



## 1<sup>st</sup> Bangladesh Mathematics and Science Olympiad (BdMSO)

July – October 2025

### **BdMSO Regulations 2025**

#### **Organizer**

Bangladesh Open Source Network (BdOSN)  
Society for the Popularization of Science, Bangladesh (SPSB)

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## **A. Introduction**

Bangladesh Mathematics and Science Olympiad (BdMSO) for Primary Students is specifically designed to introduce primary school students to the world of mathematics and science from an early age, nurturing their natural curiosity and problem-solving skills.

BdMSO serves as the official qualifying round to select Bangladesh's primary school students for international representation. The competition will ultimately choose a national team of six students for Mathematics and six for science. These twelve individuals will then have the opportunity to represent Bangladesh at the 22<sup>nd</sup> International Mathematics and Science Olympiad (IMSO) in Kedah, Malaysia, this October.

## **B. Organizers**

The organizers of BdMSO reserve the right to change any rules, regulations, systems, or procedures of the Bangladesh Mathematics and Science Olympiad at any time. All decisions made by the BdMSO organizers shall be considered final and binding, without any legal obligation. The 1st Bangladesh Mathematics and Science Olympiad (BdMSO) for Primary Students is a joint initiative of:

### **I. Bangladesh Open Source Network (BdOSN)**

BdOSN is a non-profit, voluntary organization established on October 24, 2005. For nearly two decades, BdOSN has actively operated as a collaborative platform for volunteers, educators, researchers, technologists, and professionals to exchange ideas, knowledge, and capacity. BdOSN is proudly affiliated with and holds memberships in several prestigious national and international Olympiads, including BdRO, WRO, BdAIO, IOAI, the National High School Programming Contest, and the Girls Programming Contest.

### **II. Society for The Popularization of Science, Bangladesh (SPSB)**

SPSB is Bangladesh's leading science popularization organization. It runs key programs such as BdJSO and CSCongress, and also offers hands-on learning through the Maqsoodul Alam Science Laboratory (MASLab) and various workshops.

### C. Timeline

July 12 – August 14, 2025	Online registration for BdMSO Activation Campaign
22 <sup>nd</sup> August, 2025	BdMSO National Round
26-28 August, 2025	BdMSO National Camp
28 <sup>th</sup> August, 2025	Team Selection Test
1 <sup>st</sup> September, 2025	IMSO Team Registration
01 – 30 September, 2025	IMSO Preparation Camp
1 <sup>st</sup> October 2025	Press Conference with IMSO Bangladesh Team
04 – 10 October 2025	IMSO at Kedah, Malaysia

### D. Participation Criteria

BdMSO is open to primary/elementary school students across Bangladesh who are under the age of 13.

- The participants of the Olympiad must be primary school students as of July 1<sup>st</sup>, 2025.
- Birth Date should be on or after October 6, 2012

### E. Registration Process

Intended participants need to register online to ensure their participation in the National Round of BdMSO. For Registration please visit: [www.bdmsso.org](http://www.bdmsso.org)

Please note that a **registration fee** will be charged for participation in each subject in the National Round. Contestants may register for both Mathematics and Science, but awards will be granted in only one category based on their scores.

### F. Competition Syllabus

To ensure consistency and prepare participants for international standards, the BdMSO National Round competition will strictly follow the syllabus and question pattern of IMSO.

See [Annex I](#) for the Syllabus.

## **G. Question Pattern**

BdMSO National Round is an individual competition. The Problems consist of three parts for each Subjects – Math and Science.

### **Mathematics**

Short Answer, Essay Type, and Exploration problems

### **Science**

Theory 1, Theory 2, and Experimental problems

See Examples in [Annex II](#)

The official language for the contest is English. The problems are constructed based on the mathematics and science elementary curricula, reference books and other relevant sources which develop intellectual reasoning and creativity.

## **H. Awards and Recognition**

Approximately one-fifth of all participants in each subject will be awarded gold, silver, and bronze medals in the ratio of 1:2:3, respectively. All medal recipients will also receive a winner t-shirt and a Certificate of Achievement.

A Champion Trophy will be awarded to the medalist with the highest score in each subject (Mathematics and Science). It is important to note that a contestant can receive an award in only one subject, even if they participate in both disciplines.

Every contestant who attends the national round of BdMSO will receive a certificate of participation.

## **I. BdMSO National Camp**

Following the National Round, the top scorers in each subject will be invited to a three-day non-residential National Camp. This camp is designed to further develop participants' skills through advanced training sessions led by experienced mentors and educators. During this period, students will undergo an evaluation process to identify the most prepared individuals. From this group, 12 individuals from each subject will be selected for selected for Team Selection Test.

**Participants selected for the BdMSO National Camp will be responsible for covering the costs associated with their food, tutor fees, and educational materials throughout the camp duration.**

#### J. National Team Selection Test

12 individuals from each subject will be selected to advance to the National Team Selection Test from BdMSO National Camp. The results of this test will determine the final ranking for these 12 individuals in each discipline. Based on these rankings, the **top six students for Mathematics and the top six for Science** will be chosen as the official National Team, earning the opportunity to represent Bangladesh at the 22<sup>nd</sup> International Mathematics and Science Olympiad (IMSO) in Kedah, Malaysia.

#### K. IMSO Participation

Organizing Authority is allowed to nominate a 12 members National Team selected through BdMSO, 1 tutor for each subject and 1 team leader.

- One team leader
- One tutor and Six participants for the Math competition
- One tutor and Six participants for the Science competition

Each participating country is responsible for their own travelling expenses including the procurement of the passports and VISAs to and from Kedah, Malaysia. **Participants selected as national delegates for the IMSO will be required to pay a registration fee that covers comprehensive costs associated with their international participation. This fee includes travel, tutors fee, visa processing, accommodation, Food and local travel during the Olympiad.**

we encourage one parent to accompany each participant. The accompanying parent will need to pay **an additional fee** charged by IMSO Organizers in Malaysia.

**Mathematics:**

**1. Arithmetic**

Whole numbers, Rational numbers and their representations (fraction, decimals, and percentages), pattern recognition, Factors and Multiples, Greatest Common Divisor, Least Common Multiples, Ordering of numbers, and Ratio and Proportion

**2. Geometry**

Properties of polygons (Triangle, quadrilateral, parallelogram, trapezium) and circles

- Angle and its measure
- Area and Perimeter of different polygons
- Symmetry, reflection and rotation, similarity and proportion Properties solid figures
- Nets of a cube, and parallelepiped
- Symmetry, reflection and rotation, similarity, and proportion

**3. Data and Measurement**

- Data representation and interpretation
- Mean, median, and mode of a set of data

**4. Counting Techniques**

**5. Recreational Mathematics**

## Science

1. **Science skills and methodology:** general health (nutrition, common disease, and prevention)
2. **General environmental issues:** deforestation, managing natural resource pollution, water and carbon cycle, etc
3. **Basic ecology:** habitat, interaction, food chain and food web, population, ecosystem, life cycle, etc
4. **Physiology:** photosynthesis and respiration.
5. **Current technological developments:** GMOs, biotech, biofuel, satellites, etc.
6. **Human anatomy and functions:** skeleton and movement, olfactory system, auditory system, mouth, eyes, circulatory, digestive system, skin, respiratory system) and its disease and problems.
7. **Classifying organisms:** based on their food, anatomy, systematics, reproduction system and its habitat.
8. **Mechanics:** motion of objects, static fluid and gas
9. **Solar system:** members of the solar system, rotation of earth and moon, earth and moon eclipses
10. **Planet Earth:** structure, surface, the process of earth formation, water cycle, renewable resources, climate, seasons, gravitation, wind
11. **Electricity and magnetism:** applications, models
12. **Matter:** properties, phase transformation (solid, liquid, gas) physical, chemical, and biological transformation)
13. **Thermal properties:** temperature, thermometer, energy, conduction, convection, radiation
14. **Light:** property, vision, color
15. **Forces:** change in shape, magnetic, gravitation, frictional forces
16. **Energy and energy changes:** kinetic, potential, heat, sound, renewable, energy conversion

## Science

1.

The table below shows Organism X and its characteristics.

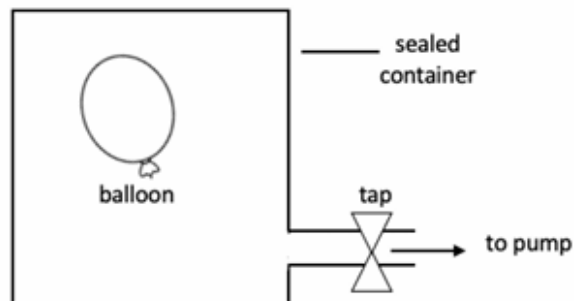
Characteristics	Organism X
Able to move about by itself	Yes
Need air, water, and food	Yes
Able to make food	No

What can Organism X possibly be?

- A. Water hyacinth      B. Rose plant      C. Buffalo      D. *Pterocarpus* tree

2.

The diagram shows a balloon placed inside a sealed rigid container connected to an air pump. The pump was switched on to extract a little air from the sealed container.



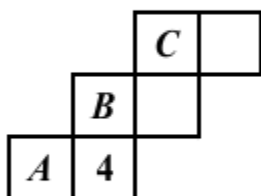
- (a) Describe what happens to the balloon as little air is extracted from the container. [1.5 points]
- (b) Explain your observation above making reference to the pressure and volume of the gas inside the balloon. [1.5 points]



## Math

1.

The diagram below is the expanded net of a cube. We label each of the faces of the cube by using the numbers 1, 2, 3, 4, 5, and 6 exactly once, so that the sum of any two opposite faces is always 7. What is the largest possible value of  $A \times (B^2 + C)$ ?



The average of 20 numbers is 18. If the first number is increased by 2, the second number is increased by 4, the third number is increased by 6, ..., the twentieth number is increased by 40. What is the average of the 20 numbers now?

2.

What is the difference between the sum of even positive integers and the sum of odd positive integers less than 295 not divisible by 7?