga Karunajeewa - Ruwanwella**
 - Intel ISEF Finalist
 - Presidential award winner (Transport category)-SLIC

JIY WINNERS 2010

- 1. Timira Shanuka Thilakarathne - Veyangoda**
 - Intel ISEF Finalist
 - Intel excellence Award in Computer Science
 -
- 2. Aruna Prasad Keerthirathne - Kandy**
 - Intel ISEF Finalist

JIY WINNERS 2011

- 1. Nipuna Kavishka Silva, Pipunika Vimanthi Silva - Kandana**
 - IEEE Award
 - Intel ISEF Finalist
 - Intel Excellence Award in Computer Science
- 2. Chathura Saman Kumara - Ruwanwella**
 - Intel ISEF Finalist

JIY WINNERS 2012

- 1. Pubudu Dinesh Kapuge - Mihinthale**
 - Intel ISEF Grand Award-Electrical & Mechanical Engineering – 1st Place
 - Special award from the Ashtavadhani Vidwan Ambati Subbaraya Chetty Foundation
- 2. Pasindu Chathuranga Wijesena - Colombo**
 - Intel ISEF Finalist

JIY WINNERS 2013

- 1. Namal Udara Piyasiri - Thambuththegama**
 - Intel ISEF Grand Award-Electrical & Mechanical Engineering – 2nd Place - \$1,500
 - Special award from the American Intellectual Property Law Association- \$1,000
 - Special award from U.S. Agency for International Development - \$10,000
- 2. Nipun Kavishka Silva - Kandana**
 - Intel ISEF Grand Award - Computer Science – 4th Place - \$500

JIY WINNERS 2014

- 1. Sanju Subodha Sewwandi - Kaduwela**
- Intel ISEF Grand Award - Engineering Mechanics – 4th Place - \$500
- 2. Mahendiran Sivatharshan – Jaffna**
- Intel ISEF Finalist

JIY WINNERS 2015

- 1. Abishek Stenush Gomes - Wellawaththa**
- Intel ISEF Grand Award – Embedded Systems – 3rd Place - \$100
- Special award from the Synaptics incorporated- \$2,000
- Special award first place from the Patent and Trademark Office Society - \$500
- 2. Chamindu Jayasanka - Hanwella**
- Special award top place from the Patent and Trademark Office Society - \$1,000

JIY WINNERS 2016

- 1. Wishwajith Gangodawila - Narammala**
- Intel ISEF Grand Award – Engineering Mechanic – 4th Place
- 2. Sanuja Udantha Abeywickrama – Ambalangoda**
-Intel ISEF Finalist

JIY WINNERS 2017

- 1. G. Kavinda Bandara & K. Gimhan Wijayawardana**
- Intel ISEF Grand Award - Embedded Systems – 4th Place
- 2. Supun Sashipriya Silva – Kandana**
- Intel ISEF Finalist

JIY WINNERS 2018

- 1. Kavin Budwin Udapola - Sandalankawa**
- Intel ISEF Grand Award - Embedded Systems – 3rd Place
- 2. Mohomed Ayyash – Mawanella**
- Intel ISEF Finalist

JIY WINNERS 2024

- 1. Harsha Bandara Madawala – Mayurapada Vidyalaya**
- Regeneron ISEF Ricoh Sustainable Development Award

- 2. Chirath Adithya Bimsara Senanayake – Saranath National College, Kuliyaipitiya**
- Regeneron ISEF Yale Science and Engineering Association Award

- 3. K.L. Nadeeja Prathibhana – Thurstan College, Colombo-07**
- Regeneron ISEF Community Innovator Award