

# SCIENCE

TECHNOLOGY AND INNOVATION

EMPOWERED TO INNOVATE

UNDER THE AEGIS OF THE BOARD OF DIRECTORS  
INDIAN SCHOOLS, SULTANATE OF OMAN

Organised by

INDIAN SCHOOL AL MAABELA

# STAI

# HAND BOOK

# 2023

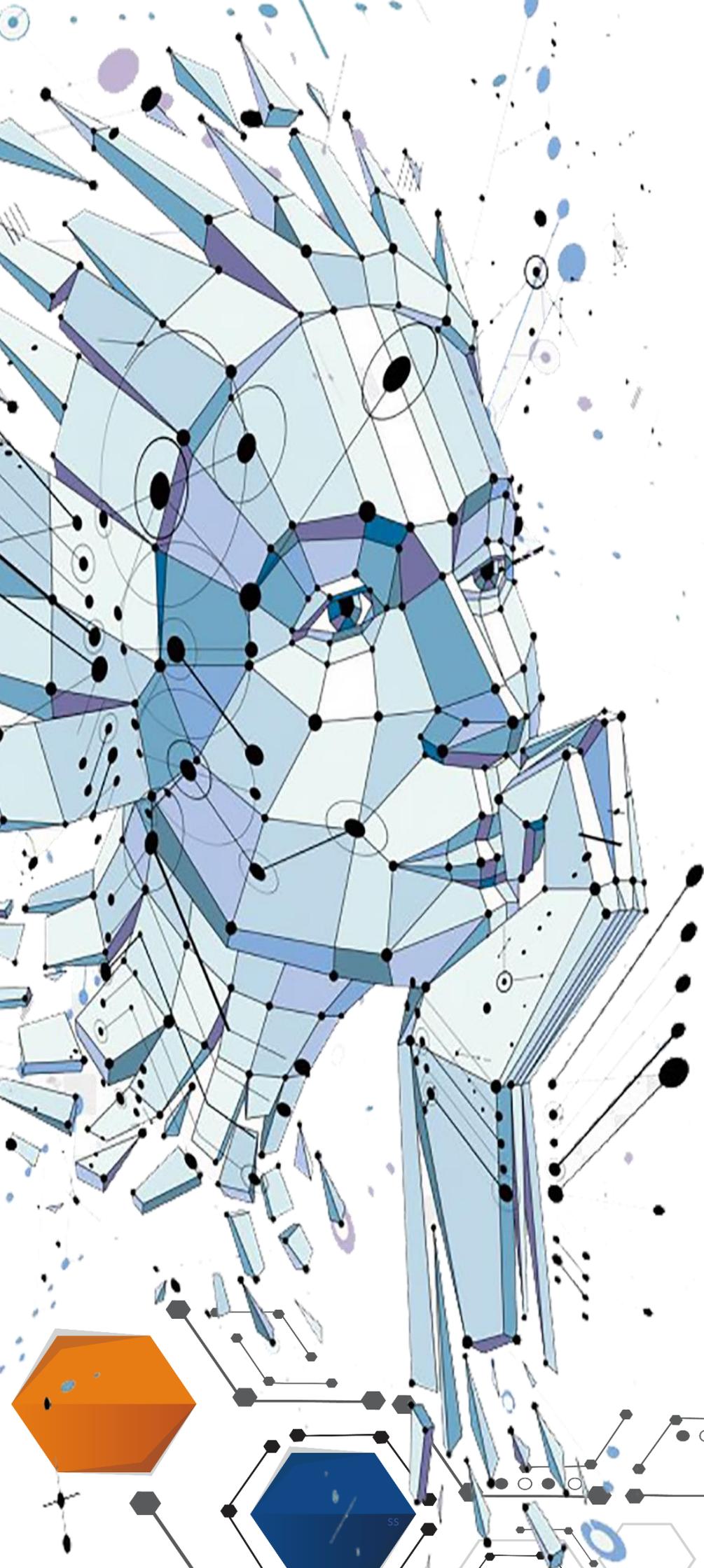


September

8 and 9

2023





ભારતીય શિક્ષકોનો મંડળ,  
BOARD OF DIRECTORS



# SCIENCE TECHNOLOGY & INNOVATION

## EMPOWERED TO INNOVATE

### FOREWORD

*Indian School Al Maabela in its incredible journey of excellence, is reaching the next milestone as it completes 13 years. ISAM is always striving to offer a vibrant and holistic education, where pupils are challenged and engaged in a range of intellectual, social, ethical and philosophical ways which enable them to develop their learning skills, independent thoughts, creativity and a love of learning. We are much obliged to the abundant and continuous guidance and support of the Board of Directors in all our endeavours, which persistently inspire us to explore and go forward at every phase of our growth and in every challenge we face, as we soar to heights of success.*

***‘Create with the heart; build with the mind.’ – Criss Jami***

*Under the aegis of the Board of Directors of Indian Schools in the Sultanate of Oman, Indian School Al Maabela is extremely delighted to host **STAI-2023 (SCIENCE TECHNOLOGY AND INNOVATION)** edition to instill the scientific temper in students. STAI aims to promote student involvement, retention and growth in the fields of science, technology and innovation. It also offers students an opportunity to investigate new concepts, delve deeper into their expertise, and stimulate their interest in the same. STAI 2023 competitions will operate in a hybrid format with online and offline events.*

*We solicit the lively and zealous participation of all Indian schools in Oman and anticipate your unswerving cooperation in making this fiesta of knowledge a celebration wherein the students can nourish and nurture their scientific, technological and innovative ideas. We are much elated to invite Private, International & Ministry schools to participate in Science Exhibition (offline).*

***Grab this golden opportunity and join us to shape the future!***

**Team STAI 2023**  
**Indian School Al Maabela**



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## EVENT DESCRIPTION

- Events are conducted under the domains of Science, Technology and Innovation.
- Students from grades III to XII can showcase their talent.
- Grades III to XII are divided into three categories:

CATEGORY	CLASS	NAME OF THE CATEGORY
1	III to V	Sub-junior
2	VI to VIII	Junior
3	IX to XII	Senior

- Registration will be accepted only in the prescribed format as mentioned in the handbook.
- Participating schools should inform the students about the events well in advance.
- Each criterion is given 10 points. The scores are collated and final scores are graded as A+, A, B+ & B.
- **Certificates of merit** will be awarded to

First  $\frac{1}{4}$ <sup>th</sup> above the mean points : A+

Second  $\frac{1}{4}$ <sup>th</sup> above the mean points: A

Third  $\frac{1}{4}$ <sup>th</sup> above the mean points: B+

Fourth  $\frac{1}{4}$ <sup>th</sup> above the mean points: B

Scores below the mean points (mentioned above) would be eligible only for participation certificate.

- The grades represent the performance of the participants as defined below:

Grades	Performance
A+	Outstanding
A	Excellent
B+	Very good
B	Good

- Decision of the judges will be final.

## LIST OF EVENTS

EVENTS	CATEGORY	EVENT CODE
Super Spellerz	Sub-Junior	SSSJ
Tell Me Why?	Sub -Junior	TWSJ
Web-design showdown	Junior	WDJ
	Senior	WDS
Robo Race	Junior	RRJ
Codex	Senior	CDXS
Conscientia	Junior	CSJ
	Senior	CSS
Young Scientist	Junior	YSJ
	Senior	YSS
Skidamu	Open category (Junior & Senior)	SKM
Hack with Ethics	Open category	HWE
Science Wizard	Sub Junior, Junior & Senior	Sub Junior- SCWSJ Junior- SCWJ Senior- SCWS



# REGISTRATION GUIDELINES

1. Registration form for each event will be provided.
2. Schools are expected to fill the form in the prescribed format given by the host school.
3. Registration should be done by the school coordinators.
4. For solo events, participant's passport size photo should be uploaded and for group events group photo of the participants should be uploaded.
5. STAI organisers must receive the photograph of the participants in the prescribed format.
  - jpeg/jpg- Size maximum 10 MB.
  - Renaming format for the photograph  
School code-event code-group no./participant no.  
Eg: 101-CDXJ-01
6. For Codex and Website Development events, related files are to be sent in the given format:  
School code-event code-group no./participant no.  
Eg: 101-CDXS-01
7. Participants should upload passport size photograph with white background (jpeg/jpg) as part of registration.
  - Registration opens on – 1 June'23
  - Registration closes on – 15 August '23

## Submission guidelines:(Codex and Website Development)

Schools must send their entries for **Codex And Website Development** in the prescribed format provided by the host school.

Google drive link will be provided for uploading the link for codex and website development.

Link will be available from 29 August 2023 till midnight of 03 September 2023

## SCHOOL CODES FOR STAI

Sl. No	SCHOOL	CODES
1	Indian School Al Ghubra	101
2	Indian School Al Maabela	102
3	Indian School Al Seeb	103
4	Indian School Al Wadi Al Kabir	104
5	Indian School Bousher	105
6	Indian School Buraimi	106
7	Indian School Darsait	107
8	Indian School Ibra	108
9	Indian School Ibri	109
10	Indian School Jalan	110
11	Indian School Khasab	111
12	Indian School Masirah	112
13	Indian School Muladha	113
14	Indian School Muscat	114
15	Indian School Nizwa	115
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18	Indian School Salalah	118
19	Indian School Sohar	119
20	Indian School Sur	120
21	Indian School Thumrait	121
22	Care & Special Education	122



# SUPER SPELLERZ

## General Guidelines:

- This event will be conducted for the sub-junior category (Classes 3 to 5)
- It is an individual event.
- The entries should be from students of different grades
- The participating school can register **two** students for this event.
- British English Spelling System should be followed.
- Dress code for the participants: Formals
- This event consists of 3 rounds.

## First Round: Solve the cross-word puzzle

- In this round, each contestant will be asked to solve the cross-word puzzle using the hints within the given time.
- Top 15 students will qualify for the second round.
- In case of tie, tie breaker round will be conducted.

## Second Round – Visual Round

- The second round is a picture round.
- Identify the picture and write the spelling in the given time.
- A maximum of 7 students will qualify for the third round.
- In case of tie, tie breaker round will be conducted.

## Third Round – Rapid Fire

- The third round is the Rapid-Fire round.
- Each contestant will be asked to spell out maximum words in one minute.
- Scores will be awarded based on the maximum number of correct answers.
- In case of tie, tie breaker round will be conducted.
- Judges' decision will be final.

## Evaluation Criteria:

- Accuracy in spelling
- Answering within the given time
- Position will be judged on the basis of the points scored by the participant in the third round.

# TELL ME WHY?

## General Guidelines:

- This event will be conducted for the sub-junior category (Classes 3 to 5)
- It will be a group event and the participating school can register **two** students in a group.
- The group should consist of students of two different grades.
- Students are expected to give exact answers.
- Judges' decision will be final.
- This event consists of 3 rounds
- Dress code for the participants: Formals

## First Round – Preliminary written round

- In this round, each group will be given reasoning questions to answer in the given time.
- 10 questions are to be answered in 15 minutes. Students have to write the answers.
- Top performing teams will be qualified for the second round. (Maximum 15 teams)
- In case of tie, tie breaker round will be conducted.

## Second Round –Audio-Visual

- The second round is the audio-visual round.
- One audio and one visual reasoning question will be asked to each group.
- The students are expected to write the answer within the given time.
- Top performing teams will be qualified for the third round. (Maximum 7 teams)
- In case of tie, tie breaker round will be conducted.

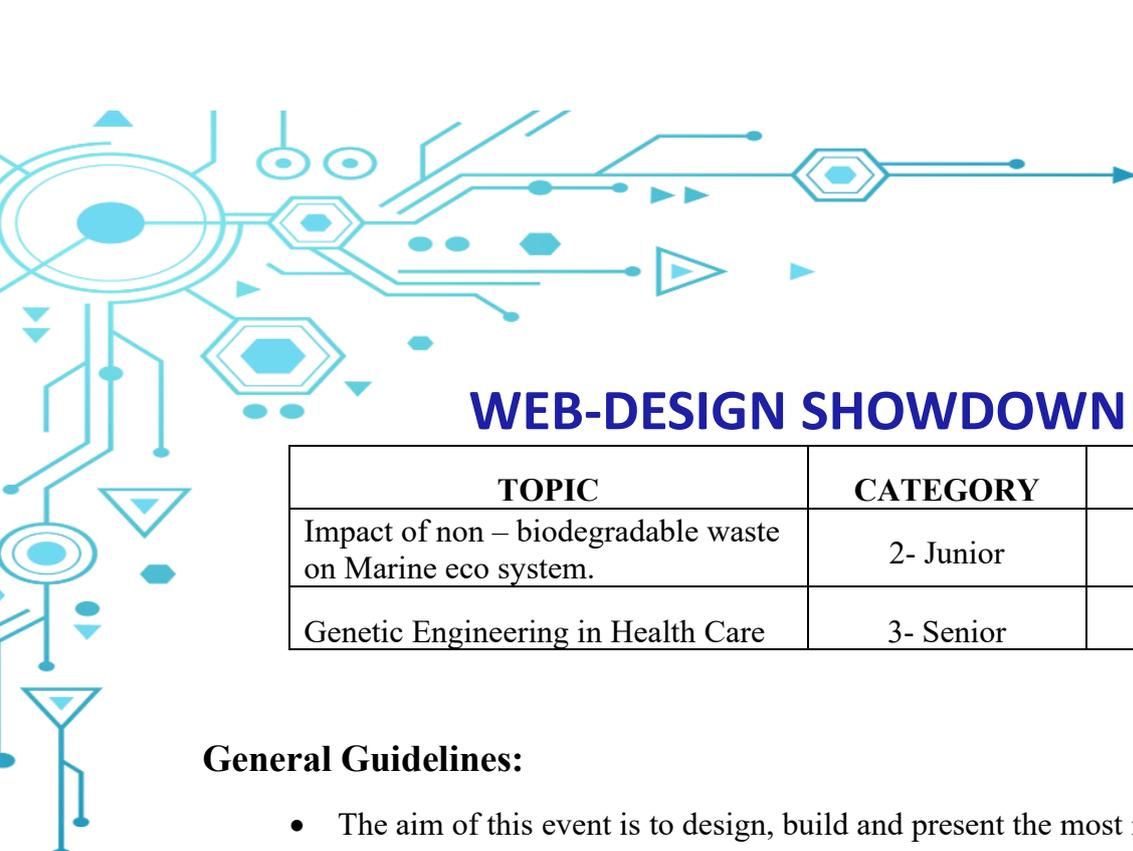
## Third Round – Buzzer round

- The third round is a Buzzer round.
- Scores will be awarded based on the speed and accuracy of the answers.

## Evaluation Criteria:

- Accuracy of answers
- Answering within the given time
- Position will be judged on the basis of the points scored by the teams in the third round.



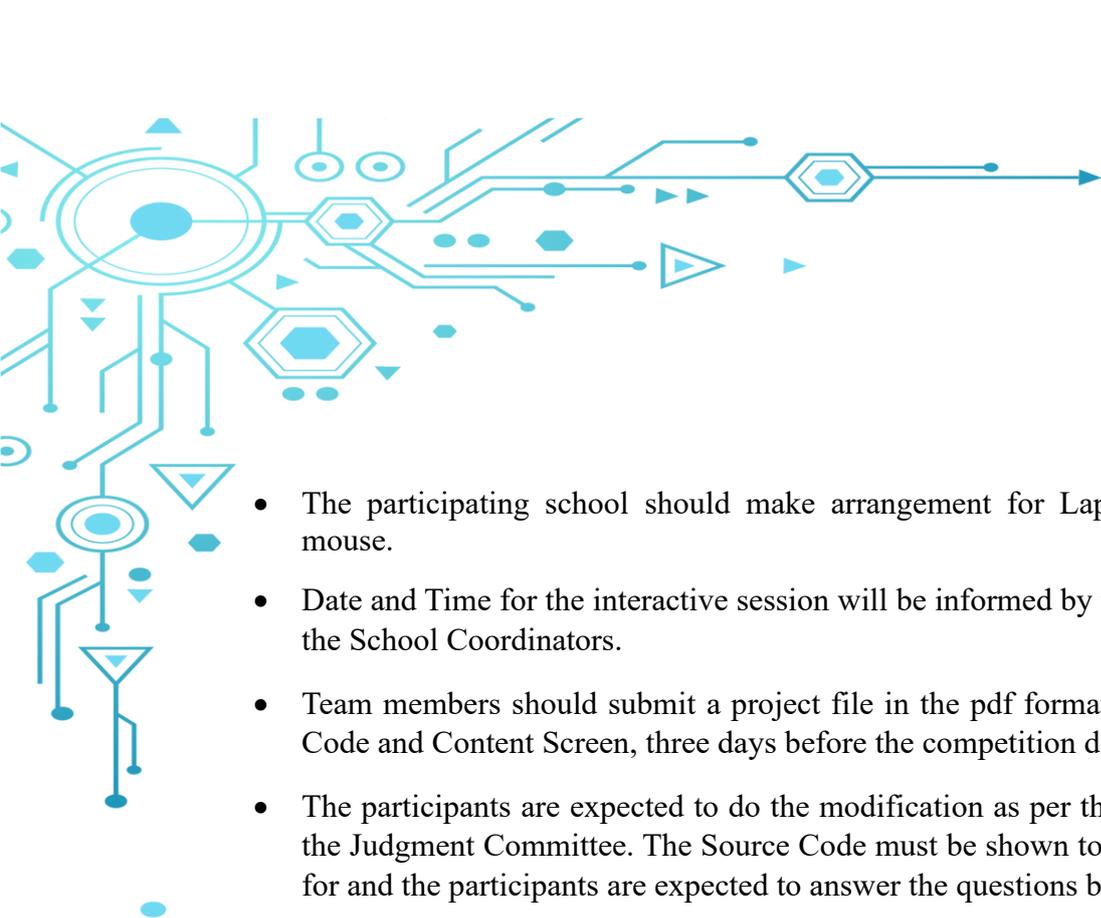


## WEB-DESIGN SHOWDOWN

TOPIC	CATEGORY	CLASS
Impact of non – biodegradable waste on Marine eco system.	2- Junior	VI to VIII
Genetic Engineering in Health Care	3- Senior	IX to XII

### General Guidelines:

- The aim of this event is to design, build and present the most innovative website.
- The competition requires a minimum of four pages of website content based on the topic given for the competition.
- English should be the medium of the Website content.
- Two teams from each category can participate from each school. In each group three members are allowed to participate.
- Web pages must use tools and techniques for web design that adhere to standards. A website web layout must be made from scratch or with any of the allowed web development software packages' designing features. Using a built-in website, automatic website generator from the internet or any other source without the creator's consent will be considered as plagiarism and can get disqualified by the judges.
- Templates: Templates must be created using any of the following methods:
  - From scratch.
  - From creating custom template files with editable and non-editable zones.
  - Use of any built-in template, template wizard, or template from the internet or any other source is not permitted, and will be considered as plagiarism.
- The aim of the competition is to create an original website. Therefore, any team found practising plagiarism, interfering with another team, or interfering with the competition in any form, will be immediately disqualified from the competition.
- Website must not contain any material deemed objectionable to STAI (e.g. no profanity, nothing offensive to a person's gender, ethnicity, or religious beliefs, no references to alcohol, tobacco, or drugs).
- Dress code for the participants: Formals.

- 
- The participating school should make arrangement for Laptop, USB & Wireless mouse.
  - Date and Time for the interactive session will be informed by the host school through the School Coordinators.
  - Team members should submit a project file in the pdf format comprising of Source Code and Content Screen, three days before the competition date.
  - The participants are expected to do the modification as per the instructions given by the Judgment Committee. The Source Code must be shown to the judges when asked for and the participants are expected to answer the questions based on the code.
  - Decision of the judges will be final.
  - Student must attend Q&A session at the host school.

### **Evaluation Criteria:**

- Content
- Aesthetics
- Design
- Usability and Accessibility
- Response to the Question(s)

**Total: 50 Points**



# ROBO RACE

## General Guidelines:

- This event will be conducted for the junior category from grade 6 to 8.
- Five teams can participate from each school. Maximum of four participants will be allowed in a team.
- Participants are required to design and construct the robotics model by making use of Lego EV3 Mindstorms kit and software only. No other kits and software are permitted.
- All participating teams must bring the necessary equipment such as an EV3 Kit and a laptop or a tablet with the EV3 software pre-installed.
- Stable internet connection will be provided from the host school to ensure the connectivity of the model.
- Duration of construction and programming for the models will be maximum 2 hours.
- The team has to demonstrate the model and explain the flow of the program used in the EV3 software.
- All the team members should have the programming knowledge and should be ready for the presentation and demonstration. The Judges will select the presenter.
- Question and answer session will be conducted after the demonstration.
- The decision of the judges will be final.
- Medium of presentation will be English.
- Dress code for the participants: Formals

## Evaluation Criteria

- . Creativity
- . Design of the model
- . Programming Skill
- . Performance in Q & A session
- . Demonstration and working of the model

**Total Points: 50**



# CODEX

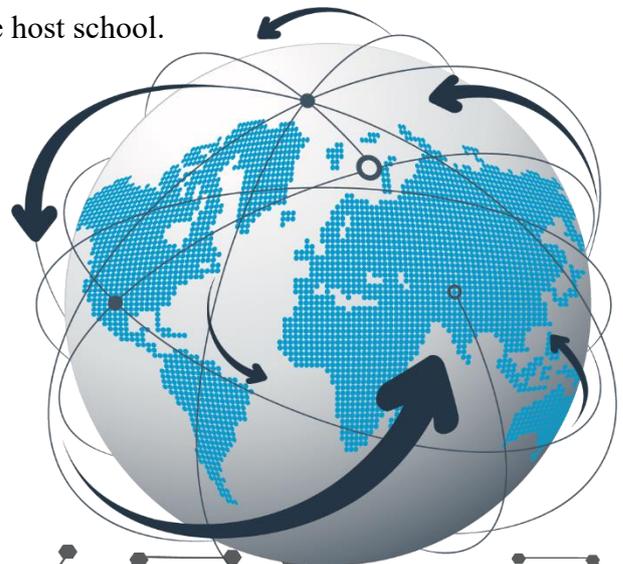
## General Guidelines:

- This event will be conducted for the senior category from grade 9 to 12.
- Two team can participate from each school. A maximum of three participants will be allowed in a group.
- The aim of this event is to design, build and present the most innovative solution for a real-world problem.
- Participants should create an Algorithm, Flow Chart and Source Code for the problem.
- The topic for the event will be shared with the School Coordinator 10 days prior to the competition date.
- Participants can choose any programming language to develop the source code.
- The team members should have adequate knowledge about the Programming language, Algorithm and Flow Chart.
- The final project must be an original work of the participants.
- Team members should submit a project file in the pdf format comprising of Content, Introduction, Algorithm, Flow Chart, Source Code and Conclusion.
- Date and Time for the interactive session will be informed by the host school through the School Coordinators.
- Dress code for the participants: Formals
- The participants are expected to do the modification as per the instructions given by the Judgment Committee. The source Code must be shown to the judges when asked for and the participants are expected to answer the questions based on the code.
- Decision of the judges will be final.
- Students must attend Q & A session at the host school.

## Evaluation Criteria:

- Originality and Creativity
- Functionality and Applicability
- Coding Skill
- Problem Solving Skills
- Presentation Skills

**Total: 50 Points**



# CONSCIENTIA

Topic	Category	Class
Data Science in healthcare	2- Junior	VI to VIII
Influence of climatic Pattern on the food chain supply globally using data science	3- Senior	IX to XII

## General Guidelines:

- The duration of Digital Symposium will be 10 minutes, which includes 7 minutes of digital display and 3 minutes of question-and-answer session. There will be negative marking, if the participant exceeds the time limit for presentation. A warning bell will be sounded at the end of 6.5 minutes and the final bell at the end of 7 minutes.
- There can be one team from each school under each category. Maximum of three participants from each team.
- The language of presentation will be English.
- Name of School should not appear in the presentation and the Presenter should not reveal the identity of his/her school during presentation.
- Dress code for the participants: Formals
- The participating school should make arrangement for Laptop, USB & Wireless mouse.
- USB should be handed over to the STAI Coordinator of the host school in advance on the event day.
- Host School shall provide the projector, screen etc. at the venue.
- The decision of the judges will be final.

## Evaluation Criteria:

- Content
- Digital Presentation
- Clarity and Body Language
- Creativity and Execution
- Response to Questions

**Total: 50 Points**



# YOUNG SCIENTIST

Topic	Category	Class
Science for Global well being	2- Junior	VI to VIII
Environmental Engineering	3- Senior	IX to XII

## General Guidelines:

- Science exhibits should be working models as per the given topic.
- One entry from each category.
- Number of students are restricted to three per exhibit. The participants of the group should be from different grades.
- All materials including display charts/foam boards, white cloth for tables, extension cords, double sided tape etc. for the exhibition should be arranged by the respective schools.
- Hazardous substances should not be used in the exhibit. The organisers reserve the right to reject the participation if the materials has any potential hazard.
- The power sockets and tables will be provided by the host school.
- Maximum area allotted to display the exhibit is 3m x 2m in size.
- The exhibits should be dismantled and taken away on the same day.
- Decision of the judges will be final.
- Medium of presentation will be English
- Dress code for the participant: Formals

## Evaluation Criteria:

- Display (Organization)
- Science (Principle)
- Creativity/Originality
- Usefulness to the Society
- Oral Presentation

**Total: 50 Points**



# SKIDAMU

## General Guidelines:

- Students from class 6 to 12 (open category) can participate in this event.
- Only one team, comprising of max 8 and min 6 members should participate. Team must be a mix of students from junior and senior category.
- Students have to present a skit which must include dialogue, dance and music.
- Music should not be a recorded one. Students should sing on the stage.
- Students are only allowed to present skit pertaining to Science. Any concept related to Science should be presented.
- Duration of the skit will be 10 min. Negative marking will be done for exceeding the time limit.
- Reading/referring script will not be permitted.
- Participants are not supposed to reveal the identity of the school.
- Medium of presentation will be English.
- Content related to ethnicity, religion & race are strictly prohibited
- Contents, costumes, dialogues should respect the culture and tradition of the Sultanate of Oman.
- Decisions of the judges will be final.
- Use of musical instruments optional.

## Evaluation Criteria:

- Music relevant to the topic. Rhythm and voice modulation in the music.
- Facial expression, body language, posture and rhythm -dance
- Set design and props.
- Synchronization with the topic
- Overall performance

**Total: 50 Points**



# HACK WITH ETHICS

## General Guidelines

- The aim of the event is to present ways to do ethical hacking. This helps to encourage young minds to discover that cyber security can be a stimulating intellectual challenge and how it could be used to figure out ways to strengthen the security of the system/network/applications.
- Students from grades 6 to 12 (open category) can participate in this event.
- A school can send only one team with a maximum of 4 students in a team.
- Topic will be given on the spot.
- Time limit- 5 hours including Q and A session with the judges in last one hour.
- During these 5 hours students will be required to stay at the allotted venue . Any team or team member who will leave the venue will be disqualified. (Teams will have access to washroom and refreshments during the event).
- Language of presentation will be English, and each team will be given maximum of 10 min duration to present their ideas in front of the judges.
- The participating school should make arrangements for the laptop
- Internet facility will be provided by the host school.
- Mentors will be present in the room to monitor the participants.
- Decision of the judges will be final.
- Dress code of the participants should be formal.

## Evaluation criteria:

- Innovation
- Technical merit
- Feasibility of solution for implementation
- Teamwork
- Presentation

**Total: 50 Points**

# SCIENCE WIZARD

## General Guidelines

- Science wizard is conducted to enhance the scientific curiosity and to encourage enthusiastic learning in the field of science and technology.
- Online examination will be conducted based on a given syllabus which will be shared later through the school coordinators.
- Students can participate under three categories: Sub-Junior, Junior and Senior.
- Mode of Questions: Multiple choice
- The question paper comprises 50 questions, with 10 extra questions.
- Students have to complete the examination within 50 minutes.
- Basic requirement: Strong internet connection and an active email address.
- The first five toppers in each category will be awarded with the title 'Science Wizard'.
- There is no restriction for the number of entries from each school under each category.

## DATES TO REMEMBER

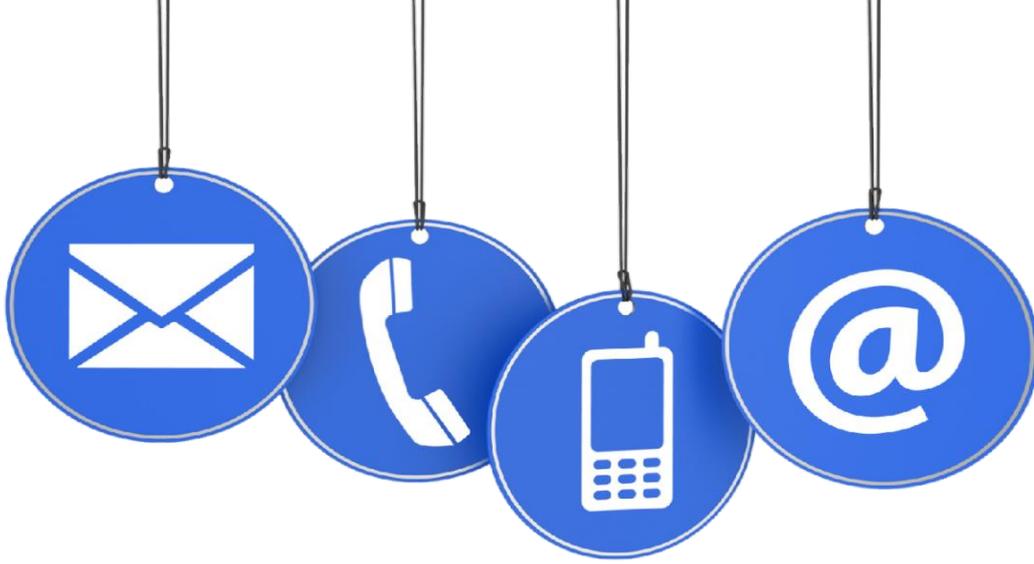
Registration opens on	<b>1 June'23</b>
Registration closes on	<b>15 August '23</b>
Submission of online entries (Website Development/Codex) through google drive- Opening date	<b>29 August'23</b>
Submission of online entries (Website Development/Codex) through google drive- Closing date	<b>03 September'23</b>
Inaugural ceremony	<b>08 September'23</b>
	<b>9:00 a.m. – 10:30 a.m.</b>
Valedictory function	<b>09 September'23</b>

## GENERAL GUIDELINES

- Host school will give the competition details, general instructions, rules and regulations.
- Participants are not supposed to reveal their identity or the identity of the school.
- Online entries to be sent in the prescribed format given by the host school.
- Decisions of the judges will be final.
- Medium of presentation will be English.
- Content related to ethnicity, religion and race are strictly prohibited.
- Contents, costumes, dialogues should respect the culture and tradition of the Sultanate of Oman.
- A student can participate only in one event other than Science Wizard.

## DRESS CODE

- Dressing should be formal for participants. School uniform is not allowed.



## CONTACT DETAILS

### **EVENT COORDINATOR-STAI 2023**

Mrs. K.N.Vidhya

Middle Section

Indian School Al Maabela

Phone No.: 96549385

### **OVERALL INCHARGE-STAI 2023**

**Mrs. Seema Sreedhar**

Asst. Vice Principal

Middle Section

Indian School Al Maabela

Phone No.: 93219686

**E-Mail – [stai2023@indianschoolmaabela.com](mailto:stai2023@indianschoolmaabela.com)**

Participating Indian Schools are requested to get in touch with the Event coordinator of STAI-2023 for any query related to the event.

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