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GUIDELINES FOR ORGANISING STATE LEVEL SCIENCE, MATHEMATICS AND ENVIRONMENT EXHIBITION FOR CHILDREN 2021–22

A. CALL FOR ENTRIES

1. The theme for SLSMEE–2021-22 for Children and for the 48th Jawaharlal Nehru National Science, Mathematics and Environment Exhibition (JNNMEE–2022) for children would be **"Technology and Toys"** pertaining to the sub–themes such as –
   1. Eco Friendly Material;
   2. Health and Cleanliness;
   3. Software and Apps;
   4. Transport;
   5. Environmental and Climate Changes;
   6. Mathematical Modeling;

(Sub–themes listed above are suggestive. Students are free to choose any other sub–themes and develop exhibits involving innovations in Technology and Toys)

7. In order to facilitate the preparation of exhibits and models for display in district to state level exhibitions during 2021–22, *Guidelines for the Preparation of Exhibits and Models* are being communicated.

8. Wide publicity should be given for inviting entries. *SLSMEE–2021–22 Guidelines for the Preparation of Exhibits and Models should be provided to all schools.* These guidelines may also be translated in local languages and be given wide publicity. This may also be given on the website(s) of the respective states/union territories and other participating organisations. It is also envisaged that guidelines be printed in local language(s), Hindi and English in the form of a booklet for their dissemination among all the schools for generating ideas and for developing exhibits and models. These guidelines can also be downloaded from NCERT website (www.ncert.nic.in).

9. Children from all schools [including government, government–aided, public and private, catholic, mission, armed–forces (Army, Air Force, Navy, Sainik, BSF, ITBP, Assam–Rifles, CRPF, Police etc.), DAV management, Maharshi Vidya Mandir, Saraswati Vidya Mandir, Navyug, Municipality, Bhartiya Vidya Bhavan, Science Clubs etc.] are eligible to participate in State Level Exhibitions. Preference may be given to students in senior classes (i.e. secondary and higher secondary stages).

Note: For State/UT Coordinator:

Following organisations conduct their own exhibitions separately:

- Kendriya Vidyalaya Sangathan;
- Navodaya Vidyalaya Samiti;
- Department of Atomic Energy Central Schools;
- Central Tibetan Schools Administration;
- CBSE affiliated Public Schools (independent schools); and
- Demonstration Multipurpose Schools of Regional Institutes of Education.

These organisations send their selected entries for consideration for participation in Jawaharlal Nehru National Science, Mathematics and Environment Exhibition (JNNSMEE) for Children to NCERT directly. Therefore, it may please be ensured that entries belonging to these organisations are not forwarded to NCERT by States/UTs.

10. Public Sector Undertakings, Industries, and other Non–government Organisations (NGOs) working in the areas (where these exhibitions are organised) may also be invited to participate as the exhibits displayed by them would be of instructional value for children and teachers

B. Screening, Evaluation and Monitoring of Entries for SLSMEE

1. In case Districts/Regional Level Exhibitions are not being organised by the State/UT,a Screening Committee should be set up to finalise the selection of entries from various institutions for participation in the State Level Science, Mathematics and Environment Exhibition (SLSMEE) for Children.

2. The Screening Committee may consist of representatives of SISE/SIE/SCERT and some selected representative institution(s). All records about the meeting of the committee should be maintained. The selection procedure adopted should lay more emphasis on the quality of the exhibits rather than quantity. It should be ensured that the exhibits are not crude and hazardous and have good finish and are presentable.

3. The above mentioned Screening Committee or a separate panel of judges should evaluate the exhibits according to the criteria of evaluation as mentioned for SLSMEE. Best three exhibits in each sub–theme should be selected; preferably developed by secondary and higher secondary students; by the said panel of judges. However, an outstanding exhibit developed by upper primary students and members of science clubs may also be considered if the said panel of judges feel so.

4. A list of the selected entries of the exhibits and models under each sub–theme (to be displayed in the state level exhibition) must be prepared. This must contain the name of the exhibit/model, names of the student(s) and guiding teacher(s), name of the school and a brief information about the exhibit (may be in two sentences only).

Such a list may be prepared in accordance with the NCERT's un–priced publication "List of Exhibits", displayed in the National Exhibition. It is published every year and distributed to all participating children, teachers, and visitors during the exhibition. A copy of this may be obtained from the NCERT, New Delhi. This list may also be distributed among all participating children and teachers A copy of this list should be forwarded to NCERT together with the formal report of the exhibition.

Criteria for Evaluation of Exhibits in SLSMEE

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3. The above mentioned Screening Committee or a separate panel of judges should evaluate the exhibits according to the criteria of evaluation as mentioned for SLSMEE. Best three exhibits in each sub–theme should be selected; preferably developed by secondary and higher secondary students; by the said panel of judges. However, an outstanding exhibit developed by upper primary students and members of science clubs may also be considered if the said panel of judges feel so.

4. A list of the selected entries of the exhibits and models under each sub–theme (to be displayed in the state level exhibition) must be prepared. This must contain the name of the exhibit/model, names of the student(s) and guiding teacher(s), name of the school and a brief information about the exhibit (may be in two sentences only).

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CRITERIA FOR EVALUATION OF EXHIBITS IN SLSMEE

In order to keep a uniform criteria for evaluating the exhibits in all States/UTs and on the basis of the feedback received from different agencies, the following criteria for judging the exhibits is suggested (the percentages given in bracket are suggestive weightages):

1. Involvement of children's own creativity and imagination (20 percent);
2. Originality and scientific and mathematical innovations in the exhibit/model (15 percent);
3. Scientific thought/ principle/ approach (15 percent);
4. Technical skill, workmanship and craftsmanship (15 percent);
5. Utility for Society, scalability (15 percent);
6. Economic (low cost), portability, durability, etc. (10 percent); and
7. Presentation–aspects like demonstration, explanation and display (10 percent).
   (i) 5% extra weightage may be given to exhibits from rural/backward regions.
   (ii) 3% extra weightage may be given to exhibits from semi urban regions.

On the basis of the criteria suggested above and also as mentioned in proforma VI, three entries from each sub–theme developed by students of classes IX–XII may be selected and forwarded to NCERT for consideration for participation in JNNSMEE–2022. However outstanding exhibits developed by upper primary students and members of science clubs may also be considered provided the total entries from each sub–theme does not exceed three.

In addition to this, two best exhibits developed by disabled students from any of the sub–themes may also be forwarded to NCERT. It must be kept in mind that entries submitted under this category should be displayed only by the disabled students. Further the entries forwarded should be accompanied with disability certificate from a competent authority. Disability norms followed by the government of India will be considered under this category.

(*Note: There are instances when children and their teachers think of some ideas that are new and may be applicable in future. Often such ideas may not be possible to be presented in the form of model/exhibit. Organizers of exhibitions at all levels may provide opportunities to students and teachers to present such ideas in the form of presentations and discussions. SLSMEE Coordinators may forward two such innovative ideas written in a few paragraphs to NCERT ;or consideration for participation in the National Exhibition.*)

Judges are also requested to judge whether the model is traditional or an improvement over the traditional model or it is innovation as per proforma IV. Various skills involved in constructing the exhibit and model, the degree of neatness and craftsmanship may also be taken into

account. Every effort must be made to rule out the tendency of procuring the ready made exhibits/models. General layout of the exhibit, relevance, clarity of charts accompanying the exhibit and overall attractiveness to the masses and children should also be assessed. Working models should be encouraged.

C. Expenditure Norms

The 'Grant–in–Aid' provided by NCERT to respective states/UTs is a **catalytic grant** for organising State Level Exhibitions and one day Seminar . States and UTs are expected to spend the additional expenditure, if any, from the state funds. The funds given to the States/UTs are to be utilised *exclusively for meeting the travel and boarding costs of participating students and their teachers and experts.* It is suggested that the following norms of payment may be followed:

1. For Organising One–Day Seminar
   (i) The seminar should be organised one day before the organisation of SLSMEE or during the days of exhibition in morning/evening hours
   (ii) Honorarium to four experts/ scientists may be disbursed at the rate of ₹2500.00/– each.
   Note : The expert/scientist should be preferably from a research institute/ laboratory/ university/SCERT/SIE.
  (iii) Daily allowance and conveyance charges to experts/scientists may be disbursed as per state/central government rules.
   (iv) Contingency grant for tea/coffee with light snacks: typing/ photocopying/ cost of transparencies/ pens/ printing of banners/ stationery etc: upto ₹20,000.00/–.

2. For Organising the SLSMEE
   (i) Honorarium to **ten** judges may be disbursed at the rate of ₹2500.00/– each. **NCERT faculty members should not be provided any Honorarium from this head, if invited as a judge in the exhibition.**
   (ii) Only one student and one teacher may be permitted to participate with each exhibit. Even if more than one exhibit is selected from a single school, only one teacher from that school may be allowed to participate.
  (iii) Traveling allowance: actual second class sleeper rail/ bus (non–AC) fare.
   (iv) Participants may be provided incidental charges maximum upto ₹400.00/– for to and fro journey by rail or bus, provided the journey time is more than 6 hours For journeys less than 6 hours no incidental charges should be paid.
   (v) Boarding expenses: ₹200.00/– per head per day for each participant for a maximum of *4 days. In case the boarding facilities are not provided by the organisers, a sum of ₹300.00 per person per day may be provided.*
   (vi) Local conveyance charges may be disbursed as per state/central government rules.
  (vii) Contingency grant for typing/ photocopying, printing of publicity materials, exhibition material, banners, stationery etc. upto ₹50,000.00/–

D. Maintenance of Accounts

It is necessary to **maintain a separate account** for the expenditure of the grants–in–aid provided by the NCERT and the same should be forwarded to the NCERT, along with all relevant vouchers and receipts, in original **within one month of the conclusion of the exhibition** for adjustment in the NCERT account. Proforma V is given for convenience. All vouchers may be signed by the Coordinator/In–charge of the exhibition. All those vouchers/receipts that are in regional language should accompany a translated copy in English certified by the Coordinator/In–charge of

the State Level Exhibition to facilitate audit and settlement of accounts. All payments exceeding ₹5000.00/– should be supported by payee's receipt with a revenue stamp.

It may please be ensured that each Voucher/Receipt against the expenditure is duly verified for the amount and then passed for payment. The specimen of this certificate is indicated below for convenience:

*Verified and passed for payment of Rs ....
(Rupees ....
.... only.*

Signature and Seal of the Co–ordinator/ Incharge. State Level Science, Mathematics and Environment Exhibition (SLSMEE) for Children – 2021–22

Note: *Only those Vouchers/Receipts against such items of expenditure, which are covered under the expenditure norms, may please be sent to this department for adjustment/settlement of accounts.*

E. Reports of SLSMEE to be sent to NCERT

A formal report of the State Level Science, Mathematics and Environment Exhibition and One–Day Seminar should reach NCERT within one month after the conclusion of the exhibition. It should include the following:

  i. Dates and venue of exhibition.
  ii. Proformas I – V duly filled up.
  iii. List of schools participating and the number of students/teachers participating as per the proforma attached. Break–up of the male and female participants should also be given. It should also reflect on the number of rural and urban schools that participated in the exhibition.
  iv. List of entries of the exhibits and models being displayed in the state level exhibition. Number of exhibits displayed under each sub–theme should also be mentioned separately.
  v. Highlights of the exhibition including other activities such as lectures, film shows, book exhibition etc. and participation of other scientific/ industrial organisations.
  vi. Panel of judges for evaluating the exhibits/models displayed in the exhibition (in accordance with the Criteria for Evaluation of Exhibits).
  vii. List of selected exhibits being sent for consideration for participation in 48th JNNSMEE–2021 bearing the name of student, teacher, school, complete write–up of exhibits, 5 minutes video presentation in CD about the exhibit by the student, etc. If the video is in regional language, it is expected to make it in Hindi/English also for wider publicity among the students and teachers. (A proforma for information about the exhibit/ model is also attached for this purpose Proforma I).
  viii. Number of visitors to the exhibition.

F. Criteria for Evaluation of Exhibits for Jawaharlal Nehru National Science, Mathematics and Environment Exhibition (JNNSMEE) for Children

Selected entries from all State Level Science, Mathematics and Environment Exhibition (SLSMEE) for children organised in different states, union territories and other organisations are forwarded to NCERT for consideration for participation in Jawaharlal Nehru National Science, Mathematics and Environment Exhibition (JNNSMEE) for Children. JNNSMEE is organised every year by NCERT in a state/union territory on rotation basis usually during a period which falls around the birth anniversary of Pandit Jawaharlal Nehru, that is 14th November (Children's Day). These entries are forwarded to NCERT as per

Proforma I (given in this booklet). At NCERT, these entries are screened and short–listed on the basis of their write–ups and a 5 minutes video presentation in CD by the student. For this purpose the following criteria for evaluating exhibits is adopted (the percentages given in bracket are weightages). NCERT reserves the right to alter the criteria to include adequate number of exhibits from rural/backward regions and exhibits developed by disabled students.

1. Originality and innovations in the exhibit/model (25 percent);
2. Scientific thought/ principle/ approach (20 percent);
3. Utility for Society, Scalability ; (20 percent)
4. Economic (low cost), portability, durability, etc. (15 percent); and
5. Presentation of write–up: (20 percent).

G. Suggestion on conducting Online Exhibition

In the year 2020-21, keeping in view the covid-19 situations, almost at all the places across the country the work of teaching, evaluation etc., is happening in an online mode. Though at some places, if the facilities are available or the pandemic situation is slightly better, these works have also slowly started in an offline mode.

Due to such a situation, the State officials are suggested to start the organisation of science exhibitions in an online mode beginning from block level to State level. It is suggested to encourage maximum number of students to participate in these exhibitions and display their models in an online mode wherever possible.

Wherever these exhibitions are conducted in an offline mode the SOP prepared by the Government of India must be followed. The programme may be conducted using following Guidelines:

1. **Development of a Portal:** A portal may be designed where all types of information related to science exhibition may be displayed so that everyone will have access to all the information related to the exhibition.
2. **Using an Online Platform:** To conduct the programme in online mode several available resources such as various online platforms maybe used. The meeting may be conducted for five days for a given time slot from 9:30 AM to 6:00 PM. All participating students must login to this common platform and showcase their exhibits. Participating students must remain present online for further interaction with the visiting students/persons.
3. **Interaction of Students:** There must be a scope for children/persons to visit various exhibits under various sub-themes and interact with the participating students regarding their queries about the exhibits.
4. **Uploading the Selected Videos:** All the selected exhibits may be displayed through pre-developed videos provided by participating students and teachers. There must be a scope on the portal for displaying the event as live telecast and video may remain uploaded even after the given time slot.
5. **Other Activities of the Event:** Popular lecture is one of the key features of the exhibition and may be conducted through a webinar using the live platform in the given time slot during the event.
6. **Network Issues:** In situation of network issues in Rural and interior areas, students may be allowed to send the recorded videos in form of CD/DVD to respective coordinators/in charges at the district level, from there it can be uploaded by the district coordinators on the platform if required, it is suggested that the participating students along with their teachers may participate the event from block/district level city where there is no network issue following SOP released by the government of India.
7. The catalytic grant given to state if required can be used for **website creations/technical support for conduct of exhibition**.