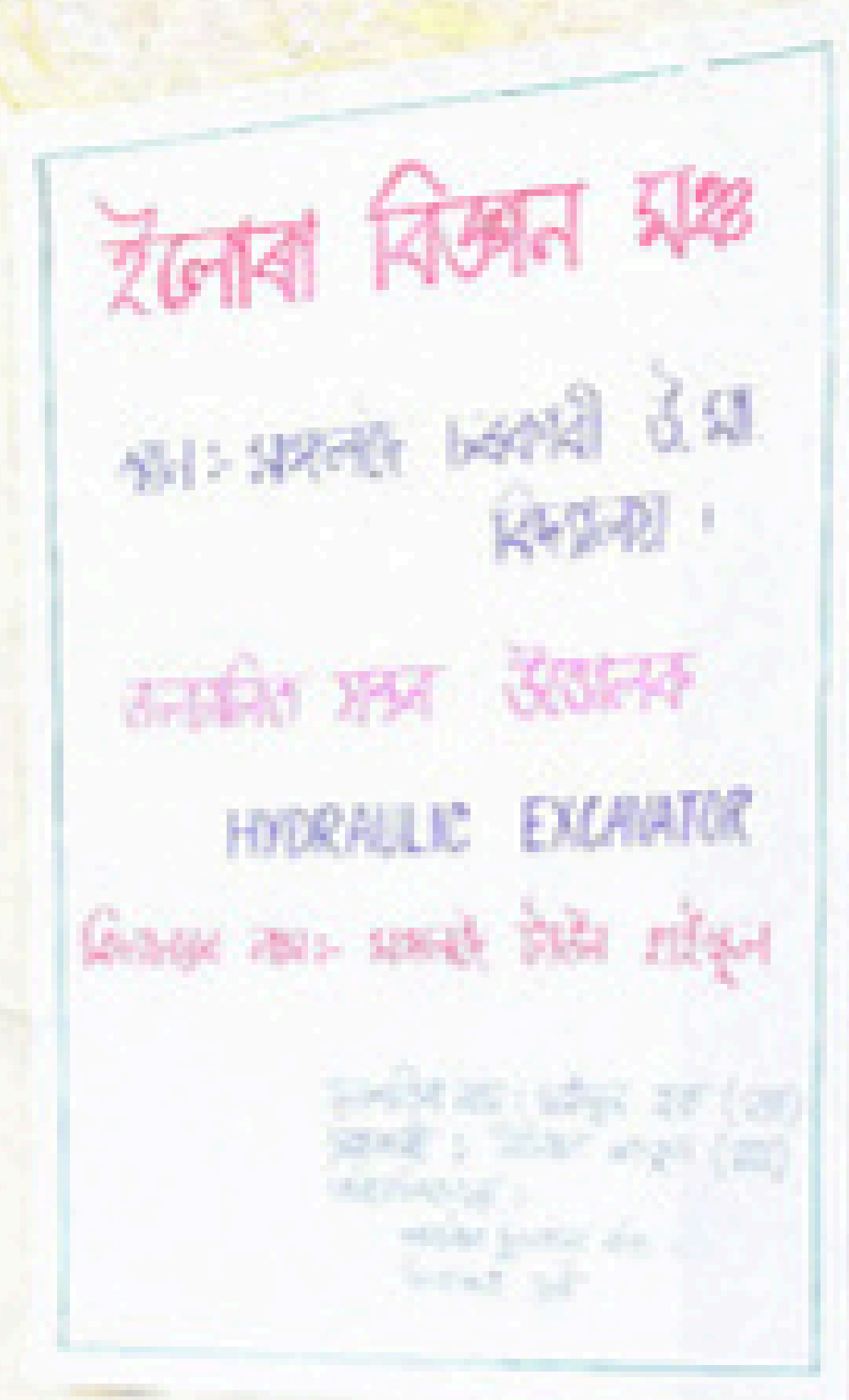


# STATE LEVEL SCIENCE EXHIBITION 2024

## ৰাজ্যিক ভিত্তিক বিজ্ঞান প্রদর্শনী ২০২৪



Organiser :  
Ellora Vigyan Mancha

## **Themes for Science Exhibition**

The exhibition is open to any topic on science and its application on everyday life. However, for guidance some of the themes and sub-themes are stated below to help formulate innovative ideas, approach and imagination in the preparation of exhibits, posters and models.

### **Environmental issues: causes and consequences of climatic change**

- Impact of climate change on the surrounding environment viz. farming/agriculture, animal (domestic and wild) and health (man, animal and aquatic life);
- Measures to control ill impact of natural calamities viz. earthquake, drought, flood, famine, storms, typhoon, etc.;;
- Waste land use for the rehabilitation of landless people;
- Demonstrate balancing of carbon and hydrological cycles to reduce carbon dioxide in atmosphere;
- Innovative designs/methods to manage/recycle solid and liquid wastes and use of recycled products;
- Methods of ground water recharging;

### **Biodiversity: Conservation and Sustenance**

- Methods of measurement of biodiversity and importance of the biodiversity;
- Impact of climate change on biodiversity and their remedial measures;
- Impact Assessment study of various developmental activities on biodiversity;
- Strategy/ methods for the presentation and protection of rare/endangered plants and / or animals;
- Impact of monoculture in forest during afforestation and reforestation;
- Eco-forestry/farm forestry to meet 4Fs (Fodder, Fuel, Fiber and Food)
- Impact of deforestation due to human activities (unplanned development, industrial activities, etc.)

### **Life science in human welfare**

- Ecological and behavioural study of plants, aquatic life and animals;
- Restoration of degraded natural biodiversity;
- Sustainable land use practices and farming methods;
- Innovative, inexpensive, improved and indigenous technologies and methods for irrigation, harvesting, storage, processing, preservation and transportation;
- Conventional biotechnological practices for high-yielding seeds and breeding of animals;
- Organic farming/organic fertilizers (liquid manure and green manure) preparation of vermicompost;
- Biological measures of pest and insect control;
- Development of low-cost technologies for producing potable water, local methods of purification of water; innovative technologies to manage water shortages and water surpluses;
- Identification and collection of locally available medicinal plants to control diseases and pest control;
- Development of nutritional food from the surrounding resources and
- Awareness building to mitigate dreadful diseases viz. HIV/AIDS, cancer, etc.

### **Alternative energy (green energy or bio-fuel) as a substitute for hydrocarbon energy**

- Innovative and cost-effective solar technologies for lighting in rural electrification without access of grid electricity;
- Designs of biogas/biomass plant and improved technologies for effective usage of biofuels;
- Impact of bio energy on food security;
- Fuel farming, bio diesel from plant oils (obtained from canola, palm oil, micro algae oil, waste vegetable oil, etc)

- Innovative and indigenous designs for hydroelectric generators; wind and water mill for grinding grains, drawing water from the well and generating electricity;
- Use of tidal waves/ocean currents/ salinity gradient for generating electricity;
- Innovations in batteries/inverters/ photovoltaic cells to reduce cost;
- Designs/models of fuel-efficient automobiles/machines;
- Innovative designs of internal combustion engines which can function on various biofuels;
- Designing of insulated bricks for cold and hot places; methods of heat retention and heat control in the design of house;
- Innovative designs for enhancing efficiencies of existing lighting systems, automobiles, machines, stoves, chulhas, etc; and
- Innovative designs/technologies of environment-friendly electricity generation from the available of local resources;
- Fuel efficient/pollution free designs of automobiles other vehicles;

### **Information and Communication Technology**

- Innovative ideas for efficient management of road, rail, water and air transport systems,
- Demonstrate the principle and functioning of modern devices viz. television and radio, mobile phone, fax, e-mail, internet etc.
- Use of multimedia in making the teaching-learning process to enhance the creativity of children and teachers;
- Developing software that can help individual students learn at their own pace;
- Developing innovative designs/models for children with special needs with visual and audio impairment;
- Use ICT to popularize the knowledge and skills to design machinery for textiles, engineering goods, chemicals, pharmaceuticals, etc.
- Applications of ICT in making innovative designs of weaving, pottery, metal and leatherwares, dyeing, printing and other crafts practised in cottage industry;
- Exploring uses/applications of information and communication technology in generating employment/ eradicating illiteracy and
- Use ICT to popularize the agricultural best practices.

### **Mathematics-physical Science and Sports**

- Showing innovative calculating methods and equations to solve lengthy and time-consuming problems;
- Correlate sports with mathematics viz. speed of a cricket and tennis ball; bouncing of a tennis ball with a wall;
- Computer simulations to demonstrate how a ball/shuttle cock gets deflected when it strikes at different parts of a bat/racket at different speed;
- Mathematical modelling of the functioning of the heart, brain, lungs, kidneys, bones and endocrine system;
- Computer diagnosis of human diseases;
- Mathematical modelling to describe traffic flow/stock market options; and
- Data manipulation and information management techniques.

## Levels, Groups and Teams

This year, there shall be two levels – the District Level Science Exhibition (DLSE) and the State Level Science Exhibition (SLSE).

- At the district level, participation will be open – any number of teams from one school or a team comprising students from different schools can participate.
- In the state level, the two selected teams from each group from each district shall participate.

There shall be two groups – A and B.

**Group A:** Class VIII-X.

**Group B:** Class XI and XII.

Each team shall consist of **two students**. At state-level exhibitions, one school teacher shall accompany selected groups from one school.

The performance of the participants shall be recognized on the following criteria:

- Creative imagination
- Scientific thought and approach
- Originality and innovations in the model
- Technical skill (Art & Craftsmanship)
- Economic (low cost/portability/durability)
- Presentation (demonstration & explanation)
- Educational value for the children

## Get In Touch

Forms and Information bulletin are available with Head of the Institution. Alternatively, they are available on EVM website [www.elloravigyan.in](http://www.elloravigyan.in)

For Any queries related to the Science Exhibition, [elloravm@gmail.com](mailto:elloravm@gmail.com)

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**Last date for submission of entries for different districts are available in the website.**



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