

ACTIVITY REPORT 2018-19 (for NCSM)

RAMAN SCIENCE CENTRE, NAGPUR

RAMAN SCIENCE CENTRE, NAGPUR

Page: 45

Major Attractions

Invention, Information & Communication Technology, Fun Science, Water –The Elixir of Life, Digital Planetarium, Science On A Sphere Show, 3-D Science Show, Innovation Centre, Life Science Area, Science Park, Prehistoric Animal Park, Creative Ability Centre, Medicinal Plant Garden, Training Hall, Exhibit Development Laboratory, Electronics Lab, Auditorium, Library, Cafeteria, Conference Hall, MSE on Fun Science, Science Film Show, Edusat Talk Back terminal.

New Initiatives

The centre has completed the work of setting up of Water-The Elixir of Life Gallery, and inaugurated this new facility during the Year. The Centre developed and fabricated 20 exhibits for new MSE unit on Curriculum based Exhibits, 02 Nos. of Exhibits for Fun Science gallery, and 02 kits. This includes 00 No. for Science Park and 13 duplicate exhibits for upcoming Science Centres.

Activities

Planetarium Shows, Science On A Sphere Show, 3-D Film Shows, Science Shows & Demonstration Lectures, Popular Science Lectures, Science Film Festivals, Sky Observation Programmes, Teachers' Training Programmes, Creative Ability Centre, Science Drama Festival, Science Seminar, Mobile Science Exhibitions, Medicinal Plant Exhibition, Tree Plantation, Meet the Aviation Experts, International Olympiad Test, Aero-modeling, Model Rocketry, NMTC Exam, Quest, Inter School Science quiz, Poster Exhibition, Science Slogan Writing, Essay Writing, Elocution, Science March, Working Science Model Contest, Teaching Aid Demonstration Contest, Treasure Hunt Contest, Poster Making Contest Exhibition, Power Point Presentation Contest, Science News Board, My Own Collection Exhibition, Mega Drawing Contest, V-SAT Programme, Orange City Science Fair, Science Expo and Raman Festival of Innovation etc.

Commemorative Events:

Earth Day Celebration, National Technology Day, International Museum Day, No Shadow Day, World Environment Day, International Day Of Yoga Celebration, Hiroshima Day Observance, Hindi Pakhwada, Swachhata Pakhawada, Rashtriy Ekta Diwas – Birth Anniversary Of Sardar Vallabh Bhai Patel Celebration, Vigilance Awareness Week Observation, Aviation Day, International Science Centre & Science Museums Day, Childrens Day Celebration, National Science Day and Anniversary Week Celebration.

MOBILE SCIENCE EXHIBITION

Page: 62

The Mobile Science Exhibition Unit - 'Fun Science' of Raman Science Centre, Nagpur traveling 2652 km holding exhibition at 63 sites On 1245 days in two districts i.e. Nagpur & Washim districts of Vidarbha region in Maharashtra in the year 2018-19 . 304295 people visited the exhibition. During this period 116 Science Film Shows were conducted and was attended by 8653 audiences. 62 Science Demonstration Lectures were organized for 8226 students.

Science Film Shows & Festivals

2 Science film festivals for school students were held at RSC, Nagpur. 61 film shows were held during the year for 6553 students & visitors. 116 Film shows were organised during Mobile Science Exhibition.

Sky Observation Programme

81 sky observation programmes were organised at RSC, Nagpur throughout the year for 4580 visitors.

Science Demonstration Lectures

447 Science demonstration lectures were conducted at RSC, Nagpur. This includes 246 Science Shows in Gallery, 135 SDL's on Fun Science, Fun at Low Temperature, Science Vs. Superstition, Chemical Reactions conducted at the Centre, 4 outside museum and 62 science demonstration lectures organised in MSE especially in rural areas. 22982 visitors witnessed the shows.

Popular Science Lectures

23 Popular Science lectures were delivered by eminent scientists/technologists /experts RSC, Nagpur throughout the year. Nearly 3256 students, teachers & general Public attended the lectures.

Planetarium Shows

1709 Planetarium shows were conducted at RSC, Nagpur throughout the year for 119889 visitors.

3D Science Film Shows

2737 shows were organised at RSC Nagpur throughout the year for 117660 students, teachers and general public.

Science On A Sphere Show:

1458 shows were organised at RSC Nagpur during the year for 71253 students, teachers and general public.

Pre Historic Animal Park:

Prehistoric Animal Park was visited by 34084 students and general public during the year.

Science Quiz Contests:

31 Science Quiz Contests were held on various occasions during the year. This includes 8 rounds for Inter School Science Quiz Contest and 12 nos. of Written Science Quiz, Open House Quiz and Quizzes were conducted at RSC, Nagpur. 2383 students participated in this and 1453 students and teachers witnessed the Quizzes.

Special Science Demonstration Lecture series:

Special Science Demonstration Lecture series with package of Film Show was organized for the students of High School during the month of August, September. The lectures on the topics Basics of Fun with Physics, Matter at Low temperature were conducted for them. The newly arrived films pertaining to their syllabus were screened during this special drive. 5150 students of 53 schools were benefited.

Meet the Aviation Expert Programme:

Group Captain Krishna Kumar, Group Captain Antony, Group Captain Vishnu Gaur and Wing Commander S. V. Potdar were the present on the occasion. The experts satisfied the queries of the students in the field of Aviation. The students ask the questions like- Why the windows of Air Craft are not square, What happens when the Aircraft is hit by Lightening, What is the significance of the size, shape and length of the wings of Aircraft. In what cases force landing is done?. 350 students of 52 schools participated in the programme.

VACATION CAC:

Vacation CAC was conducted at Raman Science Centre from 23rd April to 12th May, 2018 in Seven disciplines: Creative Science, Astronomy, Robotics, Aero modeling, Model Rocketry, 3-D Printing, and Electronics in 2 batches. In all 294 students participated in it.

In creative Science, 55 students were involved in demonstrating the experiments on Atmospheric Pressure & Electromagnetic Induction. They also carried out various experiments like Fun with Mirrors & Soap Solution, Making Soap, Growing Crystal Garden, Making Super Slime, Electroplating, study of parts of Flower, Pigment Separation, study of cell structure etc. They fabricated 264 kits.

In Astronomy, 62 students were involved in sky observation along with fabrication of kits Sun Dial, Spectroscope, Astrolabe sextant, Finding true North, Sun Ball Projector, Telescope. In all 320 kits were fabricated by them.

In Robotics, 45 students were trained in Assembling of Robot using Arduino, Assembling of Robt using EV3 bricks (Lego Kit), 3. Line Follower Robot, Distance Sensing Robot, Robot performing diff. tasks. 36 kits wer fabricated by them.

In Model Rocketry, 58 students were given hands on training of Making 3 different types of Rockets. They also fabricated balloon Fan, Balloon Cart, Clinometer etc.290 kits were fabricated by the students.

In Aeromodelling, 29 students were given training on fabricating the different Air-Planes like Roto-cofter, Heli Glider, Paper Glider, Thermocol Glider, Plane Wing Type and also with Cockpit, Loop Model and Thermocol Glider with controlling Surfaces. They fabricated 145 aeromodels.

In Electronics 40 students were given the training on basic tools of Electronics viz. Identification of various components & calibration of their values, Soldering, PCB making etc. They were also given training on fabrication of circuits for the projects like .Regulated power Supply, PCB Making, Timer, Astable Multi vibrator, Sinusoidal Wave. They fabricated 160 circuits.

In 3-D Printing workshop, 5 students were exposed to the basic 3-D printing procedures, Methods and applications followed by practicing on TINKER CAD, a web based solid Modeling Platform for generation 3-D Models. Students developed their own models on different themes like Impossible Triangle, Kleins Bottle, Pyramid, Mobius band etc.

Students fabricated 1406 kits during the vacation CAC.

Regular CAC:

Regular CAC was organised for the students during the year. 19 projects were taken up by 42 students.

Sit & Draw contest

Sit & Draw Contests were organised on 5 occasions in which 7055 students participated during the year. This includes a mega Drawing contest which is organised on a very large scale during national Science day celebration.

ORANGE CITY SCIENCE FAIR:

Orange City Science Fair was organised at Raman Science Centre, Nagpur in collaboration with Aeronautical Society of India, Nagpur during 19th to 21st December 2018. Following Programmes were conducted:

Working Science Model Contest: Working Science Model Contest and exhibition was organised for the period of 19th to 21st December 2018 in which 108 students and teachers from 46 schools participated with 99 projects.

Teaching Aid demonstration Contest: Teaching aid Demonstration contest was also organised during the celebration in which 13 teachers participated from 12 different schools.

The Students & Teachers demonstrated their models & Kits to the visiting students, Teachers and general public for all the three days. About 24500 students, teachers and general public visited the exhibition.

RAMAN FESTIVAL OF INNOVATIONS:

As an annual event of the Innovation Centre, the 'Raman Festival of Innovation' was organized at Raman Science Centre from February 15 – 17, 2019. 200 innovators from schools and Science & Engineering colleges participated with their 100 3D, working innovative projects in the 'Innovative Project Competition cum exhibition'. Specially designed projects taken up under Start-up scheme and live demonstrations by 'Artisans' attracted the visitors in the festival. A workshop on Innovative physics teaching for teachers and on Bottle art and folding microscope for students were organised during the festival. The festival remained open for public from 15 to 17 Feb. 2019. Schools, college students and public in general are requested to visit this festival in large number. In all 32450 students teachers and general public visited the Festival.

STEM workshop for Girls

STEM, an acronym for Science, Technology, Engineering and Mathematics is a term typically used to address education policy and curriculum choices in schools to improve competitiveness in science and technology development. It has implications for workforce development, skill development, and several other initiatives that the Government is focussing on. Encouraging STEM education, especially among girl children is a priority area in the whole World and in India too.

Raman Science Centre Nagpur in collaboration with Covestro, Greenlight for Girls, and the Chandramohan Foundation, has organised a two day hands on workshop for nearly 425 girl students from Class 8 to Class 11 of Nagpur schools.

The event was inaugurated today. After introductory addresses by the Project Coordinator of the Centre and the Managing Director of Covestro, Mr. Jai Durrani, Dr. Neha a research chemist from Covestro spoke to the girls on the excitement of science. Thereafter Prof. Jyotsna Meshram, HoD, Chemistry, RTMNU spoke about her area of specialisation and how she came to take up science as a career and succeed in it.

The students were then taken to the labs where they performed three exciting experiments in three different fields. The programme concluded with a valedictory oration by Smt. Kanchan Gadkari, renowned social worker.

Workshop on Mathematic:

Hands on activities & fabrication of Kits were organized on 12th and 14th March 2019 for the students of B.Ed. College as well as in service Teachers. They fabricated kits such as Probability Curve, Geometric Shapes, and Verification of Pythagoras Theorem etc. They were also involved in activity based on workshop on Maths and computational thinking. They prepared kits on methodology of solving problems like sorting of numbers, preparing kits on Knights tour, Mathematics of Penrose tiling, Number Wheel, Desi-Bin Calculator etc. 25 teachers participated in the workshop.

3-D printing Workshops:

3-D Printing Workshops was organized at RSC, Nagpur during the year for the students of Class VIII to XII. They were exposed to the basic 3-D printing procedures, Methods and applications followed by practicing on TINKER CAD, a web based solid Modeling Platform for generation 3-D Models. Students developed their own models on different themes like Impossible Triangle, Kleins Bottle, Pyramid, Mobius band etc. Total 15 students participated.

Workshop on Yoga

A yoga workshop was conducted after the lecture. The participants were given first hand training about how to perform different simple yogic asanas and Pranayama in daily life. About 35 persons including Officers, staff members, trainees and Apprentices participated in the Popular Lecture and Yoga Workshop.

Teachers Training Programme:

2 nos. of Teachers Training Programmes were conducted on Innovative physics teaching for teachers on 15th and 16th February 2019 in which 60 teachers from various schools participated. 60 kits were developed by them.

Workshops on Fold Scope:

Workshop on Fold scope was organised during Raman Festival of Innovation on 15th and 16th February 2019. The students were trained to fabricate the folding microscope and observe microscopic objects through it. 92 students participated.

Workshop on Bottle Art:

Workshop on Bottle art was organised on 17th February 2019 during Innovation Festival. Students were taught to make innovative artistic work on bottles. 54 students participated in it.

Inauguration of New Gallery- Water The Elixir of Life:

Raman Science Centre and Planetarium has set up a new permanent exhibition gallery titled Water: The Elixir of Life. The gallery comprises of 30 participatory exhibits spread over 3000 sq. feet floor area.

This exhibition on Water – The Elixir of Life, is aimed at creating awareness about this scarce and all important source of life among the visitors specially the children.

The gallery unfolds with a plethora of exhibits that cover various issues related to water. How much of it is available on our planet and what percentage of it is potable and in what form is water available on the Earth are some of the issues that are dealt with in the exhibition. Other issues like the water cycle, water on different continents, water in one's body, water conservation, water treatment plants, properties of water, cultural and religious practices and their impact on our rivers etc are also covered in the exhibitions. Significance of water is propounded in almost every religious scripture, and written script exists for water in every language and in every country thus showing how important this life supporting resource is for all of us.

The Exhibition was inaugurated on 14th August 2018 at 11.00 am by Honorable Mayor, Smt. Nanda Jichkar, Nagpur Municipal Corporation in the august presence of Shri. P.K. Parchure, Regional Director, Central Ground Water Board-Central Region, Nagpur. 175 students, teachers and other dignitaries attended the inaugural function.

Traveling Exhibition- The Wonderful World of Crystals:

Traveling Exhibition- The Wonderful World of Crystals exhibition was inaugurated on 12th December 2018 by Dr. Vivek Nanoti, Principal, Priyadarshini Institute of Engineering and Technology, Nagpur.

The exhibition brought out the dazzling beauty of crystals, their physico-chemical properties, research on crystallography with a history of crystal studies, applications, particularly in biology and many more through working models, interactive exhibits, visuals, multimedia, video films etc. to inculcate a spirit of inquiry among the young students and children.

The exhibition was on display at Raman Science Centre till 27th January 2018. The exhibition was kept open for general public and students' everyday between 9.30 am to 6.00 pm. 1,40,727 students, teachers and general public visited the exhibition till 27th December 2018

An Exhibition- 'Collections make Connections:

On the occasion of International Museum Day, Raman Science Centre in collaboration with Chhand Vaibhav, Nagpur organised an Exhibition- '**Collections make Connections**'. In line with this years' theme of 'Hyperconnected museums: New approaches, new publics', people of Nagpur, The individual collectors displayed their own unique personal collections like Stamps, Coins, Antiques, Brass articles, Old Stamp papers, newspapers, Gramophone and records, Match Boxes, Rubi Cubes, Soap carving Articles, Origami & Paper fold art, Wood Art, Bottle Art, Autographs & Photographs with celebrities etc. These collections reflected not only the richness of collective memories, but also the strong connections that objects make, across space and time. About 33 individual collectors have participated it this exhibition.

This exhibition was inaugurated on 18th May 2018 by Dr. B. R. Andhare Former-HOD & Professor, Dept. of History, V. N. Govt. Art & Social Sciences Institute, Morris College, Nagpur. The exhibition was open for all the visitors of Raman Science Centre from 18 - 21 May 2018. It is visited by 8869 visitors.

No More Hiroshima & No More Nagasaki

Photographic Peace Exhibition “No More Hiroshima & No More Nagasaki” was on display from 09th to 12th August 2018. About 2534 students & general public witnessed the exhibition.

An Exhibition- 'Collections make Connections:

On the occasion of International Museum Day, Raman Science Centre in collaboration with Chhand Vaibhav, Nagpur organised an Exhibition- '**Collections make Connections**'. In line with this year's theme of 'Hyperconnected museums: New approaches, new publics', people of Nagpur, The individual collectors displayed their own unique personal collections like Stamps, Coins, Antiques, Brass articles, Old Stamp papers, newspapers, Gramophone and records, Match Boxes, Rubi Cubes, Soap carving Articles, Origami & Paper fold art, Wood Art, Bottle Art, Autographs & Photographs with celebrities etc. These collections reflected not only the richness of collective memories, but also the strong connections that objects make, across space and time. About 33 individual collectors have participated in this exhibition.

This exhibition was inaugurated on 18th May 2018 by Dr. B. R. Andhare Former-HOD & Professor, Dept. of History, V. N. Govt. Art & Social Sciences Institute, Morris College, Nagpur. The exhibition was open for all the visitors of Raman Science Centre from 18 - 21 May 2018. It is visited by 8869 visitors.

Workshop on Yoga

A yoga workshop and lecture was conducted on 'Benefits of Ayurved and Yoga' on 21st June 2017. The participants were given first hand training about how to perform different simple yogic asanas and Pranayama in daily life. About 35 persons including Officers, staff members, trainees and Apprentices participated in the Popular Lecture and Yoga Workshop.

District and Divisional Level Science Seminar:

District & Divisional Level Science Seminar was organised in collaboration with Education Dept. Zilla Parishad Nagpur and office of the Dy. Director of Education, Nagpur Division on 23rd August 2017 and 13th August and 20th August 2018 resp. The topic of the seminar was "Industrial Revolution-4.0, Are We prepared". 39 students from 39 different schools participated in it. 454 students, teachers and parents witnessed the seminar.

District and Divisional level Science Drama festival

District and Divisional Level Science Drama Festival was organised on 28th August 2018 and 24th September 2018 in collaboration with Education Dept. of Zilla Parishad, Nagpur and Office of the Dy. Director of Education, Nagpur Division. 160 students of 20 different schools participated in it. 914 students' teachers and general public witnessed the festival.

Swachhata Pakhwada I:

Swachhata Pakhwada was observed during the period 16th April to 28th April 2018 at Raman Science Centre, Nagpur. Power Point Presentation in Visitors Area at reception, Distribution of Pamphlets regarding Cleanliness, Science Park, Toilets, prehistoric animal park Cleanliness Drive, Essay Writing Contest, Sit & Draw Contest, Written Science Quiz Contest Popular Science Lecture on Cleanliness, Health & Hygiene etc were organised. Pledge taking ceremony was organised in which 650 students participated holding the placards having slogans pertaining to Cleanliness, Health & Hygiene. In all 975 students, teachers and staff members participated in the programmes.

Swachhata Pakhwada II:

Swachhata Pakhwada was observed at RSC, Nagpur from 16th to 28th September, 2018. Poster Making Contest, Essay Writing Contest, Slogan writing competition, Written Swachhata Quiz, Elocution competition on the topic "Cleanliness health and Hygiene" were organised for the High School students. Canvas Painting Contest for the students of Govt. Art College, Nagpur was also organised on the theme "Swachha Bharat Abhiyan" Essay Writing and Power Point Presentation Contest for in service Teachers was organised on the topic "Cleanliness health and Hygiene" during the pakhwada. Special Cleanliness Drive was carried out in the area in front of Prehistoric Animal Park, prehistoric park gardening area, pathways of the centre and *Shramdan* was done by the RSCN, staff, cleaning the Planetarium area and the roads of the

centre. Grand Swachhata rally was organised in which 550 Students were holding the placards with slogans or messages to convey to the society and walked through the residential area of Mahal, Nagpur. In all 1495 students, teachers participated in it.

National Unity Day

Poster Making Contest and Run For Unity was organized at RSC, Nagpur on 31st October 2018 on the occasion of National Unity Day and Birth Anniversary of Sardar Vallabh Bhai Patel. 265 students of various schools participated in the programme. The Unity Pledge was also administered to the students and Staff members of RSC, Nagpur.

Vigilance Awareness Week: Essay Writing Contest Essay writing Contest was organized for the Staff members of RSC, Nagpur on 29th October 2018 during Vigilance Awareness Week. The staff Members expressed their views on the topic: *Bhrastachar Mukta Bharat- Swachha Bharat*.

SCIENCE EXPO 2019:

The Science Expo was organised at Raman Science Centre, Nagpur from 16 to 20 January 2018 in collaboration with 15 Scientific Research organizations from Maharashtra. 15 Research and Scientific organisations showcased their R & D activities in the Science Expo 2018. Large number of students, teachers and General public are visiting this expo. The heads of all participating institutions and scientists were present during the event. The Science expo received overwhelming response as about 59450 visitors including students, teachers and general public visited during 5 days.

Popular Lecture on Intellectual Property Act:

A Lecture on Intellectual Property Right at Innovation Centre, Raman Science Centre was organised for the members of Innovation Centre of Raman Science Centre, Nagpur on 07th June 2018. The Lecture was delivered by Mrs. Chhaya Satpute Ex. Sr. Documentation Officer, Rajiv Gandhi National Institute of Intellectual Property management, Nagpur. 56 students attended the lecture.

STEM workshop for Girls

STEM, an acronym for Science, Technology, Engineering and Mathematics is a term typically used to address education policy and curriculum choices in schools to improve competitiveness in science and technology development. It has implications for workforce development, skill development, and several other initiatives that the Government is focussing on. Encouraging STEM education, especially among girl children is a priority area in the whole World and in India too. Raman Science Centre organised a two day hands on workshop on 14th and 15th December 2018 for nearly 425 girl students from Class 8 to Class 11 of Nagpur schools. The students were then taken to the labs where they performed three exciting experiments in three different fields.

Slogan Writing Contest and Science March;

Slogan Writing Contest and Science March was organised on 25th February and 28th February, 2019 to mark National Science Day. The students were given the topics: Science for People and People for Science, Make in India, Swachh Bharat Abhiyan. About 167 students participated in slogan writing and 705 students of 14 different school participated in Science March carrying placards with slogans prepared by the students.

Mega Drawing Contest:

Mega Drawing Competition was organized at Raman Science Centre Nagpur on 02nd March, 2019 for the students of standard 1st to 9th in three categories. The topics for Primary groups were My Favorite Bird, My Green House, for Middle School - Swachha Bharat Abhiyan, I am Science park, Green City and for High School- India in Space, My Smart City, Swachha Bharat Abhiyan. About 4350 Students from 108 schools participated in all the three categories.

Power Point Presentation Competition

Power Point Presentation Competition was also organized for the teachers on the topic “Science for People and People for Science” on 05th March 2019. 35 teachers took part in this contest.

Sky Observation Programme : Sky Observation Programme were conducted every day during the period 26th February to 07th March 2018. 1937 students and general public attended 6 programmes. They were actually shown the planets and deep sky objects through 11 inch telescope.

Sit & Draw contest was organised on Earth day i.e. 24nd April, 2018. The students presented their views to Save Mother Earth by drawing beautiful posters on topics like Favorite animals, Save Our Mother Earth, Swachha Bharat Abhiyan, Cleanliness Health & hygiene. 54 students from std. 1 to 10 from various schools of the city participated in the contest.

Popular Science Lecture was also organised on 24th April 2018 which was delivered by Dr. Shalini Dhani, Principal Scientist, NEERI, Nagpur on topic "Earth Day: Concerns of Plastic Pollution". Dr. Dhani in her lecture explained about the importance of earth day and our duties towards reducing use of plastics, Concerns of Plastic Pollution and its hazardous effects. About 135 students, teachers and parents attended the lecture.

Sit & Draw Contest / Poster making Contest was organised On 5th June 2018 which was participated by 234 students of Class I to X. The topics for this contest were Grow More Trees: save Environment, Save Wild Life, Plastic Free Nagpur Campaign.

Popular Science Lecture on the topic "Harnessing Microbial Community Intelligence for Environment Clean up." was delivered by Dr (Mrs) Atya Kapley, Senior Principal Scientist, AcSIR faculty, Environmental Biotechnology and Genomics, CSIR-NEERI, Nagpur on 05th June 2018. She stressed to develop the culture of good habits to save environment right from childhood. She informed that now it is possible to combat the plastic pollution naturally by developing bacteria which feed on plastic. 125 students were present.

An open House quiz was also conducted on 5th June 2018 in which questions based on Environmental Science were asked to the students. The successful students were awarded on spot. 125 students participated the quiz.

Science Drama

Students gave the message of cleanliness and hygiene through their frams presented during District and Divisional Level Science Drama Festival, organised on 28th August 2' 108 and 24th September 2018. 160 students of 20 different schools participated in it. 914 students' teachers and general public witnessed the festival.

Swachhata Pakhwada I:

Swachhata Pakhwada was observed during the period 16th April to 28th April 2018 at Raman Science Centre, Nagpur. Power Point Presentation in Visitors Area at reception, Distribution of Pamphlets regarding Cleanliness, Science Park , Toilets, prehistoric animal park Cleanliness Drive, Essay Writing Contest, Sit & Draw Contest , Written Science Quiz Contest Popular Science Lecture on Cleanliness, Health & Hygiene etc were organised. Pledge taking ceremony was organised in which 650 students participated holding the placards having slogans pertaining to Cleanliness, Health & Hygiene. In all 975 students, teachers and staff members participated in the programmes.

Swachhata Pakhwada II:

Swachhata Pakhwada was observed at RSC, Nagpur from 16th to 28th September, 2018. Poster Making Contest, Essay Writing Contest, Slogan writing competition, Written Swachhata Quiz, Elocution competition on the topic "Cleanliness health and Hygiene" were organised for the High School students. Canvass Painting Contest for the students of Govt. Art College, Nagpur was also organised on the theme "Swachha Bharat Abhiyan" Essay Writing and Power Point Presentation Contest for in service Teachers was organised on the topic "Cleanliness health and Hygiene" during the pakhwada. Special Cleanliness Drive was carried out in the area in front of Prehistoric Animal Park, prehistoric park gardening area, pathways of the centre and *Shramadan* was done by the RSCN, staff, cleaning the Planetarium area and the roads of the centre. Grand Swachhata rally was organised in which 550 Students were holding the placards with slogans or messages to convey to the society and walked through the residential area of Mahal, Nagpur. In all 1495 students, teachers participated in it.

Working Science Models on Swachhata Abhiyan:

13 students presented their working models during orange city Science fair on the topics such as Waste Management, Pollution Controller, E-Waste management, Fuel saving Gas Stove, Eco friendly farming, Green Corridor, Eco Dustbin Green city siren, Green Energy, Grass Cutter Vacuum Cleaner, Green Purifier, Waste water Management, Agriculture and Organic farming which were supportive to the Swachh Bharat Abhiyan. The models were on display and demonstrated by the students during 19th December to 21st December, 2018.

Popular Science Lecture was organised on 8th January 2019 on Mahatma Gandhi-His Views on Science, Technology and Innovation. The lecture was delivered by Dr. Anand Manjarkhede, Director, PRNCS Group of Companies. 75 students participated in it. The methods of cleanliness adopted by Gandhiji and its benefits were elaborated by him.

Innovative Projects to support Swachhata Abhiyan

To make our surround clean, the projects with Innovative ideas like the Recycling of Waste Lubricating Oil into fuel, Modification of Food Sterilizer, Effective use of sewage waste water for agricultural soil usages, PET Bottles Pavement Blocks, Vehicle cleaning machine, Eco-Warrior, Wind Power Water Pump, Non-polluting Go-Kart, Wiper Duster, Sanitary Napkin Vending machine, Fuel Saving Gas Stove, Synthesis of various morphology bioplastic from vegetable waste, Adsorption using waste to heat, wastewater and its application Removal of Heavy metals from Waste water using low cost natural adsorbents etc were exhibited by the students Science and Engineering Colleges during Raman festival of Innovation. They were on display and demonstrated to the visitors on all the 3 days i.e. 15th to 17th February 2019.

Removal of Heavy metals from Waste water using low cost natural adsorbents etc were exhibited by the students Science and Engineering Colleges during Raman festival of Innovation. They were on display and demonstrated to the visitors on all the 3 days i.e. 15th to 17th February 2019.

Slogan Writing Contest: Slogan Writing Contest was organised on 25th February for the students of High School. The students were given the topics: Make in India, Science for People and People for Science and Swachh Bharat Abhiyan. About 124 students participated in it.

Mega Drawing Contest: As a part of National Science Day Celebration and Anniversary Week, a Mega Drawing Competition was organized at Raman Science Centre Nagpur on Saturday the **02nd March, 2019** for the students of standard 1st to 9th in three categories. The topics for Primary groups were My Favorite Bird, My Green House, for Middle School - Swachha Bharat Abhiyan, I am Science park, Green City and for High School- India in Space, My Smart City, Swachha Bharat Abhiyan. About 4350 Students from 108 schools participated in all the three categories.

STEM workshop for Girls

STEM, an acronym for Science, Technology, Engineering and Mathematics is a term typically used to address education policy and curriculum choices in schools to improve competitiveness in science and technology development. It has implications for workforce development, skill development, and several other initiatives that the Government is focussing on. Encouraging STEM education, especially among girl children is a priority area in the whole World and in India too. Raman Science Centre organised a two day hands on workshop in collaboration with Covestro, Global Corporate company, world-leading supplier of high-tech polymer materials on 14th and 15th December 2018 for nearly 425 girl students from Class 8 to Class 11 of Nagpur schools. The students were then taken to the labs where they performed three exciting experiments in three different fields.