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Development of Science and Technology
Ministry of Science and Technolgy
Goverment of India

Innovation and Entrepreneurship Development Cell

Progress Report- IEDC

Name of the College/Institution with complete Address including Phone numbers	SANDIP Institute of Technology and Research Center, SANDIP Foundation Campus, Post Mahiravani, Trimbak Road, Nashik-422213
Year of starting of project	2016-17
Name of the Head/Principal of the Institution/College	Prof. (Dr.) Sanjay Trymbak Gandhe
Name of IEDC Coordinator	Er. Nikhil Lilakar Kulkarni
Contact Details of IEDC Coordinator including phone numbers	
Mobile Number	9168644463/9970016211
e-Mail ID	nikhil.kulkarni@sitrc.org
Financial Details	

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Technical Outcome year wise				
Title of the project	**Outcome in terms of product/process development**		**Current Status Patent filled if any, Socially/Economically Relevance**	
Attached Separately				
Previous Sanction Orders details	**Sanction Order No.**		**Sanction Order Date with Amount**	
	1	F. No. 11/10/2015-NEB (G)/01	28/09/2018	13,20,000.00
	2	F. No. 11/10/2015-NEB (G)/01	27/09/2017	7,90,000.00
	3	F. No. 11/10/2015-NEB (G)/01	*13/05/2016*	7,92,795.00

1	Total number of projects supported so far	15
2	Total fund provided, so far	15,00,000/- (Rupees Fifteen Lakhs Only)
3	No. of Patents filed by students	05
4	No. of companies/Starts up Set up by Students	02

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Any other achievement, you would like to highlight as a progress of the IEDC.

Our Achievements through IEDC are three-fold:

Innovation:

- Received TWO Golden Star from MHRD Innovation Council for outstanding performance I A.Y. 2018-19.
- Following Members of our MHRD Innovation Council cell Institution's Innovation Council has recognized as a Star performers
  1. Prof Ms. Kavita S. Patil, Dept of E&TC Engineering
  2. Sreyas Pillai, Dept of Computer Engineering
  3. Ankit Kumar Dept of Information Technology
  4. Devesh Jha Dept. of Engineering Science & Humanities
- Our Institute's E&TC Engineering students' (Suvarna Khandbahale, Sayali Gamne and Komal Sable) innovation has been selected in IEEE BOMBAY SECTION FIRST NATIONAL HACKATHON 2019 PROJECT IDEA SELECTION Title: IoT based smart corral for health monitoring of cattle.
- Received grant of Rs.1, 00,000/- from IEEE Bombay Section and collective amount of Rs. 5, 81,401/- for IEEE Bombay Section Congress 2019. IEEE BSC 19 has successfully held at SITRC, Nashik
- Honored by MHRD Innovation Council (MIC), Govt. of India to setup Institution's Innovation Council (IIC) with essential stakeholders of ecosystem.
- Initiated the REVATI (Rural Empowerment and Vamping of Agriculture and Tribal Innovations) Cell
- Collaborated with BARC, DAE, Govt. of India under AKRUTI (**A**dvanced **K**nowledge and **R**ural **T**echnology **I**mplementation) for improvising Techno-Rural Entrepreneurship
  - Adopted 6 technologies for Research and Development
    - Soil Organic Carbon Detection & Testing Kit (SOCDTK)
    - Foldable Solar Dryer
    - Domestic Water Purifier

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- Nano composite Ultrafiltration Membrane Device For Domestic Drinking Water W.R.T Arsenic, Iron and Microbial Contaminations
- Mass multiplication medium of Bio fungicide Trichoderma spp.
- Micro fine Neem Biopesticides

- **Received honor from MHRD, Govt. of India for participating in Unnat Bharat Abhiyaan 2.0**
  - Fetched grant of Rs. 1,00,000/- under the scheme.
  - Adopted 6 villages Mahirawani, Belgaon-dhaga, Wasali, Talegaon-Anjaneri, Jategaon and Shirasgaon-Trymbak on challenge more to solve the issues through technological intervention.
  - Major Focus on following themes:
    - Organic Farming
    - Water Management
    - Energy Sources
    - Artisans, Industries & livelihood
    - Basic amenities
    - Convergence
- **Cultivated the essentials of Innovation and Entrepreneurship into Engineering Education in association with Entrepreneurship Development Institute of India (EDII) , Ahmadabad**
  - Received grant of Rs. 2,90,000/- from Entrepreneurship Development Institute of India(EDII), Ahmedabad,, Government of India, for conducting EAC and FDP Letter Reference No :EDI/DST-NIMAT/17-18/447 dated on 26/04/2017
- **Worked for encouraging for improvement in filing various IPRs through Industry-Academia Synergy**
  - Sanctioned grant of Rs. 2,20,000/- from Department of Electronics and Information Technology, Ministry of Communications and IT, Government of India, Proposal No : IPR_principal_60208 awareness workshop Dated 02/06/2016
- **Following prototypes are under product commercialization supported by Institute**
  - *Sector: Sanitation (Contribution towards Swachh Bharat)*
    - Coin-based Sanitary Napkin Vending Machine
    - Cashless Sanitary Napkin Vending Machine
    - Dual pay Sanitary Napkin Vending Machine
  - *Sector: Agriculture (Contribution towards Smart Village)*

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- Retrofitting Brown-Field Smart Agricultural based Grapes Field Monitoring System

- *Automobile (Contribution towards Clean India)*
  - Petrol less Engine Mechanism (Solenoid Control Motor Techno Engine)

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Achievements: Incubation

- **Initiated Nashik Region FIRST Academic Technology Business Incubation Facility – SANDIP Incubator Association" SECTION 8 Company (CIN: U73200MH2018NPL312509)**
- Registered 17 Startups under incubation:
  - *Student-LED (14)*
    1) Rushiraj Enterprises
    2) Aradhya Electronics and Software Solutions Pvt. Ltd.
    3) Innotics Computech LLP
    4) AJB Motor Solutions Pvt. Ltd. (Formerly Lakshya Motors)
    5) CreHa Inc
    6) Kunde Dairy Farms Pvt. Ltd.
    7) Innognist Technotics Pvt. Ltd.
    8) Crazy Food Parks
    9) Resofox Automotive Pvt. Ltd.
    10) Payveb Resources Pvt. Ltd.
    11) Infinity Inc.
    12) SillyCorn Inc.
    13) Engeniuspark Technologies LLP
    14) Fine Point
  - *Others (03)*
    1) RETO Labs Pvt. Ltd.
    2) Cybsky Cyberambassador Solutions Pvt. Ltd.
    3) Shreeyash Foods
- Providing Support
  - Prototyping Support
  - Accelerator Program
  - Professional Services
  - Incubation

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- Seed Funding (from VC firms, Angel Investors)

- Following startups have been recognized by DPIIT (Formerly DIPP), Govt. of India
  - Innotics Computech LLP (DIPP-43763)
  - Aradhya Electronics and Software Solutions Pvt. Ltd. (DIPP-43763)
  - AJB Motor Solutions Pvt. Ltd. (Formerly Lakshya Motors) (DIPP-42685)
  - Kunde Dairy Farms Pvt. Ltd. (DIPP-21110)
  - Innognist Technotics Pvt. Ltd. (DIPP-40140)
  - LizRox Pvt. Ltd. (DIPP-42059)
  - Innognist Technotics Pvt. Ltd. Startup listed on MeitY Startup Hub (startup_techgnist_098575)
  - Mr. Smit Patel, Co-founder of Innognist Technotics Pvt. Ltd., is Mentor of Change for NITI AAYOG (MOC-1885)
  - Resofox Automotive Pvt. Ltd. got nominated for "INDIA 500 Startup Awards 2019"
  - Indian STEPs and Incubator Association enrolled our incubation Centre as PRIME Member.
  - AJB Motor Solutions Pvt. Ltd. (Formerly Lakshya Motors)'s new model of E-CART has been approve in record break timing (in 29 days only.)

- Other Achievements
  - Mr. Janak Kunde has been selected to the 5th Global Entrepreneurship Bootcamp 2019 in Bangkok, Thailand.
  - Mr. Janak Kunde has been awarded by Zila Parishad as a "Aadarsh Gopalak"
  - Mrs. Yojana Warkhede has received "Woman Achiever's Award 2018"
  - Our Incubate Mr. Shubham Kulkarni, has awarded in IEEE Bombay Section Congress 2019.

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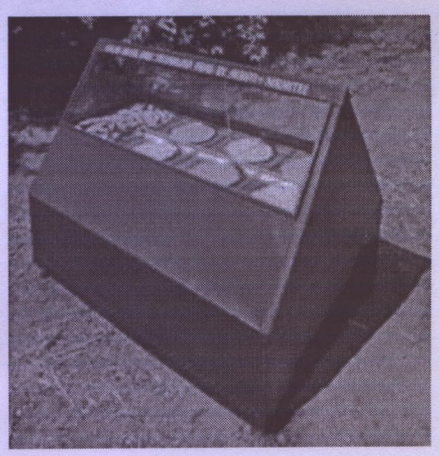
Title of the Project: Foldable Solar Dryer

(F. No. 11/10/2015-NEB (G)/01 dated 28/09/2018)

Outcome in terms of Product Development	IPR Current Status	Socially and Economically Relevance
1) The foldable solar dryer in the capacity of 10, 25 & 100 kg is used for the a. Preparation of raisin from grapes, b. Drying any other extruded food product like onion, mango pulp, green leafy vegetables, Amla, jack fruit pulp, ginger, c. Drying of papads, wafers, green pepper, herbal medicines etc. for house hold use or for small scale industries 2) This solar dryer will be invaluable to housewives in urban areas and farmers in rural areas, and to small scale industries as well a. Post-Harvest drying of produce in rural areas for storage.	Technology has been developed in consultation with BARC's AKRUTI and SFSITRC's REVATI Collaboration Cell. Technology patented by BARC in OCT 1994 *(Patent No. 173519)*	1) By use of this dryer, the drying process is made 5 times faster than normal sun drying procedure resulting in substantial weight reduction. 2) 100 kg of grapes can be converted to 25 kg of raisin. 3) It has no adverse effect to environment. 4) It has potential to encourage village techno-preneurship 5) Easy maintenance for lifetime service

Developed By:

Young Innovators		Mentor	
Student SF ID	**Names**	**Staff SF ID**	**Names**
122017618	Yash Sunil Gaikar	1442	(Dr) Vishal Narayanrao Sulakhe
112018346	Suyog Suresh Pawar		
112014204	Shubham Gansing Shirsath	1417	Prof. (Dr.) Milind Motiram Patil



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age Courtesy: BARC, Trombay Mumbai

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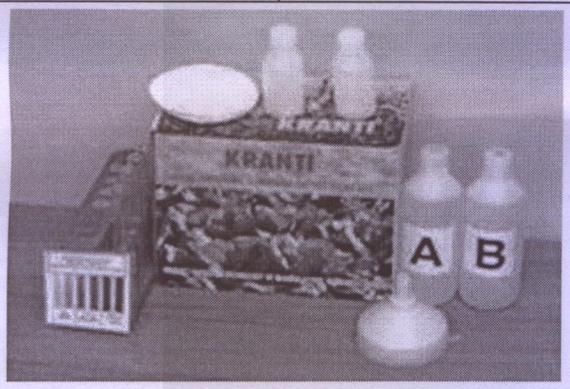
Title of the Project: Soil Organic Carbon Detection & Testing Kit

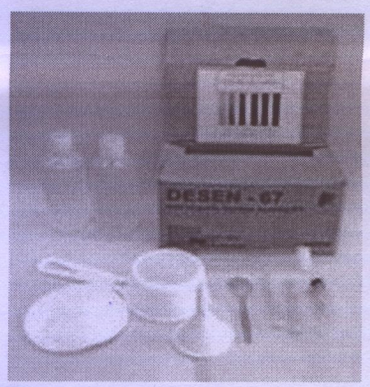
(F. No. 11/10/2015-NEB (G)/01 dated 28/09/2018)

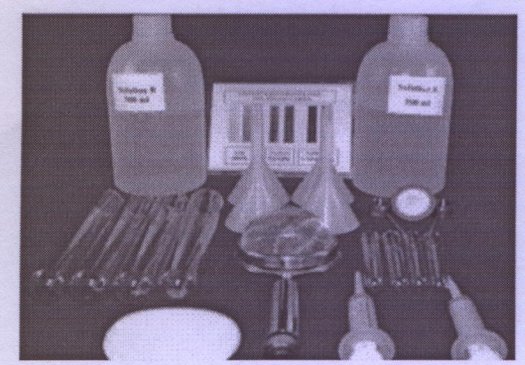
Outcome in terms of Product Development	IPR Current Status	Socially and Economically Relevance
1) This kit would be useful to great extent in agriculture sector 2) Direct use by the farmer for organic carbon detection of soil before sowing of the crop and at the harvest of the crop. 3) To take the corrective measures to maintain the soil organic carbon at optimum levels and evaluating the effectiveness of the organic manure supplements. 4) Agriculture universities & soil-testing labs for research purpose.	Technology has been developed in consultation with BARC's AKRUTI and SFSITRC's REVATI Collaboration Cell. Technology patented by BARC in OCT 1994 *(Patent No. 173519)*	1. It is user friendly as any farmer himself checks the percentage of organic carbon in his field. 2. It gives quick and reliable results. 3. Evaluates the impact of organic carbon amendments supplemented periodically. 4. It gives idea of amount of organic manure additions. 5. It is economical and time saving. 6. It has no adverse effect to environment. 7. It has potential to encourage village techno-preneurship 8. The analysis is easy to perform, requires only 15-20 min. time and farmers can use the kit without any prior knowledge.

Developed By:

Young Innovators		Mentor	
Student SF ID	**Names**	**Staff SF ID**	**Names**
102018015	Kasturi Sanjay Pawar	1097	Dr. (Mrs.) Gayatri Makrand Phade
102018002	Gitanjali Umesh Jain	1270	Mr. Vaibhav Vijay Joshi







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Title of the Project: Vertical Axis Windmill on Highway side for charging of E-vehicles

(F. No. 11/10/2015-NEB (G)/01 dated 28/09/2018)

Outcome in terms of Product Development	IPR Current Status	Socially and Economically Relevance
Green Technology:- • Vertical Axis Windmill on Highway side is made for charging of E-vehicles on highway side. • Due to motion of vehicles on highway wind generates and this energy we are converted into Electrical Energy for charging. • So cost charging is very low. **Pollution:-** • Electric vehicles are 100 present eco-friendly as they run on electrically powered engines. It does not emit toxic gases or smoke in the environment as it runs on clean energy source. They are even better than hybrid cars as hybrids running on gas produce emissions. You'll be contributing to a healthy and green climate. POPULARITY: EV's are growing in popularity. With popularity comes all new types of cars being put on the market that are each unique, providing you with a wealth of choices moving forward. And as electrical Engineer we are providing Charging Station with the help of Vertical Axis Windmill on Highway side.	Indian Patent has to be Filed Not Applied yet	**Social Relevance:** • **Urban air quality: -** Electric vehicles produce little or no tailpipe emissions, which helps improve urban air quality. Despite improvements, New York City still fails to meet Federal standards for ozone levels. Unlike regular cars, electric vehicles create little or no local ozone emissions with help of Charging station we can achieve by Vertical Axis Windmill on Highway side **Carbon Emissions: -** When recharged from the electric grid in New York City, Electric vehicles lead to carbon emissions at power plants that supply the city. As of 2007, this amount was about 0.55 lbs of CO_2e per mile. This is lower than almost any other vehicle on the road. **Oil independence:** Electric vehicles would dramatically reduce that amount, as the energy sources for India are primarily natural gas, hydropower, nuclear, and increasingly, renewables. **Urban noise:** Because they lack pounding pistons they reduce vehicle noise, especially at city speeds. **Urban heat:** Only about 15% of the energy in gasoline gets converted into motion. Much of the rest is lost as waste heat one of the reasons it's sometimes possible to fry an egg on the hood of a car. Electric vehicles use the energy in their batteries much more efficiently and create less heat, welcome news for pedestrians walking next to a grid locked street. **Economic Relevance:** • Electric vehicles have been competing with the internal combustion engine for more than a century, and they have never won. Batteries are more expensive, have less range, and require more time to recharge than it takes to fill a gas tank. • The model shows that the plug-in electric engine market is both economically and financially viable. However, the economic and financial returns accrue over the longer term. The move towards a plug-in electric vehicle market also generates large savings in greenhouse gas and air pollution emissions. • In the short term there is Economic Viability of Electric Vehicles increased uptake of alternative engine configurations in the small vehicle category. As vehicle prices fall, the vehicle range increases and more charging infrastructure becomes available, owners of larger vehicles and vehicles that travel large distances tend to purchase a higher proportion of EVs. • This is due to the fact that operating costs are more important for these vehicle owners. Higher levels of charging infrastructure (as represented in the different scenarios) significantly increase the take-up of plug-in electric vehicles and hence increase the viability of the market.

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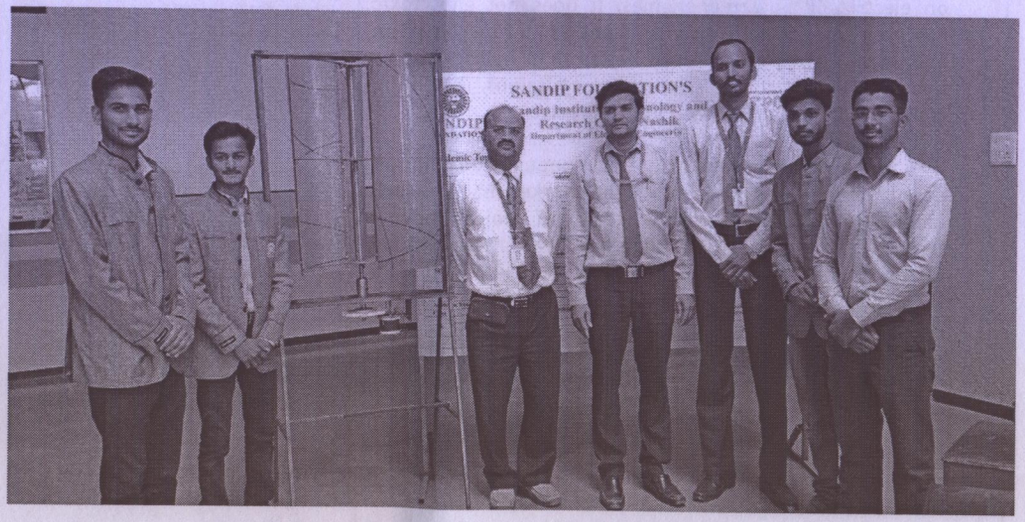
Title of the Project: Vertical Axis Windmill on Highway side for charging of E-vehicles
(F. No. 11/10/2015-NEB (G)/01 dated 28/09/2018)

Developed By:

Young Innovators		Mentor	
Student SF ID	**Names**	**Staff SF ID**	**Names**
122016458	Vishal Yashwant Baviskar	1522	Mr. Nitin Sudhakar Patil
122016773	Nanasaheb Harischandra Rashinkar		
122016483	Vishal Bapusaheb Waghmode	1365	Prof. (Dr.) Prakash Gajanan Burade



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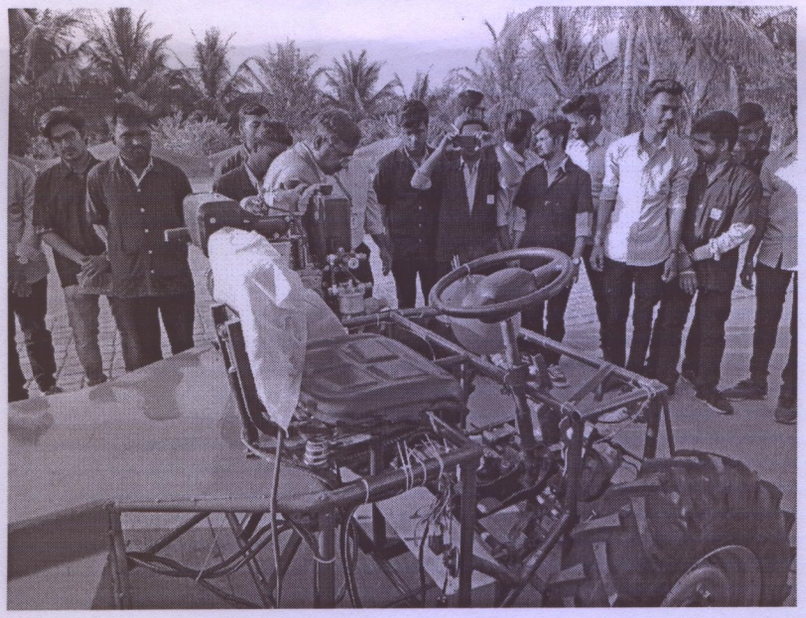
Title of the Project: Self-propelled Onion Harvester

(F. No. 11/10/2015-NEB (G)/01 dated 28/09/2018)

Outcome in terms of Product Development	IPR Current Status	Socially and Economically Relevance
Self-propelled onion harvester has been developed with added advantage of hybrid vehicle as well as leaf cutting mechanism.	Indian Patent has to be Filed Not Applied yet	The present work has been carried out to bring out reliable solution for onion farming. Though the people are working in the agricultural field, there are many of the problems which are regularly faced by the farmers with the traditional farming methods. The onion harvesting is the labor intensive operation; also the production suffers because of improper care of onions, improper seeds and bed preparation. Mechanization enables conservation of input through proper use of above factors. The harvesting depends on the type of soil, mature and immature bulb of onion. So to overcome the problems of harvesting operation and also to reduce cost of operation the current attempt has been made to design the onion harvester.

Developed By:

Young Innovators		Mentor	
Student SF ID	**Names**	**Staff SF ID**	**Name**
112016065	Rishikesh Mundrika Prajapati	1050	Mr. Vasim Akbar Shaikh
112016047	Shaibaaz Mashkur Shaikh		
122017637	Ashirva Jagdish Bhagat	1515	Mr. Sachin Badshah Hase



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Title of the Project: Design and Development of SMAC-based utility platform for MSMEs
(F. No. 11/10/2015-NEB (G)/01 dated 28/09/2018)

Outcome in terms of Product Development	IPR Current Status	Socially and Economically Relevance
Public relations Maintaining Public Relations is the main focus of concern for any business to grow whether large or any MSME. The credibility of success for organization goes to the public Relations maintaining team. Project focuses on maintaining our CRM team strong and patient to understand the client all the requirements. **Social Media:** Most effective way to grow the business is nothing but the social media. The technology that helps us to share information, ideas, business models to the world at one click. **Digital Marketing** Project concerns to all efforts make business known to all and also to the perspective customers. Proposed portal handles all the digital channels like search engines, websites, social media, email, etc. to increase MSME business in back support with team of professionals.	Indian Patent has to be Filed Not Applied yet	• **Content Marketing** As said "First impression is the last impression", in marketing the quality of your content is the deciding factor about you. So better the quality content so is the impression of your business for customers. • **Media Consultancy** Project not only creates and gives you the quality content but also gets it where you want it to go reaching targeted, demographic audiences everywhere you want. • **Software Application** Software applications are the easiest way for anyone to handle form kid to elders. So building user centric and user friendly applications so that one can easily interact to it is the main motive.

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Young Innovators		Mentor	
Student SF ID	**Names**	**Staff SF ID**	**Names**
112015108	Rishabh Jitendra Rayliwala	1350	Prof. (Dr.) Prasad Ramchandra Baviskar
112017043	Yash Pravin Bhangale		
122016784	Suvarna Shriram Khandbahale	1062	(Dr.) Amol Dnyaneshwar Potgantwar
122016530	Sayali Jayawant Gamane		
122016528	Komal Sanjay Sable	1308	Er. Nikhil Lilakar Kulkarni

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