AJOR COMPONENT- Quality Interventions
SUB-COMPONENT- Rastriya Aavishkar Abhiyan
ACTIVITY MASTER- Rastriya Aavishkar Abhiyan
ACTIVITY- Rastriya Aavishkar Abhiyan

1.Progress Report in r/o Rastriya Aavishkar Abhiyan 2019-20

Sub Component : Rastriya Aavishkar Abhiyan						
97	**Rashtriya Aavishkar Abhiyaan (Elementary)**					
	97	ABACUS	136	5.44	136	5.43444
	97.h	Excursion Trip for Students within State	8010	16.02	2880	5.472
	Total of Rashtriya Aavishkar Abhiyaan (Elementary)			**21.46**		**10.90644**

Sub Component : Rastriya Aavishkar Abhiyan						
98	**Rashtriya Aavishkar Abhiyaan (Secondary)**					
	98.a	Science Exhibition / Book Fair	29	5.38	21	5.29005
	98.d	Study Trip for Students to Higher Institutions (within States)	100	0.20	100	0.20
	98.e	Exposure Visit outside State	7800	156.00	3761	74.1336
	98.y	RAA Lab	136	2040.00	136	551.00
	Total of Rashtriya Aavishkar Abhiyaan (Secondary)			**2201.58**		**630.62365**

2.Proposal for Rastriya Aavishkar Abhiyan in AWP&B 2020-21

Rashtriya Avishkar Abhiyan (RAA)

RAA: Proposal no. 13 (a):

Enhancement of Mathematical Calculation Skills with the Help of Abacus

Objective:

The Benefits of teaching children Maths Using ABACUS kits are:-

- Boosts better and faster calculation skills.
- Increases endurance for stress and pressure.
- Improves problem-solving abilities.
- Teaches clearer logical reasoning.
- Sharpens concentration and observance.
- Develops confidence and self-esteem.
- Heightens stronger mental visualisation skills.
- Betters reading and writing.

Proposed Activity:

Abacus is a simple tool or a hardware used for performing rapid arithmetic calculations. The best age to learn ABACUS is 8 yrs, as at this age, the brain is most active and learns phenomenally fast.

In the year 2019-20, 5440 children of class IV of 1088 Govt. schools of DOE and local bodies having Primary sections, were oriented for 3-day in strengthening mathematical skills through ABACUS Kit. The 3-day workshop was held at 136 Clusters and all the participating schools were given one Abacus Kit each. The participating teachers as well as 5 children of one school were provided orientation so that they could further enhance the mathematical skill of the rest of children in their schools. This activity was appreciated by all children and they were very keen to learn with the help of ABACUS.

In the year 2020-21, the proposal is for remaining 1231 Govt. and Govt. aided schools having primary sections, for orientation of children of class IV at various 136 clusters.

Strategy:

Target Group- 6155 students* (05 students per school for 1231 schools)
Total Schools:-136 Cluster X 9 or 10 schools tentatively.

3-day workshop will be held at Cluster level to strengthen Mathematical skills of children through ABACUS Learning.

Financial Implications:

Sl.	Particulars	Phy target	Unit cost (In Rs.)	Total outlay (In Rs.)	
1	Payment to 2 RPs @1500/-	2	1500	3000 x 3	9000
2	Refreshment to children @35- for 50 children	50	35	1750 x 3	5250
3	Refreshment to RP and others @Rs.50/- per person for 15 persons including maths teacher, CRCC,DURCC etc	15	50	750 x 3	2250
4	Contingency	0	0	0	2000
5	Provision of ABACUS kit (one time) to class IV students (One Abacus kit for every 5 children)	10	500	5000 x 1	5000
6	Payment to supporting staff (1)	1	200	200 x 3	600
				TOTAL	**24,100**

Financial Implications:

(Fin. In lac)

Phy Target	Unit Cost	Fin.
136 clusters	0.241	32.776/-

(Fin. In lac)

Sl.	District	Cluster	Unit Cost	Fin
1	East	16	0.241	3.856
2	North East	20	0.241	4.82
3	North	8	0.241	1.928
4	North West A	12	0.241	2.892
5	North West B	15	0.241	3.615
6	West A	8	0.241	1.928
7	West B	11	0.241	2.651
8	South West A	5	0.241	1.205
9	South West B	12	0.241	2.892
10	South	8	0.241	1.928
11	South East	11	0.241	2.651
12	New Delhi	3	0.241	0.723
13	Central	7	0.241	1.687
Total		**136**	**0.241**	**32.776**

Expected Learning Outcome:

With the help of the activity, the children will be able to:

- Acquire better and faster calculation skills.
- Improve problem-solving abilities and logical reasoning.
- Enhance concentration and observance.
- Develop confidence and self-esteem and stronger mental visualisation skills.

Total Budget proposed = Rs. 32.776 Lac (Rs. Thirty Two Lac Seventy Seven Thousand Six Hundred only)

RAA- Proposal no. 13 (b):

To organise Celestial Jamboree for members of Astronomy Club

Night session by teacher (Nodal Officer of Astronomy Club)

Objective:

The objective is -

i. To promote learning by doing culture.

ii. To bring students closer to math and science subjects.

iii. To build confidence among students and prepare them for the future especially when we are going to have technology and science playing an important role.

iv. To inculcate an interest in astronomy through practical exposure to celestial events like lunar eclipse, movement of planets arrival of comets meteor shower etc.

Proposed activity:

(i) A capacity building workshop will be organized for the teacher in-charge of astronomy club and the link officer of the club.

(ii) To conduct night session as part of astronomy club activities, the state intends to involve students and teachers of the school where astronomy club is already established. The nodal officer/teacher in-charge of the astronomy club will decide the day and timings of the session and with due approval from the school

principal will conduct the session. She/he will take undertaking from the parents and will ensure safety of the students attending the session. The school Principal will involve other staff and teachers depending on the number of students participating in the night session.

Strategy:

The sessions will be conducted on identified day/night like lunar or solar eclipse, full moon night, meteor shower etc. To conduct the session it is important that the capacity of the teachers is built. For this assistance will be taken from the experts.

Justification/Rationale:

Samagra Shiksha Delhi has established 29 Astronomy Clubs spread over two years – 13 in 2017 and 16 in 2018. The clubs have been very active and are doing activities on their own on regular basis. The clubs are provided with resources like telescope and TLM material for explaining various concepts of science and astronomy, books for sharing facts and interesting information about space and celestial bodies.

Utilisation of these TLM materials will be ensured by organising a celestial jamboree wherein the children will see celestial movement through telescope and be exposed to the wonderful activities going on in the sky.

Financial Implications:

(Fin. In lac)

ACTIVITY	Physical target	Unit cost	Fin
One day Teachers capacity building session (State level)	29	0.20	5.80
Night session for students (School level)			
		Grand Total	**5.80**

(Fin. In lac)

Sl.	Distt.	Phy.	Unit cost	Fin.
1	East	3	0.2	0.6
2	North East	3	0.2	0.6
3	North	2	0.2	0.4
4	North West A	2	0.2	0.4
5	North West B	3	0.2	0.6
6	West A	3	0.2	0.6
7	West B	2	0.2	0.4
8	South West A	2	0.2	0.4
9	South West B	2	0.2	0.4
10	South	2	0.2	0.4

11	South East	2	0.2	0.4
12	New Delhi	1	0.2	0.2
13	Central	2	0.2	0.4
Total		**29**		**5.8**

Expected Outcome:

i. Increase in interest among students in subjects like math and science.

ii. Increase in number of students participating in Science and Math quiz and other competitions.

iii. Improvement in the capacity and skills of teachers.

iv. Inculcating interest in a career in Astronomy among students.

RAA- Proposal no. 13 (c):

Rashtriya Avishkar Abhiyan Lab at 136 Clusters (Spill over)

The Ministry of Human Resource Development (MHRD) launched the Rashtriya Avishkar Abhiyan (RAA), a convergent framework across School Education and Higher Education aiming to encourage children towards learning Science, Mathematics and to develop their interest through activity related to Science and Mathematics. One of the interventions under RAA is strengthening of school science and mathematics laboratories.

Rashtriya Avishkar Abhiyan targets students in the age group of 6-14 years and in turn the execution of RAA spans across MHRD's schematic intervention of Samagra Shiksha Abhiyan (SSA).

The PAB, 2018-19 had approved setting up of 136 Tinkering Labs as RAA Lab with the help of Department of Computer Science and Engineering, IIT Kanpur, as per the following details:

(Fin. In lac)

Sl. No.	**Name of Items**	**Fin.**
1	Equipments for Rashtriya Avishkar Abhiyan lab by UNISED	10.00

2.	Monitoring support, Supervision, Teacher Training and three year operation & maintenance	5.00

The total cost of one lab is Rs.15.00 lac (Fifteen Lac Rupees)

A list of equipments provided in the lab is divided into 4 packages as follows:-

1. Package 1: Electronics Development, Robotic, Internet of things and Sensors.
2. Package 2: Rapid Prototyping Tools.
3. Package 3: Mechanical, Electrical and Measurement Tools.
4. Package 4: Power Supply and Accessories and Safety Equipment

In addition the following equipments too have to be provided:

Sl. No.	**Equipment for lab**	**Quantity**
1	Laptop Intel i3 RAM 4GB, HDD 1 TB reputed brand with 3 years warranty window 10 license and open office license.	3
2	Projector 3000 lumen with LED/LCD/DLP with reputed brand with 3 years warranty	1
3	Projector screen/Matte finish White board	1
4	Speaker	1
5	Projectors hanging kit	1
6	Printer (B/W)	1
7	Webcam (QHMPL 495 LM)	1
8	Electrical Fitting for the above	

For the activities, under the **Operation and Maintenance** component, IIT Kanpur shall conduct the following:

Sl. No.	**Name**	**Description**
1	Hands on Teacher Training	3 days – 2 batch of 65 students each, per year for 3 years
2	Tinkering workshop for teachers by IIT Kanpur	2 days – 2 batch of 65 teachers each, per year for 32 years
3	Tinkering quiz at each RAA Lab buy the visiting mentor/resource persons	1 quiz in 1 month/monthly basis
4	Monthly Tinkering Seminar by visiting Mentor	1 seminar in 1 month/monthly basis

5	State level exhibition for Innovation models developed under RAA Labs	1 in a year
6	Monthly honorarium to the Mentor on per school basis (Rs.5000)	26 mentors for 130 RAA Labs
7	Repair & maintenance of ATL equipments	As and when required
8	Purchase of consumable/spares	As and when required

Capacity building of teachers by academicians from IIT and experts designated by IIT, Kanpur, the Project Implementing Partner.

The Project Implementation Plan proposed by IIT Kanpur is as tabulated below:

Project Implementation Plan	
Activity	**Timeline**
Project equipment at school level	Within three months from the date of 1st instalment
Project activities – Training of Teachers, quiz, seminar etc. (as mention in the Table 2)	Within one year from the date of work order issued by Samagra Shiksha
Operation and maintenance component	Up to three years from work order date

SPILL OVER:

The First Instalment of Rs.5.44 Cr has already been released to IIT,Kanpur as per the terms and conditions of the MOU signed between Samagra Shiksha,Delhi & IIT,Kanpur. The Utilisation Certificate for the same as well as Demand Note for the release of the 2nd instalment of Rs.5.44 Cr has been received from IIT,Kanpur but due to the Lockdown because of outbreak of the Covid-19 pandemic, the same could not be released. Thus, an amount of Rs.14.96 Cr is required for the setting up of 136 RAA Labs for the balance payment to Implementing Partner,IIT, Kanpur.

(Fin. In lac)

Physical target	**Unit cost**	**Fin.**	**Exp.**	**Fin.**
136 clusters	15.00	2040.00	544.00	**1496.00**

Total Proposed budget of RAA Activities

(Fin. In lac)

Sl.	Activity	Fin.
13.a	Enhancement Of Mathematical Calculation Skills through Workshop on ABACUS learning at 136 clusters (7 schools per cluster)	32.776
13.b	Organise celestial Jamboree for members of Astronomy Club	901.450
13.c	Rashtriya Avishkar Abhiyan Lab at 136 Clusters (Spillover)	1496.000
	Total	**2430.226**

3.Recommendation of Technical Support Group (TSG)

Rashtriya Aavishkar Abhiyaan (Elementary)							
Maths Kit	0	0	136	32.776	136	2.2576	Considered 136 schools as proposed by the state @ Rs.1660/school for NCERT kits
Rashtriya Aaviskaar Abhiyan (Secondary)							
Organise Celestial Jamboree for members of Astronomy Club	0	0	29	5.8	29	2.9	Main activities of the proposed intervention (1) capacity building workshop will be organized for the teacher in-charge of astronomy club and (2) (ii) To conduct night session as part of astronomy club

							activities, the state intends to involve students and teachers of the school where astronomy club is already established. Samagra Shiksha Delhi has established 29 Astronomy Clubs Considered the proposed intervention @ Rs. 10000/cluster in view of training of teachers and participation of students

4.Costing of Project Approval Board (PAB)

Sub Component	Activity Master	Level	Physical	Unit Cost	Financial (In lac)
Rastriya Aavishkar Abhiyan	Rashtriya Aavishkar Abhiyaan (Elementary)				
	Workshop on ABACUS (136 x 5)	Elementary	136	0.241	32.776
	Organise Celestial Jamboree for members of Astronomy Club (1. One day Teachers capacity building session (State level) 2. Night session for students (School level)		29	0.2	5.8
	RAA Lab (Non Recuring) Spillover	Spillover	136		1496.00
	Total of Rastriya Aavishkar Abhiyan				**1534.58**