



## GUIDELINES FOR ORGANISING ONE-DAY SEMINAR

### TOPIC: SCIENTIFIC ACADEMIC INSTITUTE OF INDIA

*NOTE: The One-Day Seminar should preferably be organised one day before the organisation of State Level Science, Mathematics and Environment Exhibition (SLSMEE) for Children.*

If we thought of life without mathematics, science and technology, then we can understand what implementations mathematics, science and technology have in our daily life. Mathematics, science and technology have affected almost every aspect of human life spanning from modern-day education, health services, communication, and transportation to the quality of life. From the morning alarm clock to the night time relaxing in the cozy beds under the fans, air conditioners or room heaters, decision to prefer baked food over fried food, checking blood sugar and blood pressure in no time, wearing masks, washing hands or maintaining social distances during the time of medical emergencies such as Covid-19 are the few examples of the implementation of scientific and mathematical knowledge for curing and improving the quality of life. For instance predicting the outbursts, preparedness and finding cure for a pandemic like Covid-19 was not possible without the knowledge of Mathematics, science and the technology. Thinking of modern education, working with large data sets, managing large financial transactions or forecasting weathers without computers or smart electronic devices is almost an impossible task without mathematics, science and technology. Mathematics, science and technology have made it possible through green revolutions to transform food starving countries into food-exporting countries. Mathematical skills along with the knowledge of science

and technology have improved agriculture manifolds by introducing agriculture machinery, improved seed varieties, eco-friendly fertilizers and pesticides. In the early beginning of the 19th-century scientists were aware of the fact that germs are spreading many common diseases. With the advancement of mathematics, science and technology over the two centuries, now we can vaccinate almost every newly born child to save him from many life-threatening diseases. Not only the mortality rate but the quality of life has also improved over the decades following advancement in mathematics, science and technology. It is not possible to imagine any corner of modern-day life which is not touched by the mathematical, scientific or technological achievements.

India is also a major player in the world of scientific and mathematical research in the world. India is known for its contributions in the fields of mathematics, life-sciences, chemical sciences, physical sciences and agriculture in the world. India contributes significantly in the field of scientific and academic research in the world. According to NatureIndex and Worldbank reports, India is one of the top contributors to the scientific output in the world. According to NatureIndex ([www.natureindex.com](http://www.natureindex.com)), India ranks 13 in the index of top-quality research producers in the world. Approximately 80 per cent of scientific research in India is carried out in the fields of Chemical and Physical sciences. To markdown and collect the further information about ongoing

research in the scientific and mathematical fields, it will be helpful to visit physically or virtually (using websites) the Indian academic and scientific research institutes contributing significantly. Some of the prominent institutes in India are

1. Indian Institute of Science (IISc)
2. Homi Bhabha National Institute (HBNI)
3. Tata Institute of Fundamental Research (TIFR)
4. Council of Scientific and Industrial Research (CSIR)
5. Indian Institute of Technology Bombay (IIT Bombay)
6. Indian Institute of Science Education and Research Kolkata (IISER Kolkata)
7. Indian Association for the Cultivation of Science (IACS)
8. Indian Institute of Science Education and Research Pune (IISER Pune)
9. Indian Institute of Technology Kanpur (IIT Kanpur)
10. Indian Institute of Technology Madras (IIT Madras)

List of some other notable institutes in India are

1. Chennai Mathematical Institute (CMI)
2. Center for Cellular and Molecular Biology (CCMB)
3. Indian Statistical Institutes Kolkata (ISI-Kolkata)
4. Hyderabad University
5. Forest Research Institute Dehradun (FRI-Dehradun)
6. National Center for Biological Sciences (NCBS)
7. Harish Chandra Research Institute (HRI)
8. Bhabha Atomic Research Centre (BARC)
9. Indian Space Research Organization (ISRO)
10. Wadia institute of Himalayan Geology (WIHG)