

# KITTURU RANI CHENNAMMA RESIDENTIAL SCHOOL (SC-392)

ATL CODE:179318056

## ATAL TINKERING LAB



FOR 2022-23



NEERAGUNDA GATE, HOSADURGA TQ, CHITRADURGA DT.

## INTRODUCTION

With a vision to ‘Cultivate one Million children in India as Neoteric Innovators’, Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India. The objective of this scheme is to foster curiosity, creativity, and imagination in young minds; and inculcate skills such as design mindset, computational thinking, adaptive learning, physical computing etc.

ATL is a workspace where young minds can give shape to their ideas through hands on do-it-yourself mode; and learn innovation skills. Young children will get a chance to work with tools and equipment to understand the concepts of STEM (Science, Technology, Engineering and Math). ATL would contain educational and learning ‘do it yourself’ kits and equipment on – science, electronics, robotics, open-source microcontroller boards, sensors and 3D printers and computers. Other desirable facilities include meeting rooms and video conferencing facility.

In order to foster inventiveness among students, ATL can conduct different activities ranging from regional and national level competitions, exhibitions, workshops on problem solving, designing and fabrication of products, lecture series etc. at periodic intervals.

## ATL OBJECTIVES

1. To create workspaces where young minds can learn innovation skills, sculpt ideas through hands-on activities, work and learn in a flexible environment.
2. To empower our youth with the 21 century skills of creativity, innovation, critical thinking, design thinking, social and cross-cultural collaboration, ethical leadership and so on.
3. To help build innovative solutions for India’s unique problems and thereby support India’s efforts to grow as a knowledge economy.

## ATL AT OUR SCHOOL

Our Kitturu Rani Chennamma Residential School is located at Neeragunda gate, Tarikere road, Hosadurga Taluk, Chitradurga District. In the year 2021 our school has been selected for establishment of ATL lab from NITI Aayog central government of India. They had given economic support and direction to set up this lab. Hence we are beautifully set up our ATL lab and inaugurated on 18<sup>th</sup> December 2021 by Deputy Director of Social Welfare department Chitradurga.

In our school 250 students are studying and they are from remote places. ATL has so many electronic and mechanical equipment, these may build our students knowledge and support to think towards new technology to solve so many basic problems facing in their daily life.

In the 2022-23 Academic year we have made the frame work to train students effectively and allow them for hands on working by conducting the 4 sessions in every week. Through this lab students may capable to do some activities, projects, making science models, allowing them to accessing learning materials, conducting workshop, interactive classes, and demonstration classes also.

The structured Action Plan 2022-23 helps to reach every milestones of ATL curriculum in the given period of time.

With this we also identify 5 Government/Aided Schools comes in the radius of 5 km of geographical area from our school as a Community schools. We are allocating the time to learn ATL basic concepts and hands on working for those school students once in a month to one among them.



## METHODOLOGY OF STUDENT ENROLLMENT STEPS

1. Taking classes regarding Introduction to ATL and STEEM Education  
Build the pre-ideation and idea generating knowledge and allow the students to visit ATL.
2. Selecting the students depends on their creativity, interest, idea submission, innovative knowledge, pre-knowledge skills, problem handling skills.
3. Observing the students involvement in LAB.
4. Through conducting written tests to evaluate their knowledge.
5. Observing the students involvement in academic class.

### LIST OF SELECTED STUDENTS

SL NO	NAME	CLASS	SL NO	NAME	CLASS
1	PADMASHREE	10	19	MILANA BAI M	9
2	VEDAVATHI T	10	20	THANU G	9
3	HARSHITHA L M	10	21	KRISHNAVENI N	9
4	RAKSHITHA G	10	22	KRUTHIK R	9
5	DEEPIKA B G	10	23	TEJASWINI T	9
6	PRIYA M	10	24	TEJASWINI S	9
7	KAVITHA K R	10	25	VANISHREE R	9
8	PALLAVI K	10	26	MOUNIKA S	8
9	SHUBHASHINI M G	10	27	NANDITHA K	8
10	LANCHANA T	10	28	REENA	8
11	BEBI	10	29	ANKITHA H	8
12	SHREYA R	10	30	PUSHPA S	8
13	AMULYA B K	10	31	VARSHINI L N	8
14	KALAVATHI P S	9	32	THRISHA M	8
15	LAKSHMI G H	9	33	MANU M	8
16	NANDITHA D	9	34	PRATHIBHA B S	8
17	KEERTHANA K	9	35	CHANDANA D N	8
18	CHAITHRA D	9			

## ATL TINKERING YEAR PLAN

MONTH	NO OF SESSIONS OF ONE HOUR	STUDENTS ENROLLED	OBJECTIVE	CONTENT ANALYSIS	MENTORS
JUNE 2022	20	All students from Class 6 <sup>th</sup> -12 <sup>th</sup>	Introduction to tinkering, pre-ideation, idea generation and ATL visits	Introduction to ATL What is STEEM Education?	ATL INCHARGE
JULY 2022	16	Open to interested students, teachers can nominate, students supported by mentors, collaborative team work	Introduction to design thinking, digital literacy.	Introduction to design thinking, digital literacy.	ATL INCHARGE
AUGUST 2022	16	Open to interested students, teachers can nominate, students supported by mentors, collaborative team work	Computational thinking with Do-It Yourself activities, make students Tinkerers	<ol style="list-style-type: none"> <li>1 Introduction to Computational Thinking.</li> <li>2 Understanding Flow Charts and Algorithms.</li> <li>3 Understanding Sensors and Actuators.</li> <li>4 Understanding Circuits.</li> <li>5 Activity Card 1 - LDR Sensor.</li> <li>6 Activity Card 2 - Flex Sensor.</li> <li>7 Activity Card 3 - Water Level Sensor.</li> <li>8 Activity Card 4 - Soil Moisture Sensor.</li> <li>9 Activity Card 5 - Gas Sensor</li> <li>10 Introduction to Coding               <ul style="list-style-type: none"> <li>• Free Courses for Coding</li> <li>• Python &amp; Matlab</li> <li>• Java, C, C++</li> <li>• HTML, SQL, CSS</li> <li>• Free Courses for Coding</li> </ul> </li> </ol>	ATL INCHARGE
SEPTEMBER 2022	16	Open to interested and selected student Tinkerers, teachers can nominate, students supported by mentors, collaborative team work	Introduction to physical computing.	<ol style="list-style-type: none"> <li>1 Introduction to Physical Computing</li> <li>2 Different types of Microelectronic boards</li> <li>3 Part 1 - Connect your Arduino with your computer using IDE</li> <li>4 Part 2 - Connecting Basic electronic components and coding</li> <li>5 Part 3 - Exercises</li> </ol>	ATL INCHARGE
OCTOBER 2022	ACCADEMIC TESTS AND EXAMS AND DASARA HOLIDAY PERIOD				

MONTH	NO OF SESSIONS OF ONE HOUR	STUDENTS ENROLLED	OBJECTIVE	CONTENT ANALYSIS	MENTORS
NOVEMBER 2022	16	Open to interested and selected student Tinkerers, teachers can nominate, students supported by mentors, collaborative team work	Building real time projects, make students Makers	<ol style="list-style-type: none"> <li>1 Alcohol Detection using MQ sensor.</li> <li>2 Earthquake Detection using inbuilt accelerometer and gyroscope.</li> <li>3 Heart Monitor using a pulse sensor.</li> <li>4 Smart Irrigation Pump using water pump and relay.</li> <li>5 Water Quality Test using pH sensor and display.</li> <li>6 Internet of Things (IoT) <ul style="list-style-type: none"> <li>• Arduino Official Website</li> <li>• Arduino</li> <li>• Arduino (In Vernacular Languages)</li> <li>• Raspberry Pi</li> <li>• Raspberry Pi (Hindi)</li> </ul> </li> <li>7 Circuit Design and CAD <ul style="list-style-type: none"> <li>• ECAD &amp; MCAD</li> </ul> </li> <li>8 Space module</li> <li>9 Drone module</li> </ol>	ATL INCHARGE
DECEMBER 2022	16	Open to interested and selected student Tinkerers, teachers can nominate, students supported by mentors, collaborative team work	Building real time projects, make students Makers	<ol style="list-style-type: none"> <li>1 Artificial Intelligence</li> <li>2 Python Learning Module</li> <li>3 Gaming Module</li> <li>4 App Development Module</li> <li>5 WCF CyberSmart Portal</li> <li>6 3D Design and Printing Module</li> </ol>	ATL INCHARGE
JANUARY 2023	16	Self-driven students interested in working on real life projects with guidance from mentors, collaborative team work	Encourage motivated students continue to solve real world problems, ATL Incharge and mentors guide, make them Innovators	<ol style="list-style-type: none"> <li>1 Intellectual Property Module</li> <li>2 Creating a Business Pitch</li> <li>3 Ethical Leadership in Tinkering and Innovation (ELTI) Module</li> </ol>	ATL INCHARGE
FEBRUARY 2023	16	Self-driven students interested in working on real life projects with guidance from mentors, collaborative team work	Encourage motivated students continue to solve real world problems, ATL Incharge and mentors guide, make them Innovators	Encourage motivated students continue to solve real world problems	ATL INCHARGE

**LIST OF NEARBY COMMUNITY AND NON-ATAL TINKERING LAB SCHOOLS**

<b>SL NO</b>	<b>NAME OF THE SCHOOL</b>	<b>DISTANCE FROM OUR SCHOOL</b>	<b>HEAD MASTER DETAILS</b>	<b>REMARKS</b>
1	GURUPADESHWARA HIGH SCHOOL, SANEHALLI, HOSADURGA TQ. CHITRADURGA.	4 KM	HM CHALAGERI 8746074757	
2	GHPS NEERAGUNDA, HOSADURGA TQ. CHITRADURGA.	2 KM	SHASHIDHAR 8197275644	
3	GHPS SANEHALLI, HOSADURGA TQ. CHITRADURGA.	4 KM	RAJAPPA 8861674720	
4	GHPS MARABHAGATTA, HOSADURGA TQ. CHITRADURGA.	3 KM	RAMESH 9448131211	
5	VINAYAKA HIGH SCHOOL, MALALI, HOSADURGA TQ. CHITRADURGA	3 KM		

**SCHEDULED PLAN TO COMMUNITY AND NON-ATL SCHOOLS**

SL NO	DATE	TIME	VISITING SCHOOL	MENTORING BY
1	01/06/2022	01:30 PM TO 03.30 PM	GURUPADESHWARA HIGH SCHOOL, SANEHALLI, HOSADURGA TQ. CHITRADURGA.	MANJUNATHA D
2	15/06/2022	01:30 PM TO 03.30 PM	GHPS NEERAGUNDA, HOSADURGA TQ. CHITRADURGA.	ROHINI B
3	29/06/2022	01:30 PM TO 03.30 PM	GHPS SANEHALLI, HOSADURGA TQ. CHITRADURGA.	MANJUNATH D
4	06/07/2022	01:30 PM TO 03.30 PM	GHPS MARABHAGATTA, HOSADURGA TQ. CHITRADURGA.	ROHINI B
5	20/07/2022	01:30 PM TO 03.30 PM	VINAYAKA HIGH SCHOOL, MALALI, HOSADURGA TQ. CHITRADURGA	MANJUNATH D
6	03/08/2022	01:30 PM TO 03.30 PM	GURUPADESHWARA HIGH SCHOOL, SANEHALLI, HOSADURGA TQ. CHITRADURGA.	ROHINI B
7	17/08/2022	01:30 PM TO 03.30 PM	GHPS NEERAGUNDA, HOSADURGA TQ. CHITRADURGA.	MANJUNATH D
8	01/09/2022	01:30 PM TO 03.30 PM	GHPS SANEHALLI, HOSADURGA TQ. CHITRADURGA.	ROHINI B
9	14/09/2022	01:30 PM TO 03.30 PM	GHPS MARABHAGATTA, HOSADURGA TQ. CHITRADURGA.	MANJUNATHA D
10	28/09/2022	01:30 PM TO 03.30 PM	VINAYAKA HIGH SCHOOL, MALALI, HOSADURGA TQ. CHITRADURGA	ROHINI B
11	02/11/2022	01:30 PM TO 03.30 PM	GURUPADESHWARA HIGH SCHOOL, SANEHALLI, HOSADURGA TQ. CHITRADURGA.	MANJUNATH D
12	16/11/2022	01:30 PM TO 03.30 PM	GHPS NEERAGUNDA, HOSADURGA TQ. CHITRADURGA.	ROHINI B
13	30/11/2022	01:30 PM TO 03.30 PM	GHPS SANEHALLI, HOSADURGA TQ. CHITRADURGA.	MANJUNATHA D
14	07/12/2022	01:30 PM TO 03.30 PM	GHPS MARABHAGATTA, HOSADURGA TQ. CHITRADURGA.	ROHINI B
15	21/12/2022	01:30 PM TO 03.30 PM	VINAYAKA HIGH SCHOOL, MALALI, HOSADURGA TQ. CHITRADURGA	MANJUNATH D
16	04/01/2023	01:30 PM TO 03.30 PM	GURUPADESHWARA HIGH SCHOOL, SANEHALLI, HOSADURGA TQ. CHITRADURGA.	ROHINI B
17	18/01/2023	01:30 PM TO 03.30 PM	GHPS NEERAGUNDA, HOSADURGA TQ. CHITRADURGA.	MANJUNATHA D
18	01/02/2023	01:30 PM TO 03.30 PM	GHPS SANEHALLI, HOSADURGA TQ. CHITRADURGA.	ROHINI B
19	15/02/2023	01:30 PM TO 03.30 PM	GHPS MARABHAGATTA, HOSADURGA TQ. CHITRADURGA.	MANJUNATH D
20	01/03/2023	01:30 PM TO 03.30 PM	VINAYAKA HIGH SCHOOL, MALALI, HOSADURGA TQ. CHITRADURGA	ROHINI B



**ATL ADVISORY BODY**

<b>SL NO</b>	<b>NAME</b>	<b>DESIGNATION</b>	<b>ADDRESS</b>	<b>CONTACT NO</b>
1	MANJUNATHA H	PRINCIPAL	KRCRS NEERAGUNDA	9916277158
2	SHRIDHAR G V	COMPUTER TEACHER/ATL INCHARGE	KRCRS NEERAGUNDA	9743837025
3	MANJUNATH D	SCIENCE TEACHER	KRCRS NEERAGUNDA	8088607092
4	ROHINI B	MATHEMATICS TEACHER	KRCRS NEERAGUNDA	9632222545
5	SURESH K H	CRP SANEHALLI CLUSTER	BLOCK RESOURCE CENTER HOSADURGA	8105683973
6	VENKATESH M	PARENT	VINAYAKA EXTENSION HOSADURGA	9901571426
7	SUJATHA M T	PARENT	MADHURE HOSADURGA	9448556480

## 2022-23 ACCADEMIC YEAR BUDGET PLAN FOR ATL

**School opening date: 16/05/2022**

**Current balance in ATL account: 1358.58 INR**

### INCOME SOURCES

SL NO	PARTICULAR	DEBIT	CREDIT	BALANCE	REMARKS
1	PREVIOUS BALANCE	-	-	<b>1358.58</b>	
2	TANCHE-II ALLOTMENT	-	2,00,000.00	<b>2,01358.58</b>	

### EXPENDITURE

SL NO	PARTICULAR	DEBIT	CREDIT	BALANCE	REMARKS
1	PREVIOUS BALANCE	-	-	<b>2,01358.58</b>	
2	INCHARGE ALLOWANCES FOR 10 MONTHS	50,000.00	-	<b>1,51,358.58</b>	
3	WORKSHOP EXPENDITURE CONDUCTING 2 TIMES IN A YEAR	20,000.00	-	<b>1,31,358.58</b>	
4	PURCHASING ADDITIONAL MATERIALS	50,000.00	-	<b>81,358.58</b>	
5	EXPENDITURE BUILDING A VIBRANT ATAL TINKERING LAB ECOSYSTEM	25,000.00	-	<b>56,358.58</b>	
6	ATAL TINKERING LAB TINKERING AND INNOVATION MARATHON	5,000.00	-	<b>51,358.58</b>	
7	INDUSTRIAL VISIT AND COMMUNITY DAY EXPENDITURE	20,000.00	-	<b>31,358.58</b>	
8	MISCELLANEOUS	15,000.00	-	<b>16,358.58</b>	
9	OTHERS	15,000.00	-	<b>1,358.58</b>	

**Final balance remaining at the end of the year : 1,358.58 INR**