



**IMS ENGINEERING COLLEGE GHAZIABAD**  
**(YEAR OF ESTABLISHMENT - 2002)**  
[Approved by AICTE & Affiliated to AKTU, Lucknow]



**Supporting Document**

**3.1.3 Percentage of departments having Research projects funded by government and non-government agencies during the last five years.**

Year	2015-16	2016-17	2017-18	2018-19	2019-20	Total Last Five Years
<b>Number of departments with funded projects</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>6</b>
<b>Total No of departments</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>9</b>	<b>9</b>
<b>Percentage</b>	<b>12.50%</b>	<b>25.00%</b>	<b>37.50%</b>	<b>37.50%</b>	<b>33.33%</b>	<b>66.67%</b>

S. No.	Name of the Project/ Endowments, Chairs	Name of the Principal Investigator/Co-investigator	Department of Principal Investigator	Year of Award	Amount Sanctioned	Duration of the project	Name of the Funding Agency	Type (Government/non-Government)	Page No.
1	Ambient Air Quality Monitoring at Two Stations in Hapur City	Dr. Narendra Kumar (Co-PI)	Biotechnology	2015	Rs. - 8,72,000/- (Annual)	3 Year Completed	U.P. Pollution Control Board, Lucknow	Government	3-6
2	Awareness Programme on Intellectual Property Rights (IPR) of Micro, Small & Medium Enterprise (Handloom & Powerloom Industry)	Dr. S. N. Rajan	IT	2016	One Lakh	One Year	NMCP Scheme of DC-MSME	Government	7-8
3	Smart Blind walker stick	Dr. Pankaj Agarwal	CSE	2017	Rs 16,000/-	6 months	CST, UP	Government	9-23
4	Research Project titled "A Multipurpose Drone" under Visvesaraya Research Promotion Scheme	Mr. Mukesh Kumar & Dr. Pankaj Agarwal	CSE	2017	Rs 430000/-	2 years	AKTU, Lucknow, UP	Non-Government	24-26

5	Creation of Water from Air	Dr. V.K. Saini	Mechanical Engineering	2017	20000/-	6 Month	CST, UP Engineering Students' Project Grant Scheme 2017-18	Government	27-28
6	Detection of Sunflower leaf diseases using image segmentation and soft computing techniques”	Mr. Vijai Singh	CSE	2017	Rs 186000/-	2 years	AKTU, Lucknow, UP	Non-Government	29-37
7	Cabriolet Vechi-EEE	Ms. Sulekha Saxena	EN	2018	20000/-	1 Year	CST-UP Engineering Students Project Grant Scheme	Government	38-39
8	Mars Rover	Mr. Abhishek Gupta	EN	2018	12000/-	1 Year	Kalam Centre AKTU, Lucknow	Government	40-41
9	Rat, A Surveillance Robot	Dr. V.K. Saini	Mechanical Engineering	2018	20000/-	6 Month	DRDO Robotics and Unmanned Systems Exposition (DRUSE)	Government	42-44
10	Cloning and characterization of PfSEA-1 antigen of <i>Plasmodium faciparum</i> as vaccine candidate	Dr. Meghna Singh (PI)	Biotechnology	2019	18,00,000/-	3 Years	DST-SERB under TARE Scheme	Government	45-47
11	Prediction and analysis of Air Pollution level using Machine Learning	Sapna Yadav	CSE	2019	Rs 20,000/-	6 months	CST, UP	Government	48
12	Post-harvest crop management system using IOT and AI	Ms. Shruti Keshri	CSE	2019	1.25 lakh	6 months	Smart Odisha Hackathon 2018	Non-Government	49-57
13	Design and Analysis of MIMO Antenna with Incorporation of Substrate Integrated Waveguide	Dr. R. N. BARAL	Electronics & Communication Engineering	2019	3,00,000/-	One Year	CRIP (TEQIP-III) AKTU, Lucknow, UP	Government	58



उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड  
UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं.  
Ref. No.

F62964

C-Lab/243/Air Mon./Hapur/2015

दिनांक  
Date

15-6-15

To,

Prof. (Dr.) S.P. Pandey  
Director,  
IMS Engineering College,  
National Highway-24  
Adhyatmik Nagar,  
Post Box no.-70,  
Ghaziabad-201009

Sub: Regarding Ambient Air Quality Monitoring at two locations in Hapur city.

Sir,

Please refer to your proposal dated 14-11-14 for monitoring of Ambient Air Quality at two locations in Hapur city which was received through Regional Officer, U.P. Pollution Control Board Ghaziabad vide his letter no. 3405/Lab/14 Dated 18.11.14

In the above context this is to inform you that the above proposal has been accepted by the competent authority of the Board for the monitoring of ambient air quality at two locations in Hapur city on total Rs. 8.72 Lac per annum (for two locations). The payment of project cost, terms and conditions of the project will be sent separately. The Respirable Dust Sampler (RDS) and Fine Particulate Sampler (PM 2.5) will be provided by our Regional Office, Ghaziabad. The site selection for monitoring locations will be done jointly with our Regional Office, Ghaziabad.

Sincerely Yours

(Dr. Madhu Bhardwaj)  
Chief Environmental Officer  
Central Lab

Copy to: Regional Officer, UPPCB, Ghaziabad for information & necessary action

Chief Environmental Officer  
Central Lab



उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड  
UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०

Ref. No.

To,

H04053

/UPPCB/CL/243/NAMP/2014-17  
Hapur

दिनांक

Date 13/6/17

Dr. Neetu Goel  
Principal Investigator  
Dean, Applied Science & Humanities  
IMS Engineering College, NH-24, Adhyatmik Nagar  
Ghaziabad (U.P.)-201009.

Sub: Regarding 1<sup>st</sup> Installment payment of project cost for Ambient Air Quality Monitoring at Hapur city.

Sir,

Please refer to our earlier letter no. H 01107/UPPCB/C.L./243/NAMP/Hapur/2014-2017 dated 28.04.2017 regarding extension of the air monitoring project of Hapur city. In this reference please find enclosed herewith 1<sup>st</sup> installment (50% of total project cost Rs 8.72 Lacs) payment Rs 4.36 Lacs vide cheque no. 386490 dated 09.06.2017. Kindly acknowledge the receipt of payment. Kindly provide the Year wise utilization certificate against sanction amounts in this project.

Sincerely Your's

(Manju Gupta)

Incharge Central Lab

Copy to: 1. Regional Officer, UPPCB Ghaziabad for Information & necessary Action.  
2. Account officer, UPPCB, Head Office, Lucknow for Information.

Sl. As above

Incharge Central Lab



उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड  
UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ नं०  
Ref. No.....

53/UPPCB/CL/243/NAMP  
napur/2014-17

Date 20-03-2018

संशोधित पत्र/पंजीकृत

सेवा में,

डा० नीतू गोयल  
प्रिंसिपल इन्वस्टीगेटर  
डीन, अपलाइड साइंस एण्ड ह्यूमैनीज  
आई०एम०एस० इंजीनियरिंग कालेज, एन०एच०-24, आध्यात्मिक नगर  
गाजियाबाद-201009।

विषय: हापुड़ नगर परिवेशीय वायुगुणता अनुश्रवण के संबंध में।

महोदय,  
कृपया केन्द्रीय प्रयोगशाला के पत्रांक- एच 17229/यू०पी०पी०सी०बी०/सी०एल०/243/  
एन०ए०एम०पी०(हापुड़)/2014 दिनांक 14.03.18 का संदर्भ ग्रहण करने का कष्ट करें। उक्त पत्र के  
माध्यम से हापुड़ नगर में 02 स्थानों श्रीनगर कालोनी एवं जिन्दल पाइप्स लि० पर परिवेशीय वायुगुणता  
अनुश्रवण किये जाने हेतु कॉन्ट्रैक्ट का नवीनीकरण किया गया था। उक्त पत्र में वर्णित तिथि 01.03.2018  
से 28 फरवरी 2019 त्रुटिवश अंकित हो गई है। उक्त के स्थान पर कॉन्ट्रैक्ट तिथि 01 फरवरी 2018 से  
31.01.2019 स्वीकृति की गई है। पत्र में अंकित अन्य विशिष्ट शर्तें पूर्ववत लागू रहेंगी।

भवदीया,

*ASO-I*

(मंजू गुप्ता)  
मुख्य पर्यावरण अधिकारी  
केन्द्रीय प्रयोगशाला

प्रतिलिपि: क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, गाजियाबाद को सूचनार्थ प्रेषित।

*Manji*  
20/3/18  
मुख्य पर्यावरण अधिकारी  
केन्द्रीय प्रयोगशाला

*Lt*  
*ASO-I* / *ASO-II*  
*26/3/18*

T.C.-12V, Vibhuti Khand,  
Lucknow -

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,  
लखनऊ - 226010



# उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

## UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०

Ref. No. H/210

सेवा में,

दिनांक

Date 05-2-2020

पंजीकृत डाक द्वारा

डा० नीतू गोयल

प्रिंसिपल इन्व्स्टीगेटर

डीन, अपलाइड साइंस एण्ड ह्यूमैनटीज

आई०एम०एस० इंजीनियरिंग कालेज, एन०एच०-24, आध्यात्मिक नगर

गाजियाबाद-201009।

**विषय:** हापुड़ नगर में परिवेशीय वायुगुणता अनुश्रवण के संबंध में।

महोदय,

कृपया अपने प्रोजेक्ट प्रस्ताव दिनांक 02.12.2019 का संदर्भ ग्रहण करना चाहें। संदर्भित प्रोजेक्ट नेशनल एयर क्वालिटी मानीटरिंग प्रोग्राम के अन्तर्गत स्वीकृत किया गया है। हापुड़ नगर में 02 स्थानों श्रीनगर कालोनी एवं जिन्दल पाइप्स लिमिटेड पर परिवेशीय वायुगुणता अनुश्रवण किया जाएगा। यह प्रोजेक्ट रु० 8,72,000/- (रु. आठ लाख बाहतर हजार मात्र) टैक्स सहित प्रति वर्ष की दर से दिनांक 01.02.2020 से दिनांक 31.01.2021 तक सक्षम अधिकारी द्वारा स्वीकृत किया गया है, जिसकी विशिष्ट शर्तें निम्नवत् हैं:-

- 1 प्रत्येक अनुश्रवण केन्द्र पर सप्ताह में दो दिन 24 घंटे लगातार (वर्ष में 104 दिन) वायु अनुश्रवण का कार्य किया जाना होगा। अनुश्रवण में 03 प्रचालकों पीएम10, सल्फर डाई आक्साइड तथा नाईट्रोजन डाई आक्साइड गैस का विश्लेषण किया जाएगा। अनुश्रवण कार्य केंद्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली द्वारा जारी दिशा निर्देशों के अनुसार किया जायेगा।
- 2 परिवेशीय वायुगुणता के आंकड़े नियमित रूप से अनुश्रवण कार्य के 24 घंटे के अन्दर इंटरनेट के माध्यम से केंद्रीय प्रदूषण नियंत्रण बोर्ड तथा इस कार्यालय को भी उपलब्ध कराये जायेंगे। सभी आंकड़ें निर्धारित प्रारूप में केंद्रीय प्रदूषण नियंत्रण बोर्ड/उ०प्र० प्रदूषण नियंत्रण बोर्ड को माह की समाप्ति पर भी उपलब्ध (हार्ड कापी) कराये जाएंगे।
- 3 अनुश्रवण कार्य के समस्त अभिलेख गोपनीय रखे जाएंगे और इनका प्रयोग किसी शोध कार्य, रिसर्च पेपर एवं वैज्ञानिक पत्र पत्रिकाओं में बिना बोर्ड की अनुमति के प्रकाशित नहीं कराया जाएगा। अनुश्रवण कार्य के परिणामों पर राज्य बोर्ड का ही अधिकार होगा।
- 4 अनुश्रवण कार्य संतोषजनक न पाये जाने की स्थिति में बोर्ड द्वारा अनुश्रवण कार्य के नवीनीकरण को निरस्त किये जाने पर विचार किया जा सकता है।
- 5 उपरोक्त समस्त कार्यों का सम्पादन स्थानीय कार्यालय उ०प्र० प्रदूषण नियंत्रण बोर्ड, गाजियाबाद के संरक्षण में किया जाएगा एवं प्रतिदिन में आने वाली समस्याओं का समाधान उन्हीं के माध्यम से किया जाएगा।
- 6 अनुश्रवण से संबंधित उपकरणों का कैलीब्रेशन एन.ए.बी.एल. ऐक्रिडीटेड लैब द्वारा कराया जायेगा एवं समुचित रखरखाव का कार्य आप द्वारा निर्धारित प्रोटोकॉल के अनुसार किया जायेगा।
- 7 बोर्ड द्वारा दी गयी धनराशि का यूटिलाइजेशन सर्टिफिकेट प्रतिवर्ष आवश्यक रूप से प्रेषित कराना सुनिश्चित करें।
- 8 आप द्वारा किये जा रहे परिवेशीय वायुगुणता कार्यों, प्रयोगशाला की गुणवत्ता, अनुश्रवण कार्य की गुणवत्ता आदि का समय-समय पर बोर्ड के क्षेत्रीय कार्यालय, गाजियाबाद एवं केंद्रीय प्रयोगशाला द्वारा किया जाएगा।

भवदीय,

(डा० बी०बी० अवस्थी)  
मुख्य पर्यावरण अधिकारी  
केंद्रीय प्रयोगशाला

**प्रतिलिपि:** क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, गाजियाबाद को सूचनार्थ प्रेषित।

मुख्य पर्यावरण अधिकारी  
केंद्रीय प्रयोगशाला

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,  
लखनऊ - 226010  
दूरभाष : 522-2720831, 2720828  
फैक्स : 0522 - 2720764, 2720676  
ई-मेल : info@uppcb.com  
वेबसाइट : www.uppcb.com  
Com 1 Hindi Letter head 25-05-2016

T.C.-12V, Vibhuti Khand, Gomti Nagar  
Lucknow - 226010  
Phone : 0522-2720831, 2720828  
Fax : 0522 - 2720764  
Email : info@uppcb.com  
Web Site : www.uppcb.com

# PERFORMA FOR STATEMENT OF AUDITED EXPENDITURE

## IMS ENGINEERING COLLEGE

Awareness Program on Intellectual Property Rights (IPR) for Micro, Small & Medium  
Enterprise, Under NMCP Programme of *Development Commissioner, Ministry of MSME, Govt. Of India*  
(06-08-2016)

NAME OF THE GRANTEE INSTITUTION : IMS ENGINEERING COLLEGE

ADDRESS : NH#24, Adhyatmik Nagar, Ghaziabad, UP, PIN-201009

SANCTION LETER NO. & DATE : F. No.- 26(6)(580)/2015-16/IPR), Dated 05-05-2016

AMOUNT(Rs) : 1,16,000/-/- (Approved by MSME)

: 100000/- (Grant Sanctioned from DC-MSME)

: 50,000/- (Amount received from DC-MSME )

: 16000/- (College Contribution)

Sr. No.	Expenditure Head	Speakers	Remu.	TA + Stay+Misc. Allowance	Description
	2	3	4	5	6
1	Manpower including honorarium to expert speakers	Dr P K Ghosh. Dy Director & Dean, IIT- Roorkee	4000	4480	Vehicle (To and fro Roorkee to Ghaziabad) = Rs. 3480 Miscellaneous= Rs. 1000
		Dr P K Srivastava. (Principle Scientist Dy Director CDRI, Lucnow)	4000	7909	Ticket (To and Fro Lucknow to Ghaziabad) = Rs. 2447 Hotel Stay= 4462 Miscellaneous = Rs. 1000
		Dr Govind Sharma	3000		Ex Sr. Manager, NRDC, New Delhi
		Mr R P Yadav	3000		Sr IPR Advocate, Patent & Trademark Attorney SR4IPR Parteners, N.Delhi
		Dr N P Singh	3000		Sr Officer, Controller General of Patent, Designs & Trademarks, Ministry of Commerce & Industries, GOI
		Ms Priyanka Priyadarshi	3000		CSIR-NISCARE atent Attorney, IPAC, New Delhi




	Expenditure Head	Amount (Rs)	Detail Expenditure (Rs)
2	Poster, certificate, Banner Printing, Booklet, & proceeding Printing, Hand Bag, Meeting Pad & Pen, Memento	44111	Poster :20 (@ Rs. 20)= 400 Certificate: 114 (@ Rs. 12)= 1368 Proceeding: 75 (@ Rs. 70)= 5250 Booklet on IPR : 75 (@ Rs. 100)= 7500 Handbag : 75 (@ Rs. 230)=17250 Meeting Pad: 75(@ Rs. 4.25)=318.75 Pen : 75 (@ Rs. 8) = 600 Program Boucher : 30 ( @ Rs 20) = 600 Banner ( 5 No. Medium Flex +4 No. Big Flex)= 8708 Memento (No 10) = 2111 Miscellaneous items for "Saraswati Wandana" = 5.25
3	Lunch, High Tea (Two Times) for 100 people 250x100	25000	Arrangement of Two times high tea (10:30AM) and (5 PM) with lunch at 1:30 for hundred people. Arrangement was done by professional caterer.
4	Lighting, generator, Tent Shed & Miscellaneous	14500	Eight hour generator with coverage shed from rain
<b>Total</b>		<b>116000</b>	<b>Total Expenditure occurred 116000 out of the sanctioned amount of 1,16,000/- for the program.</b>
<b>Contribution received from DC-MSME</b>			Rs. 50000 F. No.- 26(6)(580)/2015-16/IPR, Dated 05-05-2016 DC-MSME (Out of Rs 100000/-)
<b>Actual Expenditure</b>			Rs. 116000/- Total Expenditure occurred.
<b>Remaining (Is to be claimed from DC-MSME, New Delhi)</b>			Rs. 50000/- To be received from DC-MSME as second installment .


**Total Balance Rupees: NIL**

Letter is being sent to DC-MSME, New Delhi for the payment of the remaining sanctioned amount of Rs 50000/- (Fifty Thousand Only)

  
Signature  
(Head of Institution)

  
Signature  
Program Coordinator

  
Signature  
Finance & Accounts Officer

  
Signature  
Auditor(CA)





# Council of Science & Technology, U.P.

(Department of Science & Technology, Govt. of U.P.)

Vigyan Bhawan, 9 Nabiullah Road, Suraj Kund Park, Lucknow-226 018, Uttar Pradesh

Phone: 0522-2202446, 2611773 Fax: 0522-2611793  
Website: www.dstup.gov.in/CST Email: cstupinnovation@gmail.com



## C.S.T.U.P Engineering Student's Project Grant Scheme

1.	Title of the Project Proposed	Smart Blind Walker Stick
2.	Objectives of the Project	The main aim of this project is to provide a talkative assistance to visually impaired people in order to improve their mobility so that they can live better and independent life. We here propose a smart stick that allows visually challenged people to navigate with ease using advanced technology. We are going to develop an intelligent system that works efficiently in both indoor and outdoor environment. This project focuses on obstacle detection, finding location in order to reduce navigation difficulties for visually impaired people so that they can move independently and confidently without any external support.
3.	Name of the Guide	Dr. Pankaj Agarwal, HOD of CSE Department, IMS Engineering College, Ghaziabad(UP).
4.	Name of Student	1. Abhishek Singh                      EnrollNo: 1414310013 2. Anjana Gupta                        EnrollNo: 1414310035 3. Dolly Upadhyay                      EnrollNo: 1414310072 4. Rohtash                                EnrollNo: 1414310162
5.	Name of College	IMS Engineering College
6.	Address of College with Pincode	IMS Engineering College, NH 24, Near Dasna, Adhyatmic Nagar, Ghaziabad, Uttar Pradesh 201009
7.	College Contact Number	0120 794 5555
8.	College Email Id	imsec@imsec.ac.in
9.	Brief Description of the Project	The main aim of this project is to provide an aid for visually impaired person at cheaper rate which will help them in their mobility. There are many fundamental challenges faced by visually impaired people in mobility, education, employment and an independent living, which ultimately encounter their involvement and integration into the society. It is an assisting tool for the visually impaired that provides safe and independent mobility which eases their integration into the society. It helps its user analyze any above-knee height obstruction from a particular distance. In everyday life, they endure problem of navigation to reach from one place to another safely. Keeping in mind all the problems faced by blind people in their mobility and in order to help them to some extent, we are developing a technological aids for them which can help them in navigation and give a sense of

		virtual vision by providing information about the environmental scenario of static and dynamic objects around them.
10.	Local Issue	Independence is the building methodology in achieving dreams, goals and objectives in life but visually impaired persons find themselves challenging to live a life independently. There are millions of visually impaired people in this world who are always in need of helping hands. They generally uses white cane as an aid for their mobility but it can't help them to walk safely. Many researches have been done in order to provide an aid for vision loss people but they have some limitations in cost, accuracy, usability because of which these aids didn't prove helpful for blind person.
11.	Commercial Utility	In Commercial perspective a talkative assistance tool could be developed for visually disabled person which could guide them in navigation and help them to detect obstacle so that they could walk independently and safely.

### Name and Signature of Student Applicant –

Name - 1.Rohtash

2.Abhishek Singh

3.Anjana Gupta

4.Dolly Upadhyay.

Signature - Rohtash

Abhishek Singh

Anjana

Dolly Upadhyay

## Undertaking of the Head of Department & Director

1. I do hereby solemnly affirm that the applicant is bonafide student of our institute. The project submitted is not a repetition of previous work. This project has been reviewed primarily by me and is found to be appropriate to be submitted to CST, UP for consideration under CST, UP Engineering Student's Project Grant Scheme. The project is novel and will be developed byhim/them.
2. Name of the group leader – Rohtash

**Date: 09/11/2017**

**Place: Ghaziabad**



**Signature of  
Head of Department**  
(with Seal)  
Professor & Head  
Department of Computer Sc.  
I.M.S. Engineering College  
Ghaziabad



**Signature of  
Director**  
(with Seal)  
Director  
IMS Engineering College  
Ghaziabad



# Council of Science & Technology, U.P.

(Department of Science & Technology, Govt. of U.P.)

Vigyan Bhawan, 9 Nablullah Road, Suraj Kund Park, Lucknow-226 018, Uttar Pradesh

Phone: 0522-2202448, 2611773 Fax: 0522-2611793

Website: www.dstup.gov.in/CST Email: cstupinnovation@gmail.com



## (Student's Detail)



Professor & Head  
Department of Computer Sc.  
I.M.S. Engineering College  
Ghaziabad

1.	Title of the Project Proposed	Smart Blind Walker Stick					
2.	Name & Address of College	IMS Engineering College, NH 24, Near Dasna, Adhyatmic Nagar, Ghaziabad, Uttar Pradesh 201009					
3.	Name of Applicant	Rohtash					
4.	Father's Name	Mr. Roopchand					
5.	Present Address with Pincode	D-401 Govindpuram, Ghaziabad, Uttar Pradesh 201013					
6.	Permanent Address with Pincode	H.No.750, geeta colony, ishlamabad, palwal, Haryana 121102					
7.	Contact Mobile Number	+91-9991507119					
8.	Email Id	rohtashsharma95@gmail.com					
9.	Enroll. Number	1414310162					
10.	Percentage(till 3 <sup>rd</sup> Year) of Applicant	71.52%					
11.	Branch	Computer Science & Engineering					
12.	Appearing Year	4 <sup>th</sup> Year					
13.	Name of the group leader	Rohtash					
14.	Bank Detail of the group leader	Account type – Saving Bank Account Number – 205210100030257 Branch – Palwal IFSC Code – ANDB0002052					
15.	Percentage Marks	I Year	66.9%	II Year	72.7%	III Year	71.0%

### DECLARATION:-

I do hereby solemnly affirm and state that the above project has been conceived by me and it is not a repetition of previous work.

Date:09/11/2017

Place:Ghaziabad

Rohtash  
Signature of Student

Signature with Seal

Head of Department  
Department of Computer Sc.  
I.M.S. Engineering College  
Ghaziabad



# Council of Science & Technology, U.P.

(Department of Science & Technology, Govt. of U.P.)  
Vigyan Bhawan, 9 Nabiullah Road, Suraj Kund Park, Lucknow-226 018, Uttar Pradesh

Phone: 0522-2202446, 2611773 Fax: 0522-2611793  
Website: www.dstup.gov.in/CST Email: cstupinnovation@gmail.com



## (Student's Detail)



Professor & Head  
Department of Computer Science  
I.M.S. Engineering College  
Ghaziabad

1.	Title of the Project Proposed	Smart Blind Walker Stick					
2.	Name & Address of College	IMS Engineering College, NH 24, Near Dasna, Adhyatmic Nagar, Ghaziabad, Uttar Pradesh 201009					
3.	Name of Applicant	Abhishek Singh					
4.	Father's Name	Mr. Indrasan Singh					
5.	Present Address with Pincode	D-401 Govindpuram, Ghaziabad, Uttar Pradesh 201013					
6.	Permanent Address with Pincode	Village and Post- Chorkhari, District-Basti, Uttar Pradesh 272155					
7.	Contact Mobile Number	+91-9721897074					
8.	Email Id	abhisehk39@gmail.com					
9.	Enroll. Number	1414310013					
10.	Percentage(till 3 <sup>rd</sup> Year) of Applicant	80.2%					
11.	Branch	Computer Science & Engineering					
12.	Appearing Year	4 <sup>th</sup> Year					
13.	Name of the group leader	Rohtash					
14.	Bank Detail of the group leader	Account type – Saving Bank Account Number – 205210100030257 Branch – Palwal IFSC Code – ANDB0002052					
15.	Percentage Marks	I Year	77.05%	II Year	84.65%	III Year	78.3%

### DECLARATION:-

I do hereby solemnly affirm and state that the above project has been conceived by me and it is not a repetition of previous work.

Date:09/11/2017

Place:Ghaziabad

Signature of Student

Signature with Seal

Head of Department  
Department of Computer Science  
I.M.S. Engineering College  
Ghaziabad



# Council of Science & Technology, U.P.

(Department of Science & Technology, Govt. of U.P.)  
Vigyan Bhawan, 9 Nabiullah Road, Suraj Kund Park, Lucknow-226 018, Uttar Pradesh

Phone: 0522-2202446, 2611773 Fax: 0522-2611793  
Website: www.dstup.gov.in/CST Email: cstupinnovation@gmail.com



## (Student's Detail)



1.	Title of the Project Proposed	Smart Blind Walker Stick					
2.	Name & Address of College	IMS Engineering College, NH 24, Near Dasna, Adhyatmic Nagar, Ghaziabad, Uttar Pradesh 201009					
3.	Name of Applicant	Anjana Gupta					
4.	Father's Name	Mr. GuljariLal Gupta					
5.	Present Address with Pincode	Mandakini girls Hostel, IMSEC, NH 24, Near Dasna, AdhyatmicNagar, Ghaziabad, Uttar Pradesh 201009					
6.	Permanent Address with Pincode	Vill+post-Dumawalia, Thana-Salempur, Dist.-Deoria(UP)					
7.	Contact Mobile Number	+91-9711068327					
8.	Email Id	anjanagupta2108@gmail.com					
9.	Enroll. Number	1414310035					
10.	Percentage(till 3 <sup>rd</sup> Year) of Applicant	68.76%					
11.	Branch	Computer Science & Engineering					
12.	Appearing Year	4 <sup>th</sup> Year					
13.	Name of the group leader	Rohtash					
14.	Bank Detail of the group leader	Account type – Saving Bank Account Number – 205210100030257 Branch – Palwal IFSC Code – ANDB0002052					
15.	Percentage Marks	I Year	68.95%	II Year	65.2%	III Year	72%

### DECLARATION:-

I do hereby solemnly affirm and state that the above project has been conceived by me and it is not a repetition of previous work.

Date:09/11/2017

Place:Ghaziabad

Signature of Student

*Anjana*  
*Ahmm*

Signature with Seal

Professor & Head  
Department of Computer

I.M.S. Engineering College

Ghaziabad



# Council of Science & Technology, U.P.

(Department of Science & Technology, Govt. of U.P.)

Vigyan Bhawan, 9 Nablullah Road, Suraj Kund Park, Lucknow-226 018, Uttar Pradesh

Phone: 0522-2202446, 2611773 Fax: 0522-2611793

Website: www.dstup.gov.in/CST Email: cstupinnovation@gmail.com



## (Student's Detail)



Professor & Head  
Department of Computer Science  
& M.S. Engineering College  
Ghaziabad

1.	Title of the Project Proposed	Smart Blind Walker Stick					
2.	Name & Address of College	IMS Engineering College, NH 24, Near Dasna, Adhyatmic Nagar, Ghaziabad, Uttar Pradesh 201009					
3.	Name of Applicant	Dolly Upadhyay					
4.	Father's Name	Mr.Kanhaiya Upadhyay					
5.	Present Address with Pincode	IMS Mandakini Hostel, NH 24, Near Dasna, Adhyatmic Nagar, Ghaziabad, Uttar Pradesh 201009					
6.	Permanent Address with Pincode	H.NO-162B,Vill-Basudewa,Post- Chitbaragaon,District-Ballia,Uttar Pradesh Pin-277001					
7.	Contact Mobile Number	+91-8860203156					
8.	Email Id	dollyup8june@gmail.com					
9.	Enroll. Number	1414310072					
10.	Percentage(till 3 <sup>rd</sup> Year) of Applicant	83.87%					
11.	Branch	Computer Science & Engineering					
12.	Appearing Year	4 <sup>th</sup> Year					
13.	Name of the group leader	Rohtash					
14.	Bank Detail of the group leader	Account type – Saving Bank Account Number – 205210100030257 Branch –Palwal IFSC Code – ANDB0002052					
15.	Percentage Marks	I Year	88.1%	II Year	83.75%	III Year	79.75%

### DECLARATION:-

I do hereby solemnly affirm and state that the above project has been conceived by me and it is not a repetition of previous work.

Date:09/11/2017

Place:Ghaziabad

*Dolly Upadhyay*  
Signature of Student

Signature with Seal

Head of Department

Department of Computer Science  
& M.S. Engineering College  
Ghaziabad

**a) Title of the Project – Smart Blind Walker Stick**

**b) Name of the College and Department –**

Computer Science and Engineering Department, IMS Engineering  
College, Ghaziabad

**c) Keywords used in Synopsis–**

- I. Ultrasonic sensor
- II. Raspberry pi
- III. GPS
- IV. GSM
- V. Visually impaired
- VI. Assistance tool

**d) Introduction -**

The main aim of this project is to provide an aid for visually impaired person at cheaper rate which will help them in their mobility. There are many fundamental challenges faced by visually impaired people in mobility, education, employment and an independent living, which ultimately encounter their involvement and integration into the society. It is an assisting tool [1] for the visually impaired that provides safe and independent mobility which eases their integration into the society. It helps its user analyze any above-knee height obstruction from a particular distance. In everyday life, they endure problem of navigation to reach from one place to another safely. They often depend on external aid which can be provided by humans or trained dog as support system for decision making.

Keeping in mind all the problems faced by blind people in their mobility and in order to help them to some extent, we are developing a technological aids for them which can help them in navigation and give a sense of virtual vision by providing information about the environmental scenario of static and dynamic objects around them. The stick will have following features:

- It helps the person to move easily, indoor and outdoor by detecting obstacles in front of the blind person.
- Solve the problem of moving from one place to another i.e. navigation.
- Helps users to avoid collisions with over-hanging and extending objects, such as tree branches, and thus helps in preventing unwanted contact.
- It is also useful in finding the stick for the visually impaired person.
- Produces voice alert and vibration when obstacle is being detected.

**e) Background –**

Numerous attempts have been made in the society to help the blind. One of them is a “Project Prakash”[2], launched in 2005, by Prof. Pawan Sinha. This project helps the blind children by training them to utilize their brain to learn a set of objects around them. But this can't help them properly to move independently wherever they want. They may lack confidence while walking to some new place.

Voice operated outdoor navigation system for visually impaired persons developed by Somnath



and Ravi (2012)[3] uses a cane embedded with ultra-sonic sensors, GPS and audio output system. The GPS module consist of a memory card which will store different locations where the visually impaired person generally goes. The user can set the location by voice and the GPS will guide the person to his/her destination. This system will also cater the remaining distance to reach the destination. When any obstacle will be detected by ultra-sonic sensors, then it will directly activate the voice system and a voice alert sound will be produced. They also referred this system as a cost-effective system.

IIT Delhi has developed a smart cane [4] to help the visually impaired. This project was started in 2005. The cane has numerous features which includes detection of object within a distance of three-meter around the person. The cane is a smart and technical variant of the normal cane which is used by visually impaired people to navigate. The cane is embedded with different vibration pattern for different obstacle disclosure. It also uses ultrasonic technology used in the radars to detect the objects and obstacles above knee height around the person. The cost of smart cane is economically cheaper and is currently being used by many visually impaired persons.

### **f) Objective –**

The main aim of this project is to assist the blind person without the human need. It is well known that the blind people carry hand stick with them. Smart stick is an innovative stick designed for visually disabled people for improved navigation. We here propose an advanced smart stick that allows visually challenged people to navigate with ease using advanced technology. The main focus of this project is to provide a talkative assistance to blind people in order to improve mobility of visually impaired person. We are going to develop an intelligent system that works efficiently in both indoor and outdoor environment. This project focuses on obstacle detection, finding location in order to reduce navigation difficulties for visually impaired people so that they can move independently and confidently without any external support. The stick will produce a voice alert, buzzer and vibration when an obstacle is detected at a particular distance.

### **g) Practical utility –**

- The stick can act as a measurement tool as it measures the distance of obstacle from visually impaired person.
- The cane will help the visually impaired person to move independently.
- The cane will guide the visually impaired person to reach the destination in time.
- The cane will have rechargeable battery that can be charged easily with the help of solar cell.
- The cane will help reduce injuries and awkwardness of collision.
- The cane will gives pre-warning of obstacle and allow path finding without collision.
- It will detect hazardous and knee above obstacle.
- The cane will send message to the person whose number is saved in the device if there is any emergency.
- Adjustable detection range.

## **h) Methodology –**

The proposed system consist of several main units such as gps ,gsm , ultrasonic sensor, water sensor. Raspberry pi act as a controller and control all the units or modules of the system.

The assisting tool uses ultrasonic sensor which can detect any object within a certain distance. After detecting the object, the sensor passes this data to raspberry pi which process this data and calculate the distance of obstacle from the system. If the calculated distance is equal to or smaller than the distance being set in the device then it will sends a signal to activate voice alert system, a buzzer sound will along with vibration in the stick will be produced.

A wireless rf based remote will be designed to help the visually impaired person find the stick if they forget where they kept it. By pressing the remote button, a buzzer sound will be produced on the stick which helps the visually disabled person to find their stick.

The stick is integrated with gps and gsm module. In case of an emergency, the user of the stick will press the emergency button placed on the handle of the stick. After pressing the button, raspberry pi will access the current location of the user and transmit the location to gsm modem which will send the message to the number saved in the raspberry pi. The stick will act as a talkative assistance tool which will help the visually disabled person by guiding him/her through voice in which direction he/she will have to move in order to reach the destination in less time.

- **Components used in Smart Blind Walker Stick**

**a) Ultrasonic Sensor:** It is used to detect the obstacle infront of the visually impaired person at a particular distance and pit and send signal to raspberry pi so that it can alert the person about the obstacle.



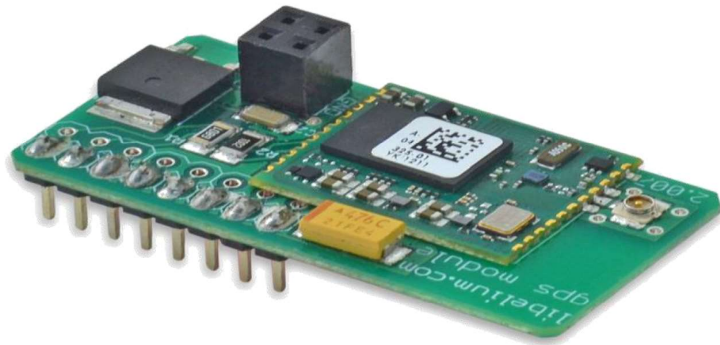
**b)Buzzer:** It will alert the visually impaired person by producing a sound when obstacle is detected by ultrasonic sensor.



**c)Push Button:** The visually impaired person will pressed the push button when any emergency situation occurred.



**d)GPS Module:** The gps module will help in tracking the current location of visually impaired person and the destination location where he want to go so that it could help him in navigation



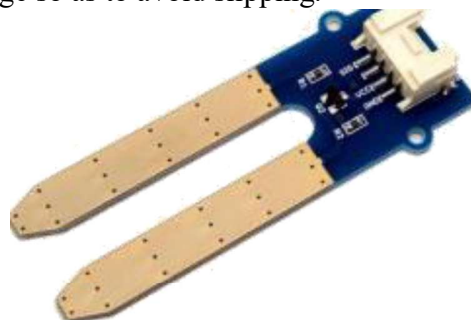
**e)GSM Module:** GSM module will help to send message to the number saved in raspberry pi when the push button will be pressed.



**f)Vibratory motor:** The motor will start rotating when an obstacle is detected infront of the visually impaired person and vibration will be produced in the stick in order to alert the person about the obstacle.



**g)Water sensor:** It is used to detect the presence of water and provide an alert in time for path change so as to avoid slipping.



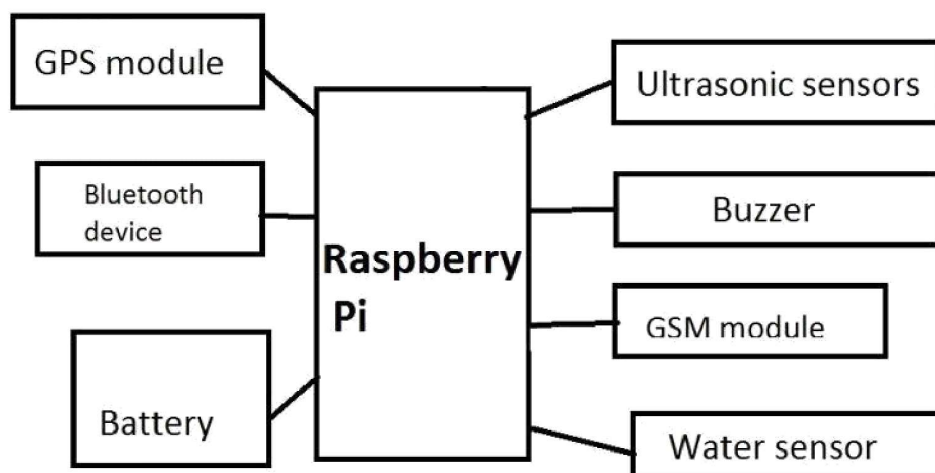
**h) Raspberry pi:** It act as a controller and control all the devices or components that are being used in the stick.



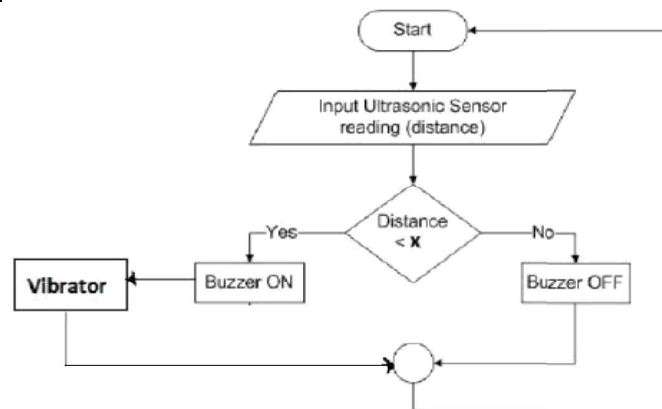
• **Method -**

1. Coded script is installed in raspberry pi
2. Tx and Rx pins of ultrasonic sensor connected to GPIO pins
3. Buzzer is connected to raspberry pi
4. Emergency button is connect to raspberry pi for navigation
5. Location of blind person is shared when button is pressed
6. Tx& Rx pins of water sensor is connect to raspberry pi
7. USB modem is connect with raspberry pi
8. Power is given to raspberry pi by using power bank

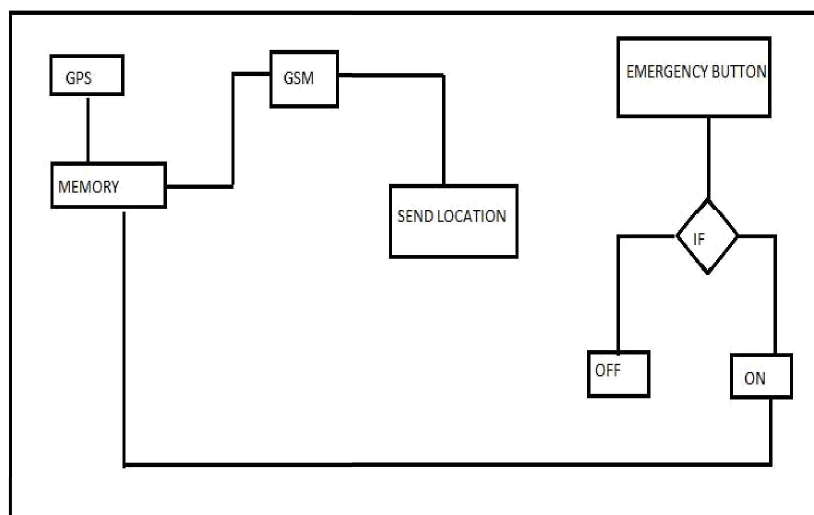
**i) Block Diagram -**



**j) Flow chart –**



**(a)flow chart for obstacle detection**



**(b) flow chart for gps and gsm module**

**k) Is the project related to any local problem-**

Independence is the building methodology in achieving dreams, goals and objectives in life. Visually impaired persons find themselves challenging to go out independently. There are millions of visually impaired or blind people in this world who are always in need of helping hands[5]. For many years this assistive tool became a well-known attribute to blind person's navigation. Therefore this project is directly related to the local problem in our surroundings.

The survey of WHO (World Health Organisation) carried out in 2011 tells us that in world about 1% of the human population is visually impaired and amongst them about 10% is fully blind[6]. So, this prototype came into existence to help the blind person. It helps the visually impaired travellers to navigate quickly and safely against obstacles and other hazard faced. We here propose an advanced blind stick that allows visually challenged people to navigate with ease using advanced technology. The blind stick is integrated with ultrasonic sensor along with pit and water sensing. Our proposed project first uses ultrasonic sensors to detect obstacles ahead

using ultrasonic waves. Some features like sending messages to an individual during an emergency make it more assistive.

### **l) Scope of future work-**

In future the stick can be made more innovative making GPS to find the shortest and best path as according to google map based on real time coordinates.

We can also use machine learning approach which can be used to identify the kind of objects. Machine learning can use a database which already have some entries about some objects. When camera detect an object then the features of object is compared with the entries in database and the matched object is suggested to the blind person. With the help of this method the blind person can be able to identify objects, family members and friends.

AI can also led the assistive tool be more advance and could be a scope for future work. The challenge of smart stick is to identify the stairs, using AI and camera the stick can become assistive for blind person as it will identify the stair as an object and information is given to the individual with stick so that he can walk through the stairs safely.

### **m) Result and Conclusion-**

The above proposed idea of integrating the modules will become an assistive technology for future. Thus, providing the visually impaired- a reliable partner that would never leave in the situations of need. The system will alert the user about the nearby obstacles and surroundings thus, avoiding the collision and accidents of blind persons. This paper proposed the design and architecture of a new concept of Smart Stick for blind people. The advantage of the system lies in the fact that it can prove to be a very low cost solution to millions of blind person worldwide. The system has been used to receive the data from the sensing devices. We have integrated the ultrasonic sensor in order to detect obstacles, gps module in order to help the visually impaired person in navigation , gsm module in order to help the visually impaired person send message when any emergency takes place and to obtain more detailed regarding the blind's environment. Thus, allowing blind people to move independently, safely and quickly among obstacles and hazardous places. This system does not require a huge device to be hold for a long distance and it also does not require any special training. Overall, the Smart Cane's use of technology and ergonomic design has greatly improved upon the traditional white cane, and has taken a great leap towards improving the lives of the visually impaired.

### **n) References-**

[1]MohdHelmyAbdWahab ,Amirul A. Talib, Herdawatie A. Kadir, AyobJohari, "Smart Cane: Assistive Cane for Visually-impaired People "Faculty of Electrical and Electronic Engineering, University Tun Hussein Onn, Malaysia.

[2] Prof. Pawan Sinha "Project Prakash" was launched in 2005, Sinha laboratory, including undergraduate and graduate students.

[3]Somnathkoley and ravi Mishra M.E (student) Electronics nd communication, Bhilai, India , 2012"Voice operated outdoor navigation system for visually impaired persons".

[4] IIT Delhi "smart cane" developed in 2005.

[5] Shashank Chaurasia and K.V.N. Kavitha "An electronic walking stick for blind" June 8, 2016  
School of Electronics Engineering VIT University Vellore, India.

[6] Shubham Adhe, Sachin Kunthwad, Preetam Shinde, Mrs. V.S. Kulkarni "Ultrasonic smart stick for visually impaired people" UG student of E & TC Department Rajarshishahu college of Engg., Pune.



**Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh**  
(Formerly U.P. Technical University)

Sector-11, Jankipuram Vistar Yojana,, Sitapur Road, Lucknow-226031  
E-mail: research@aktu.ac.in , Website: www.aktu.ac.in

Ref. No.: AKTU/Dean-PGSR/Ph.D./2018/4754

Dated: 10 February, 2018

To  
Directors/Principal,  
I.M.S. Engineering College,  
Ghaziabad (143)

**Re: Regarding project evaluation meeting for the release of second year Grant under AKTU 'Visvasarya Research Promotion Scheme'.**

Dear Sir/Madam,

Kindly refer letter no. AKTU/Dean-PGSR/2017/4090, dated 26/04/2017 through which the grant of Rs. 3,40,000.00/- (Non Recurring) Rs. 45,000.00/- (Recurring) was sanctioned under AKTU 'Visvasvarya Research Promotion Scheme'. In this reference it is to be informed that the project Principal Investigator along with Head of the Institution is required to present the progress report in front of the expert panel for the release of second year grant. You are required to bring the following documents in prescribed formate:

1. Utilization certificate
2. List of equipments purchased under the scheme
3. Four copy of research progress report with publication details.
4. Account statement.

**Presentation date:** 20 February, 2018 10:00 AM

**Venue:** AKTU, Sect-11, Jankipuram Vistar Yojana, Lucknow

The presence of Director/Principal is mendotary at the time of presentation, failing which the grant may be cancelled by the University.

(Prof. K.V. Arya)  
Dean PG Studies & Research

**Copy to for information and necessary action:**

1. Dean(s), AKTU, Lucknow
2. Registrar, AKTU, Lucknow
3. Finance Officer, AKTU, Lucknow
4. Staff Officer, Vice Chancellor Office, AKTU, Lucknow

(Prof. K.V. Arya)  
Dean PG Studies & Research



**REQUEST FOR ANNUAL INSTALMENT WITH UP-TO-DATE STATEMENT OF EXPENDITURE UNDER VISVESVARAYA RESEARCH PROMOTION SCHEME**

1. Sanction Order No and date:

Letter no. : Dr. APIAKTU/Dean-PGSR/2017/4090 dated 26/04/2017

2. Total Project Cost:

Total Cost of Project: Rs 340,000.00 (Non-Recurring) , Rs 45000/- (Recurring) for first Year, Rs 45000/- (Recurring) for second Year

3. Revised Project Cost: (if applicable)

4. Date of Commencement: 10 July 2017

5. Statement of Expenditure:

(Month wise expenditure incurred during current financial year)

Month & year	Expenditure incurred/ committed
August 2017	Rs. 23163
September 2017	Rs. 119199
Oct 2017	Rs. 6265
Nov 2017	Rs. 35400
Dec 2017	Rs. 14839
Jan 2018	Rs 8203
Feb 2018	Rs. 11235
Mar 2018	Rs. 8344
April 2018	Rs. 2699
May 2018	Nil
June 2018	Rs. 50729
July 2018	Rs. 33239
Oct-2018	Rs.8000
Dec-2019	Rs.63248

Grant received in each year:

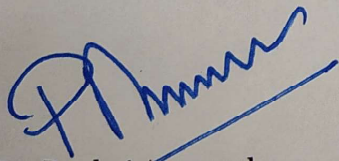
a. 1<sup>st</sup> Year: Rs 340,000.00 (Non-Recurring) , Rs 45000/- (Recurring) for first Year.

b. 2<sup>nd</sup> Year:

c. Interest, if any:

#Statement of Expenditure

Sr No	Sanctioned Heads (II)	Funds Allocated (indicate sanctioned or revised) (III)	Expenditure Incurred			Balance as on (date) (VII)=	Requirement of funds for next year	Remarks
			1 <sup>st</sup> Year (IV)	2 <sup>nd</sup> Year (V)	Total (VI)=IV+V	III-VI		
1	Manpower costs	Nil	Nil	Nil	Nil	Nil	NA	
2	Consumables	45000	12564	32436	45000	Nil	NA	
3	Travel	Nil	Nil	3700	3700	Nil	NA	
4	Contingencies	Nil	Nil	7000	7000	Nil	NA	
5	Other, if any	Nil	Nil	Nil	Nil	Nil	NA	
6	Equipment	340000	207079	122721	329800	10200	NA	
	<b>Total</b>	<b>385000</b>	<b>219643</b>	<b>165857</b>	<b>385500</b>	<b>-500</b>	<b>NA</b>	(if any)

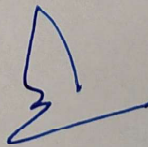


Dr. Pankaj Agarwal

Name and Signature of Principal Investigator



Signature of Competent financial authority (with seal)



Prof. (Dr.) Sraban Mukherjee

Name & Signature of Head of the Institution  
(with seal)  
Director

IMS Engineering College  
Ghaziabad

# Audited by Chartered Accountant in case private institution and by finance/Account officer in respect of Government/Government aided institution



Bibeka Nand Pathak <bn.pathak@imsec.ac.in>

---

## Fwd: Upload your project & tag us on facebook

1 message

---

V.K. Saini <vk.saini@imsec.ac.in>  
To: Bibeka Nand Pathak <bn.pathak@imsec.ac.in>

Tue, Nov 17, 2020 at 11:27 AM

Dr. V.K. Saini  
Professor and Head  
Department of Mechanical Engineering  
IMS Engineering College, Ghaziabad (UP)  
0120-4940000 (Ext: 827),  
Mb. 9873182304

----- Forwarded message -----

From: V.K. Saini <vk.saini@imsec.ac.in>  
Date: Sat, May 12, 2018 at 4:39 PM  
Subject: Fwd: Upload your project & tag us on facebook  
To: vaibhav saini <vaibhavsaini31@gmail.com>, Pranav Singh <pranav.singh190ps@gmail.com>

FORWARDED:

Dear Candidates,  
We thank you to provide us your valuable time & efforts to make CST UP Engineering Students' Project Grant Scheme 2017-18 as an successful achievement of Council of Science & Technology.

You are requested to get connected with our facebook id through link [https://www.facebook.com/upcst/?ref=br\\_tf](https://www.facebook.com/upcst/?ref=br_tf) Please upload 2-3 minutes videoclips of your project & tag us to be part of memorable moments of Council.

With thanks

Dr. V.K. Saini  
Professor  
Department of Mechanical Engineering  
IMS Engineering College, Ghaziabad (UP)

----- Forwarded message -----

From: V.K. Saini <vk.saini@imsec.ac.in>  
Date: Wed, May 9, 2018 at 10:32 AM  
Subject: Fwd: Upload your project & tag us on facebook  
To: vaibhav saini <vaibhavsaini31@gmail.com>, Pranav Singh <pranav.singh190ps@gmail.com>

Show me before uploading the video.

Dr. V.K. Saini  
Professor  
Department of Mechanical Engineering  
IMS Engineering College, Ghaziabad (UP)

----- Forwarded message -----

From: HOD Mechanical Engineering <hodme@imsec.ac.in>

11/17/2020

IMS Engineering College Mail - Fwd: Upload your project & tag us on facebook

Date: Wed, May 9, 2018 at 9:45 AM  
Subject: Fwd: Upload your project & tag us on facebook  
To: "V.K. Saini" <vk.saini@imsec.ac.in>

Dr. S.K.Kalla  
HOD, Mechanical Engineering  
IMS Engineering College  
Ghaziabad (U.P.)  
Phone: (91) 120-7945555, Extn - 827

----- Forwarded message -----

From: **IMSEC Ghaziabad** <imsec@imsec.ac.in>  
Date: Mon, May 7, 2018 at 5:59 PM  
Subject: Fwd: Upload your project & tag us on facebook  
To: "HOD Computer Science Eng." <hodcse@imsec.ac.in>, HOD Electrical Engineering <hoden@imsec.ac.in>, HOD Mechanical Engineering <hodme@imsec.ac.in>  
Cc: Sraban Mukherjee <sraban.mukherjee@imsec.ac.in>

----- Forwarded message -----

From: **Radhey Lal** <radheylal.cst@gov.in>  
Date: Mon, May 7, 2018 at 5:43 PM  
Subject: Upload your project & tag us on facebook  
To: hsharma.sharma256@hotmail.com, anubhamaheshwari02@gmail.com, shantanu.1513085@kiet.edu, shivansh.1513096@kiet.edu, aayushshukla8@gmail.com, apratapsingh078@gmail.com, gauravraiofficial@gmail.com, jain.divyansh1997@gmail.com, er.arman2111996@gmail.com, mohitsingh2414@gmail.com, pankajyadavvns@gmail.com, deepak2015.110@gmail.com, kumarani020694@gmail.com, yadavkumarani1155@gmail.com, mail@nitratextile.org, vijay2singh16@gmail.com, gauravcby@gmail.com, rvps1885@gmail.com, shivamshukla990@gmail.com, shivangisingh8193@gmail.com, shivankps1989@gmail.com, siddhantsinha1604@gmail.com, dydeepika72@gmail.com, saxena100.abhishek@gmail.com, indian.manish.bhardwaj@gmail.com, imsec@imsec.ac.in, abhisehk39@gmail.com, anjanagupta2108@gmail.com, dollyup8june@gmail.com, rohtashsharma95@gmail.com, suresh.ieju@gmail.com, mohdzabeer23@gmail.com, riddhimishra07@gmail.com, skg652360@gmail.com, vivekagrahari945419@gmail.com

Dear Candidates,

We thank you to provide us your valuable time & efforts to make CST UP Engineering Students' Project Grant Scheme 2017-18 as an successful achievement of Council of Science & Technology.

You are requested to get connected with our facebook id through link [https://www.facebook.com/upcst/?ref=br\\_tf](https://www.facebook.com/upcst/?ref=br_tf) Please upload 2-3 minutes videoclips of your project & tag us to be part of memorable moments of Council.

With thanks

--

**Radhey Lal**  
Joint Director  
Council Of Science and Technology, U. P.  
(Department of Science & Technology, Govt. of U.P.)  
Vigyan Bhawan 9, Nabiullah Road,  
Surajkund Park, Lucknow-226 018 (U.P.)  
E-mail: radheylal.cst@gov.in  
[www.dstup.gov.in/CST](http://www.dstup.gov.in/CST)





**Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh**

(Formerly U.P. Technical University)

Sector-11, Jankipuram Vistar Yojana, Sitapur Road, Lucknow-226031

Ref No.: Dr. APJAKTU/Dean-PGSR/2017/4236-46

Dated: 09 Aug, 2017

To,

**Director/Principal,**

**I.M.S. Engineering College, Ghaziabad (143 )**

Sub: Regarding Award of Grant under "Visvesvaraya Research Promotion Scheme" for 2017-18.

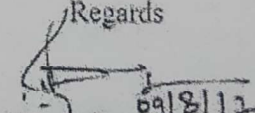
Dear Sir/Madam,

It is my pleasure to inform you that the research project submitted by a faculty member of your institute has been selected for the award of grant under "Visvesvaraya Research Promotion Scheme" for academic year 2017-18. The details of the selected project are as follows:

Title of the project	Detection of Sunflower leaf diseases using image segmentation and soft computing techniques	
Name of principal investigator	Dr. Vijai Singh	
Amount sanctioned	Non-recurring	Rs. 86,000.00
	Recurring (For first year)	Rs. 50,000.00
	Total (For first year)	Rs. 1,36,000.00

Breakup of the research grant released for the first year and the terms and conditions for fund utilization are attached for your reference. You are advised to strictly follow all the terms and conditions as mentioned in this letter as well as given in the information brochure for "Visvesvaraya Research Promotion Scheme" (Copy enclosed). At the end of the scheme, your institute will have to submit a detailed report on the proforma provided by the university with the all relevant documents along with the copies of publication(s) (SCI/SCOPUS Index and/or patents if any) emanating from the project. Due acknowledgement must be given to the university in your publications. University at its discretion may appoint experts to visit your institute to access the progress of the project.

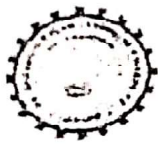
Regards

  
(Dr. Rajeev Kumar)  
Asso. Dean PGS&R

Copy to:

1. Registrar, AKTU, Lucknow
2. Finance officer, AKTU, Lucknow for necessary action
3. Staff officer, AKTU, Lucknow, Hon<sup>ble</sup> VC, AKTU, Lucknow

(Dr. Rajeev Kumar)  
Asso. Dean PGS&R



Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh

(Formerly U.P. Technical University)

Sector-11, Jankipuram Vistar Yojana, Sitapur Road, Lucknow-226031

Ref No.: Dr. APJAKTU/Dean-PGSR/2017/4236-46

Dated: 09 Aug. 2017

To.

Director/Principal,

I.M.S. Engineering College, Ghaziabad (143)

Sub: Regarding Award of Grant under "Visvesvaraya Research Promotion Scheme" for 2017-18.

Dear Sir/Madam,

It is my pleasure to inform you that the research project submitted by a faculty member of your institute has been selected for the award of grant under "Visvesvaraya Research Promotion Scheme" for academic year 2017-18. The details of the selected project are as follows:

Title of the project	Detection of Sunflower leaf diseases using image segmentation and soft computing techniques	
Name of principal Investigator	Dr. Vijai Singh	
Amount sanctioned	Non-recurring	Rs. 86,000.00
	Recurring (For first year)	Rs. 50,000.00
	Total (For first year)	Rs. 1,36,000.00

Breakup of the research grant released for the first year and the terms and conditions for fund utilization are attached for your reference. You are advised to strictly follow all the terms and conditions as mentioned in this letter as well as given in the information brochure for "Visvesvaraya Research Promotion Scheme" (Copy enclosed). At the end of the scheme, your institute will have to submit a detailed report on the proforma provided by the university with the all relevant documents along with the copies of publication(s) (SCI/SCOPUS Index and/or patents if any) emanating from the project. Due acknowledgement must be given to the university in your publications. University at its discretion may appoint experts to visit your institute to access the progress of the project.

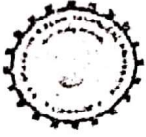
Regards

(Dr. Rajeev Kumar)  
Asso. Dean PGS&R

Copy to:

1. Registrar, AKTU, Lucknow
2. Finance officer, AKTU, Lucknow for necessary action
3. Staff officer, AKTU, Lucknow, Hon'ble VC, AKTU, Lucknow

(Dr. Rajeev Kumar)  
Asso. Dean PGS&R



# Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh

(Formerly U.P. Technical University)

Sector-11, Jankipuram Vistar Yojana, Sitapur Road, Lucknow-226031

## Summary of the funding under different heads:

	Description
Non-Recurring	1). Digital Camera 2). MATLAB

## Terms and conditions

- a) The Principal Investigator already having ongoing Research projects from AKTU shall not be considered unless the ongoing projects are completed.
- b) The departments not having relevant Post Graduate Programme intended for execution of the proposed project are not eligible for financial assistance under this Scheme.
- c) The Principal Investigator has the primary responsibility for the implementation of the project.
- d) If the Principal Investigator of VRPS programme joins another institution, AKTU will have no objection to transfer the project if No Objection Certificates are obtained from both the parent Institute and the Institute where the Principal Investigator intends to join.
- e) In case the Principal Investigator leaves the Institution without transfer of the project or goes on long leave, the Co-Investigator would be allowed to continue with the project, subject to the consent of the Principal Investigator in case of long leave and approval of AKTU. All such requests should be sent to AKTU in advance. Therefore, association of a Co-Investigator in the project is desirable.
- f) In case the Principal Investigator leaves the Institute and there is no other associated Co-Investigator to carry out the project, the Head of the Department should take the responsibility for identifying a competent person in the Institution in the relevant subject area and submit his/her bio-data to the AKTU for further consideration.
- g) The grant will be utilized strictly for the purpose as specified in the sanction letter. Re-appropriation of funds from one head to another is strictly not permitted; Recurring and Non-Recurring heads are 20% and 80% respectively of the total grant, unless otherwise recommended by AKTU experts. The list of equipment decided by the experts is final and there can be no changes later on.
- h) Once the project is sanctioned, the AKTU shall not consider any request for additional grant.
- i) Separate institutional overheads for execution of the project shall not be provided by AKTU.
- j) Out of the project grant, no funds can be used for going abroad to attend Conferences/Seminars. However, for presenting a paper in a Seminar/Conference within the Country, the travel expenses may be met from the recurring component of the grant.
- k) The grant is being offered on the premise that the parent institute shall provide the basic infrastructure to the Principal Investigator for carrying out the research activities under this scheme. Therefore, the fund granted cannot be used for procurement of items like computer and related peripherals and also the grant cannot be used for payment of salary to a hired staff.

UTILIZATION CERTIFICATE

Serial No letter No. Dr. APJAKTU/Dean-PGSR/2017/4236-46 dated 9 Aug 2017, Certified that out Rs. 136000 of Grant-in aid sanctioned during the year 2017-1018 in favour of IMS Engineering College Ghaziabad (143) has been properly utilised to the extent of Rs. 137479 for research work on the following project (Project Completed) sanctioned under Visvesaraya Research Promotion Scheme.

Name of research project: Detection of Sunflower leaf diseases using image segmentation and soft computing techniques.

Certified that I have satisfied myself that the condition of Visvesaraya Research Promotion Scheme on which the grant-in-aid was sanctioned are being fulfilled and that I have exercised the following checks to see that money was actually for the purpose for which it was sanctioned. The details of grant utilised during the period from 9 Aug 2017 to 26<sup>th</sup> Dec 2018 are as follows:

A. NON-RECURRING .

Sl. No.	Name of the Equipment Procured	Amount Sanctioned	Amount Utilized (Item wise)	Balance
1	MATLAB with Computer vision and Image processing Toolbox	86000	75963	-1463 (Given by College)
2	Canon IXUS 285 HS 20.2MP		11500	

B. RECURRING

Sl. No.	Name of the Expenses	Amount Sanctioned	Amount Utilized	Unspent balance
1	Travel, Registration fees, E-Patent Fees	50000	50016	-16

Kind of check exercised

- 1.
- 2.

*Vijay*

Signature of Beneficiary  
Name: Dr. Vijai Singh  
Designation: Associate Professor

*[Signature]*

Director (Signature & Seal)  
IMS Engineering College  
Ghaziabad (143)

Dated: 26<sup>th</sup> Dec 2018

*verified*  
*[Signature]*  
HOD-CS

College Code-143  
IMS Engineering College  
NH-24, Adhyatmik Nagar,  
Ghaziabad-201009

Dated: 26<sup>th</sup> Dec 2018



**REQUEST FOR ANNUAL INSTALMENT WITH UP-TO-DATE STATEMENT OF EXPENDITURE UNDER VISVESVARAYA RESEARCH PROMOTION SCHEME**

1. Sanction Order No and date:

Letter no. : **Dr. APJAKTU/Dean-PGSR/2017/4236-46**

2. Total Project Cost: **Rs. 186000**

3. Revised Project Cost: (if applicable)

4. Date of Commencement: **9 Aug 2017**

5. Statement of Expenditure:

(Month wise expenditure incurred during current financial year)

Month & year	Expenditure incurred/ committed
August 2017 to Nov 2017	NIL
Dec 2017	Rs 87463
Jan 2018	NIL
Feb 2018	Rs 7000
Mar 2018	Rs 5536
April 2018	Rs 9980
May 2018	NIL
June 2018	Rs 20000
July 2018	Nil
August 2018 to Nov 2018	Nil
Dec 2018	Rs 7500

Grant received in each year:

a. 1<sup>st</sup> Year: **Rs. 136000**

b. 2<sup>nd</sup> Year:

c. Interest, if any:

d. Total (a+b+c): **Rs. 136000**

#Statement of Expenditure

Sr No	Sanctioned Heads (II)	Funds Allocated (indicate sanctioned or revised) (III)	Expenditure Incurred			Balance as on (date) (VII)=	Requirement of funds for next year	Remarks
			1 <sup>st</sup> Year (IV)	2 <sup>nd</sup> Year (V)	Total (VI)=IV+V	III-VI		
1	Manpower costs	Nil	Nil	Nil	Nil			
2	Consumables	50000	Nil	Nil	50016	00016	Nil	
3	Travel		8536	Nil				
4	Contingencies		Nil	Nil				
5	Other, if any		33980	7500				
6	Equipment	86000	87463	00	87463	-1463	Nil	Balance
	<b>Total</b>	<b>136000</b>	<b>129979</b>	<b>7500</b>	<b>137479</b>	<b>-1479</b>	<b>Nil</b>	

*[Handwritten Signature]*

HoD (Computer Sc. & Engineering)



IMS Engineering College  
Ghaziabad

Signature of Competent financial authority (with seal)

*[Handwritten Signature]*

Prof. (Dr.) Sraban Mukherjee

Name & Signature of Head of the Institution  
(with seal)

# Audited by Chartered Accountant in case private institution and by finance/Account officer in respect of Government/Government aided institution

Details of required funds for Consumables

## PROGRESS REPORT

### VISVESVARAYA RESEARCH PROMOTION SCHEME

1. Project Title: <b>Detection of Sunflower leaf diseases using image segmentation and soft computing techniques</b>	AKTU Ref: <b>Dr. APJAKTU/Dean-PGSR/2017/4236-46</b>
2. PI (Name & Address, Phone,Fax, Email): Name: <b>Dr. Vijai Singh</b> Email: <b>vijay.singh@imsec.ac.in</b> , Mob: <b>9891039510</b> Address: <b>IMS Engineering College, Ghaziabad. UP-2010</b> Fax: <b>0120-7945577</b>	Date of Birth <b>31<sup>st</sup> Jan 1984</b>
3. Co-PI (Name & Address, Phone,Fax, Email):	Date of Birth
4. Summary of Progress (Only Salient Feature): <ul style="list-style-type: none"><li>• Project has completed.</li><li>• Review paper entitled "Sunflower leaf diseases detection using Image segmentation and Soft Computing Techniques: Current Trends and Challenges" has been presented in SOCPROS 2018 at VIT Vellor.( Scopus indexed International conference)</li><li>• Research paper entitled " Sunflower leaf diseases detection using Image Segmentation based on Particle swarm optimization" has been written and communicated at Scopus indexed International Journal.</li><li>• Patent "Diseases Detection system for Sunflower Leaf Diseases" Application No. 201811012874 has been filed.</li></ul>	
Date of Start: <b>9 Aug 2017</b>	Total Cost of Project: <b>Rs. 186000</b>
Date of Completion: <b>8 Aug 2019</b>	Expenditure as on 26 <sup>th</sup> Dec 2018: <b>Rs. 137479</b>
Status of Industry Contribution	<b>NIL</b>
5. Objective of the Project: <p>According to US-based food company Cargill Inc, " They aims to double its branded consumer business in India by 2020, by doubling its retail reach to about 800,000 outlets and increase market share to become national leader in the sunflower oil category which will help the company be among the top three leading brands in India". So here we</p> <ul style="list-style-type: none"><li>• <b>Developed an innovative methodology for detection and classification of Sunflower leaf diseases using</b></li></ul>	

image processing and soft computing techniques.

- Developed a Time and cost effective process for detection and classification of Sunflower leaf diseases at a remote location

#### 6. Achievements:

- Review paper entitled "Sunflower leaf diseases detection using Image segmentation and Soft Computing Techniques: Current Trends and Challenges" has been presented in SOCPROS 2018 at VIT Vellore.( Scopus indexed International conference)
- Research paper entitled " Sunflower leaf diseases detection using Image Segmentation based on Particle swarm optimization" has been written and communicated at Scopus indexed International Journal.
- Patent "Diseases Detection system for Sunflower Leaf Diseases" Application No. 201811012874 has been filed.

#### 7. Effort done by PI on commercial application of the instrument:

- Patent "Diseases Detection system for Sunflower Leaf Diseases" Application No. 201811012874 has been filed.
- Meeting with Experts from Soft computing and Agriculture fields.

#### 8. Research work which remains to be done under the project (for on-going projects):

Ph.Ds Produced no: NIL	Technical Personnel Trained:04	Research Publications arising out of the present project: 02
List of Publications from this project (including title, author (s) journals & year (s))		
(A)Papers published only in cited Journals (SCI)		
"Sunflower leaf diseases detection using Image Segmentation based on Particle swarm optimization" communicated in International Journal (Information Processing in Agriculture Elsevier)		
(B) Papers published in Conference Proceedings, Popular Journals etc.		
"Sunflower leaf diseases detection using Image segmentation and Soft Computing Techniques: Current Trends and Challenges" has been presented in SOCPROS 2018 at VIT Vellore.( Scopus indexed International conference)		
Patents filed/to be filed: Vijai Singh, 2018: Imaging System for Sunflower Leaf Diseases Detection. Indian Patent Application No. 201811012874. filed April 04, 2018		

**9. Major Equipment (Model and Make)**

SNo	Sanctioned List	Procured (Yes/No) Model & Make	Cost (Rs in Lakhs)	Working (Yes/No)	Utilization Rate (%)
1	Dec 2017	MATLAB with Computer vision and Image processing Toolbox	.75963	YES	100
2	Dec 2017	Canon IXUS 285 HS 20.2MP	.11500	YES	100

Please also attach the copy of the Statement of Expenditure (SE) as on date & Utilization Certificate (UC) (financial Year wise) for the project as per the format attached with this progress report (original copy +1)



Mayank Agrawal &lt;mayankagarwal.rgec22@gmail.com&gt;

---

**Fwd: CST-UP Engineering Students Project Grant Scheme**

1 message

---

**Sulekha Saxena** <sulekhasaxena15@gmail.com>  
To: Mayank Agarwal <mayankagarwal.rgec22@gmail.com>

Thu, Nov 12, 2020 at 3:23 PM

----- Forwarded message -----

From: **trishti gupta** <trishti.gupta@gmail.com>

Date: Thu, 25 Jan, 2018, 15:10

Subject: Fwd: CST-UP Engineering Students Project Grant Scheme

To: Sulekha Saxena &lt;sulekhasaxena15@gmail.com&gt;, &lt;saaurabhrajmnas157@gmail.com&gt;, Nishant Kushwaha &lt;2712nishant.k@gmail.com&gt;, shivam mishra &lt;Shivammishrag@gmail.com&gt;, Ritu Sharma &lt;iritush67@gmail.com&gt;

----- Forwarded message -----

From: "RADHEY LAL" &lt;cstupinnovation@gmail.com&gt;

Date: 24-Jan-2018 1:55 pm

Subject: CST-UP Engineering Students Project Grant Scheme

To: "trishti gupta" &lt;trishti.gupta@gmail.com&gt;, &lt;shivammishrag@gmail.com&gt;, &lt;2712nishant.k@gmail.com&gt;, &lt;saaurabhrajmnas157@gmail.com&gt;

Cc:

Dear Sir,

As you may aware that CST, UP, has launched "CST-UP Engineering Students Project Grant Scheme" to promote the engineering students for novel engineering projects. The Students of your institution have been selected under the "CST-UP Engineering Students Project Grant Scheme" to develop new projects and as per schedule the 1<sup>st</sup> phase of grant **Rs. 10,000.00** out of total Rs. 20,000.00 has been transferred to the group leader student's Bank Account, provided to us, through RTGS/NEFT. It is to inform you that the details of the project sanctioned under the scheme are as following-

1. Title of the project:- **Cabriolet Vechi-EEE**
2. Name of the student/students :-

**1. Trishit Gupta****2. Shivam Mishra****3. Nishant Kushwaha****4. Saurabh Singh**

3. Group Leader:- **Trishit Gupta**

It is to further inform you that the presentation of the student's projects along with proto-type will be held during last week of April 2018 at the CST, UP, Lucknow, before the subject experts. The remaining grant of Rs.10,000.00 in the Second Phase will be issued only to those student's project, who will participate in the presentation session at CST, UP, Lucknow.

**It is to mention that on the basis of presentation and novelty of the project, best three students' project will be selected for 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> position and a prize money of Rs. 1,00,000.00 , Rs.75,000.00 and Rs.50,000.00 will be given to the students as per decision of experts. The decision of the CST, UP, regarding award shall be final.**

You are requested to kindly acknowledge the receipt grant of Rs.10,000.00 under the project, the acknowledgment form and other information regarding the scheme are available on our website. **However for your kind reference we are attaching acknowledgment form to be signed and submitted accordingly to CST, UP, Lucknow, through e-mail mentioned below, within 10 days of receipt of the grant.**

--

***Radhey Lal***

**Joint Director**

**Council Of Science and Technology, U. P.**

**Vigyan Bhawan 9, Nabiullah Road,**

**Surajkund Park, Lucknow-226 018 (U.P.)**

**Mobile No.: 8573051445**

**Fax: 0522-2611793**

**E-mail: [radheyreil@gmail.com](mailto:radheyreil@gmail.com), [radheylal.cst@gov.in](mailto:radheylal.cst@gov.in)**

**[www.cstup.gov.in](http://www.cstup.gov.in)**



**Acknowledgement.pdf**

207K

Prof. Vineet Kansal  
Dean-UGSE



**DR. APJ ABDUL KALAM TECHNICAL UNIVERSITY**  
**Sector-11, Jankipuram Extension, Lucknow**  
E-mail: dean.ugse@aktu.ac.in

Ref: AKTU/DeanUG/2018/11493

Date: 10 August 2018

To

Directors/Principals

Institutes /Colleges affiliated to Dr. APJ Abdul Kalam Technical University

Lucknow, Uttar Pradesh

**Subject: Regarding announcement of result for Innovation Gallery - Mars Mission India**

Dear Sir/Ma'am

In continuation of University Letter Ref. AKTU/DeanUG/2018/11314 Dated 31<sup>st</sup> July 2018, regarding invitation of innovative ideas for Mars Mission India, I am glad to share that we received excellent response for prototype grant. After screening in the first round and analyzing their presentations eight ideas have been selected (**Annexure 1**) for prototyping grant and exhibition in Kalam Library at Dr. APJ Abdul Kalam Technical University, Lucknow.

As shared before, University shall extend the financial support upto Rs. 12000/- only towards the prototype development of the selected students which shall be initially paid by the colleges and shall be reimbursed by the University. The prototype development work should be completed within 20 days.

These students will be further interviewed in next two – three working days by the Mars Mission India Team based on suitability and innovation of idea and selected students/team will participate in MINAR (Mine Analogue Research) project event to be held in September 2018 at Whitby, Yorkshire organized by University of Edinburgh.

Look forward your continued support to motivate and encourage young minds.

Should you have any concern, feel free to write at [kciis@aktu.ac.in](mailto:kciis@aktu.ac.in) or call Mr. Saurabh Singh 8077048346.

With warm regards

(Prof. Vineet Kansal)

Dean Under Graduate Studies and Entrepreneurship

**Copy to:**

1. Registrar, AKTU Lucknow
2. Finance Officer, AKTU Lucknow
3. Controller of Examination, AKTU Lucknow
4. Coordinator, TEQIP, AKTU Lucknow
5. System Manager, AKTU Lucknow
6. Media Prabhari, AKTU Lucknow
7. Staff Officer, Hon'ble Vice Chancellor for kind information

(Prof. Vineet Kansal)



## Annexure 1

### SELECTED STUDENTS FOR PROTOTYPING GRANT

SR.NO	NAME	ROLL NUMBER	COLLEGE NAME
1	Satyam Pratap Singh	1514321081	I.M.S. Engineering College, Ghaziabad
2	Parth Verma	1506540071	B.S.A. College of Engineering & Technology, Mathura
3	Aditya Jaiswal	1651140001	GL Bajaj Group Of Institutions, Mathura
4	Shivika Singh	1703021026	Inderprastha Engg. College, Ghaziabad
5	Aviral Sharma	1703010046	Inderprastha Engg. College, Ghaziabad
6	Navonil Das	1723010053	Dronacharya Group of Institutions, Gautam Buddh Nagar
7	Nitish Kumar Srivastav	1712010063	Institute Of Technology And Management, Gorakhpur
8	Somya Singh	1601031048	United College of Engineering and Research, Allahabad

///



Bibeka Nand Pathak &lt;bn.pathak@imsec.ac.in&gt;

---

**Fwd: DRUSE 2017 ( DRDO)**

1 message

---

**V.K. Saini** <vk.saini@imsec.ac.in>  
To: Bibeka Nand Pathak <bn.pathak@imsec.ac.in>

Tue, Nov 17, 2020 at 11:57 AM

Dr. V.K. Saini  
Professor and Head  
Department of Mechanical Engineering  
IMS Engineering College, Ghaziabad (UP)  
0120-4940000 (Ext: 827),  
Mb. 9873182304

----- Forwarded message -----

From: **Akash Singh** <akashsinghvna@gmail.com>  
Date: Wed, Jan 31, 2018 at 8:51 PM  
Subject: DRUSE 2017 ( DRDO)  
To: Chetan chaturvedi <chetanchaturvedi8@gmail.com>, V.K. Saini <vk.saini@imsec.ac.in>, Amit Rajpoot <amitrajpoot123.ar@gmail.com>, Nadeem Ahmad <ahmadnadeem2312@gmail.com>, Shri Krishna Saraswat <shkrishnasaraswat@gmail.com>  
Cc: <skkalla@yahoo.com>

Dear Team,

Thank You for showing your interest for participate in Druse 2017.

It is fact that those work hard, will get success.

Our project "Rat, A Surveillance Robot" is selected in Druse 2017.

Congratulations...!

Thank you for the interest shown in Druse and look forward to your participation.





Bibeka Nand Pathak &lt;bn.pathak@imsec.ac.in&gt;

---

**Fwd: Venue & Date of Zonal Screening of North Zone**

1 message

---

**V.K. Saini** <vk.saini@imsec.ac.in>  
To: Bibeka Nand Pathak <bn.pathak@imsec.ac.in>

Tue, Nov 17, 2020 at 11:55 AM

Dr. V.K. Saini  
Professor and Head  
Department of Mechanical Engineering  
IMS Engineering College, Ghaziabad (UP)  
0120-4940000 (Ext: 827),  
Mb. 9873182304

----- Forwarded message -----

From: **Akash Singh** <akashsinghvna@gmail.com>  
Date: Wed, Feb 14, 2018 at 6:45 PM  
Subject: Fwd: Venue & Date of Zonal Screening of North Zone  
To: Shri Krishna Saraswat <shkrishnasaraswat@gmail.com>, Nadeem Ahmad <ahmadnadeem2312@gmail.com>, Amit Rajpoot <amitrajpoot123.ar@gmail.com>, Chetan chaturvedi <chetanchaturvedi8@gmail.com>  
Cc: V.K. Saini <vk.saini@imsec.ac.in>

----- Forwarded message -----

From: "GurpreetKaur Scientist" <robocomp-drdo@gov.in>  
Date: 14-Feb-2018 4:42 PM  
Subject: Venue & Date of Zonal Screening of North Zone  
To: <vibhor.karnawat@gmail.com>, <bhuvnesh.gautam\_me15@gl.a.ac.in>, <dhavala.vsaditya.mec15@iitbhu.ac.in>, <ajay24kvkumar@gmail.com>, <activenikhilg@gmail.com>, <pkmishra@iitk.ac.in>, <singhal.akshath97@gmail.com>, <vishrutsingh1@gmail.com>, <mani.vipul7@gmail.com>, <vikas08thapa@gmail.com>, <princekr.7856@gmail.com>, <abhi.una12@gmail.com>, <kaushiksuman001@gmail.com>, <prashantmuniv@gmail.com>, <shubhendra.20@gmail.com>, <patial.sam@gmail.com>, <gauravkesari2016@gmail.com>, <anshuman3012@gmail.com>, <aksingh1498@gmail.com>, <tulsyan.divy@gmail.com>, <Sameepnihal@gmail.com>, <satyamsingh231096@gmail.com>, <djalphan@gmail.com>, <singhmoullisha3107@gmail.com>, <akashsinghvna@gmail.com>, <tushardma167@gmail.com>, <95anantsingh@gmail.com>, <nmohank@iitk.ac.in>, <shuvamgbss@gmail.com>, <mohanipradyumna1994@gmail.com>  
Cc: "piyush kumar" <piyush.kumar@rde.drdo.in>

Dear Team leader,

Congratulations from DRUSE Team on being selected for second level of screening.

Please note the date and venue for your zonal screening is as follows:

Venue: Indian Institute of Technology [Delhi, Outer Ring Road, Hauz Khas, New Delhi, Delhi 110016](#)

Date: 31 Mar - 01 Apr 2018

Please also note that, henceforth, all your communications regarding DRUSE should clearly mention your Zone and DRUSE Registration ID in subject line/First Line of the mail.

For example, for team from north zone with registration ID DRUSE-TH10-965 the subject line should start with North(DRUSE-TH10-965): followed by subject.

E mails not following the aforementioned format for subject may not be answered.

Regards,  
DRUSE Team.

# Defence Research and Development Organization (DRDO)

## DRDO Robotics and Unmanned Systems Exposition (DRUSE)

### There are three levels of screening at different stages

- At first level of screening, the proposals shall be reviewed by experts.
- After first level of screening, shortlisted candidates will be called for second level of screening which will be technical presentations / exhibition at respective zonal centres. All the shortlisted teams shall be given cash award at the respective zonal centres.
- For second level of screening, the shortlisted teams will make their own arrangement for travel & stay at respective zonal centres.
- Winning 5 teams from each of the six zones will be called for 3rd level of screening at DRDO HQ, New Delhi to participate in Exposition and compete. The shortlisted teams will make arrangements for travel & stay at New Delhi. All the shortlisted teams shall be given cash award at DRDO HQ New Delhi.
- At third level of screening, the teams are required to submit their detailed design report.

### Event Schedule

1	Declaration of first level screening results and Invitation for 2nd level of screening (online)	31 Jan 2018
2.	Second level of screening at zonal centres i.e. zonal level competitions (Exact date of screening for each zone will be intimated to the qualifying teams and published online in advance.)	24 Mar - 15 Apr 2018
3.	Declaration of finalists for 3rd level of screening i.e. national level competition and Invitation for 3rd level of screening (online )	16 April 2018
4.	National level competition & Evaluation of Exhibits at DRDO HQ, New Delhi	10 May 2018
5.	Declaration of Winners & Award Ceremony for zonal & national level	11 May 2018

### Zonal Level Awards

Award	Award amount per team
First Prize	Rs. 30,000 /-
Second Prize	Rs. 25,000 /-
Third Prize	Rs. 20,000 /-
Fourth Prize	Rs. 15,000 /-
Fifth Prize	Rs. 10,000 /-
Each participating team	Rs. 10,000 /-

### National Level Awards

Award	Award amount per team
First Prize	Rs. 1.5 Lakh
Second Prize	Rs. 1 Lakh
Third Prize	Rs. 0.5 Lakh
Each participating team	Rs. 20,000 /-

FILE NO. TAR/2018/000897  
**SCIENCE & ENGINEERING RESEARCH BOARD(SERB)**  
(A statutory body of the Department of Science & Technology, government of India)

5 & 5A, Lower Ground Floor  
Vasant Square Mall  
Plot No. A, Community Centre  
Sector-B, Pocket-5, Vasant Kunj  
New Delhi-110070

Dated: 12-Jun-2019

**ORDER**

Subject: Financial Sanction under Teachers Associateship for Research Excellence (TARE) to Dr. **Meghna Singh, IMS Engineering College, Ghaziabad , Nh-24, Adhyatmik Nagar, Near Dasna, Distt: Ghaziabad. Uttar Pradesh, Ghaziabad, Uttar Pradesh-201009**- under the mentorship of Dr. **Deepak Gaur, at Jawaharlal Nehru University New Mehrauli Road, New Delhi - 110067**- Release of 1st grant.

Sanction of Science and Engineering Research Board (SERB) is hereby accorded to the above mentioned grant at a total cost of Rs. 18,30,000/- (Rs. Eighteen Lakh Thirty Thousand **Only**) for a duration of 36 months.

The date of start of the project will be 30 November, 2018 .The items of expenditure for which the total allocation of Rs. 18,30,000/- has been approved are given below:

The following budget is proposed for

**IMS Engineering College, Ghaziabad , Nh-24, Adhyatmik Nagar, Near Dasna, Distt: Ghaziabad. Uttar Pradesh, Ghaziabad, Uttar Pradesh-201009 (Parent)**

Sl. No.	Budget Head	Amount
1.	Fellowship	Rs. 0 ( @0/- per month (consolidated))
2.	Research Grant	Rs. 2,50,000/- per annum
3.	Overheads	Rs. 25,000/- per annum

**Jawaharlal Nehru University New Mehrauli Road, New Delhi - 110067 (Host)**

Sl. No.	Budget Head	Amount
1.	Fellowship	Rs. 60,000 ( on completion of 90 days mandatory attendance in the host institute every year)
2.	Research Grant	Rs. 2,50,000/- per annum
3.	Overheads	Rs. 25,000/- per annum

2. Sanction of the SERB is also accorded to the payment of Rs. 2,75,000/- (Rupees Two Lakh Seventy Five Thousand only) to **IMS Engineering College, Ghaziabad, NH-24, Adhyatmik Nagar, Near Dasna, Distt: Ghaziabad. Uttar Pradesh , Rs. 3,35,000/- (Rupees Three Lakh Thirty Five Thousand only) to Jawaharlal Nehru University New Mehrauli Road, New Delhi - 110067** being the first installment of the grant for the year 2019-2020 for implementation of the said research project.

3. The expenditure involved is debitable to

**Fund for Science & Engineering Research (FSER)**

**This release is being made under Teachers Associateship For Research Excellence (TARE). (Health Sciences)**

4. The Sanction has been issued to with the approval of the competent authority vide Diary No. **SERB/F/1466/2019-2020** dated 12 June, 2019

5. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at website ([www.serb.gov.in](http://www.serb.gov.in)).

6. Overhead expenses are meant for the host Institute towards the cost for providing infrastructural facilities and general administrative support etc. including benefits to the staff employed in the project.

7. As per rule 211 of GFR, the accounts of project shall be open to inspection by sanctioning authority/audit whenever the institute is called upon to do so.

8. The release amount of Rs. 2,75,000/- (Rupees Two Lakh Seventy Five Thousand only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

Account Name	IMS Engineering College
Account Number	51461010000140
Bank Name & Branch	Oriental Bank of Commerce IMS Lal Kuan, Ghaziabad, Institute of Management Studies, Lal Kuan, Ghaziabad-201009 (UP)
IFSC/RTGS Code	ORBC0105146
Email address of PI	meghna.biotech@gmail.com
Email id of A/C Holder	director@imsec.ac.in
Email address of concerned officer	ms_tare@serbonline.in

The release amount of Rs. 3,35,000/- (Rupees Three Lakh Thirty Five Thousand only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

Account Name	JNU Sponsored Project A/C
Account Number	10596550879
Bank Name & Branch	State Bank of India State Bank of India, JNU Branch, JNU New Campus Branch, Near Godavari Hotel, JNU New Delhi-110067
IFSC/RTGS Code	SBIN0010441
Email address of PI	meghna.biotech@gmail.com
Email id of A/C Holder	fo@mail.jnu.ac.in
Email address of concerned officer	ms_tare@serbonline.in

9. Both the institutes will furnish Utilization certificate (UCs) financial year wise to the SERB and an audited statement of accounts pertaining to the grant immediately after the end of each financial year.

10. The institute will maintain separate audited accounts for the fellowship. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.


11. The File no. TAR/2018/000897 may also be mentioned in all research communications arising from the above project with due acknowledgement of SERB.

12. As this is the first grant for the fellowship, no previous U/C is required.

13. The institute may refund any unspent balance to SERB by means of a Demand Draft favoring "FUND FOR SCIENCE AND ENGINEERING RESEARCH" payable at New Delhi.

14. The organization/institute/university should ensure that the technical support/financial assistance provided to them by the Science & Engineering Research Board, a statutory body of the Department of Science & Technology (DST), Government of India should invariably be highlighted/ acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report.


15. In addition, the investigator/host institute must also acknowledge the support provided to them in all publications, patents and any other output emanating out of the project/program funded by the Science & Engineering Research Board, a statutory body of Department of Science & Technology (DST), Government of India.

  
(Dr. T Thangaradjou)  
Scientist E  
ms\_tare@serbonline.in

To,  
Under Secretary  
SERB, New Delhi

Copy forwarded for information and necessary action to: -

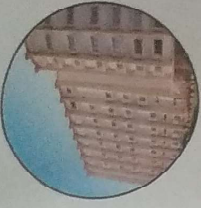
1.	The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002
2.	Sanction Folder, SERB , New Delhi.
3.	File Copy
4.	<p>(i) Dr. Meghna Singh Department of Biotechnology IMS Engineering College, Ghaziabad , Nh-24, adhyatmik nagar, near dasna, distt: ghaziabad. uttar pradesh, Ghaziabad, Uttar pradesh-201009 Email: meghna.biotech@gmail.com Mobile: 918800591710</p> <p>(ii) Dr. Deepak Gaur Jawaharlal Nehru University New Mehrauli Road,New Delhi - 110067</p> <p>(Start date of the project may be intimated by name to the undersigned. For guidance, terms &amp; Conditions etc. Please visit <a href="http://www.serb.gov.in">www.serb.gov.in</a>.)</p>
5.	<p>(i) Director, IMS Engineering College, Ghaziabad, NH-24, Adhyatmik Nagar, Near Dasna, Distt: Ghaziabad. Uttar Pradesh</p> <p>(ii) Vice Chancellor Jawaharlal Nehru University New Mehrauli Road,New Delhi - 110067</p> <p>(Receipt of Grant may be intimated by name to the undersigned)</p>

  
(Dr. T Thangaradjou)  
Scientist E  
ms\_tare@serbonline.in



# Council of Science & Technology, U. P.

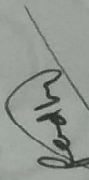
(Department of Science & Technology, Govt. of U.P.)



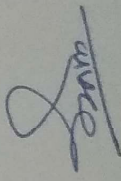
## Certificate of Honour

This is to certify that Sapna Yadav has provided his/her  
of Ims Engineering College, Ghazizabad valuable guidance of preparation & presentation of project Prediction and Analysis  
of Air Pollution Level using Machine Learning.  
selected for financial grant under **C.S.T., U.P. Engineering Students' Project Grant**  
**Scheme 2018-19.**

**Council of Science & Technology, U.P.** (Department of Science & Technology, Govt. of  
U.P.) wishes for all shining success in his/her professional endeavours & life.

  
**(Radhey Lal)**  
Joint Director

4<sup>th</sup> May  
2019

  
**(I. D. Ram)**  
Secretary



## Participation in Smart Odisha Hackathon-2018

Following Students have participated in Smart Odisha Hackathon held at Bhubaneswar, 13- 15 November, 2018 and got first prize which includes Rs.1.25 Lakh cash money along with participation certificate, winning trophy and Memento.

Team Members: 1. Chakshu Sharma

2. Astha Singh

3. Deepali Srivastava

4. Medha Gupta

Mentor Name: Shruti Keshari

Project Name: Post-Harvest Crop Management System Using IOT and AI

### Abstract:

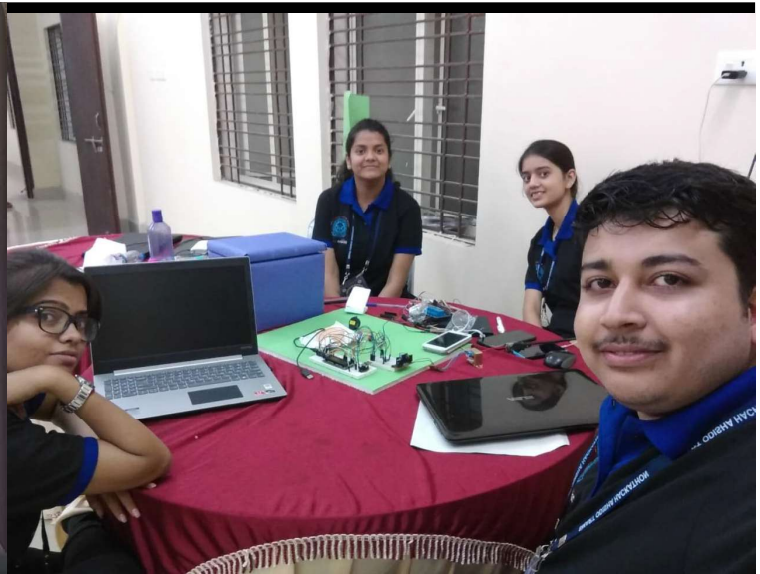
This project aims to develop a high cost-effective system for food supply chain management system and connect our farmers, crop storage owners and government with this technology through internet. It will monitor the food (crops) stored in the supply chain inventories using IoT and AI and provide status about their quality (state of deterioration) and estimate stock value/price of stored crop based on the environmental conditions of the storage unit. Thus reducing workman hours and minimizing human error.

### Commercial Applications:

Cold storages condition in India are pathetic and crops face 20-30% of post-harvest losses. This loss can be compensated by using cold storages with IoT and AI application so that the farmer/cold storage owner and government face less loss and therefore can optimize the income and decrease the post-harvest losses.

### Photos:







## TITLES FOR PROJECT DETAILS

a) TITLE OF THE PROJECT

Post harvest crop management system using Internet of things and Artificial Intelligence.

b) NAME OF THE COLLEGE AND DEPARTMENT: IMS Engineering College, Computer Science and Engineering Department.

c) KEYWORDS: Post harvest crop management, Supply chain, deterioration, Internet of things (IoT), Artificial Intelligence (AI), Stagnant stock, Quantification of stocks, Demographics.

d) INTRODUCTION/BACK GROUND (with specific to the project, work done earlier): It has been a challenging task to manage the crops in food supply chain/cold storages because of deterioration of the crops with the change in time and the retail demand uncertainty. These factors can lead to significant loss of crops/shortage of crops in supply chains. Technological advancement like IoT, AI, Machine Learning, etc enabled us to develop a smart crop management system for supply chain/cold storages that will monitor the inventory of the crop(s) stored.

Initially we are developing a system that can be used to monitor deterioration of the crops like fruits and vegetables, further it may be developed for variety of crops. The entire project consists of four modules i.e.

- 1.Onsite hardware and environmental interface (IoT).
- 2.Web and Android application (user interface module).
- 3.Analysis and Prediction module (AI).
- 4.Environment control unit.

e) OBJECTIVES: With the fast pace of modern life style, there is increase in demand of perishable food (fruits and vegetables) in marts and retail groceries. The increasing demand leads to higher profit; meanwhile, large quantities and a wider variety of food items imposes further challenges on the management of the food supply chains.

*SQV*

This project aims to develop a high cost-effective system for food supply chain management system and connect our farmers with this technology through internet. It will monitor the foods (crops) stored in the supply chain inventories using IoT and AI and provide status about their quality (state of deterioration) and estimate stock value/price based on it.

f) PRACTICAL UTILITY: It can be categorized in three parts on the basis of utility

1. Supply chain management system, regularly monitor the supply chain using predicted data and take necessary actions to avoid losses and can control the environment of inventory from remote areas too and also reduces the workmen hours through automation.

2. Farmers, regularly notified about the health of the crop stored as well as can download and check the historical data also.

3. Government, get inline data about the crops stored in cold storages in various demographical parts of the country and can take decisions about investment and budget funding.

g) METHODOLOGY (material, methods, details of work carried out including drawings, diagram etc):

HARDWARE USED:

1. Arduino Nano board.

2. DHT11 temperature and humidity sensor.

3. MQ3 gas sensor to detect ethylene.

4. Soil moisture sensor

5. LCD module.

6. Node MCU

7. Relay module


8. ESP83266 module.

9. Jumper wires, bread boards and other miscellaneous electronic devices.

TECHNOLOGY/SOFTWARE USED:

1. Android studio, to develop mobile application.

2. AWS server is used to host sensor's data.



3.ThingSpeak, an open source IoT application and API is used to store and retrieve data from ThingSpeak using HTTP protocol over the internet or LAN.

4.Python and it's libraries like Pandas, Numpy, Matplotlib are used for intelligent analysis and prediction.

#### DETAILS OF WORK CARRIED OUT:

1.Android application: A user friendly android application is being developed that would display all the data received from the sensors. It consists of four fields i.e. Temperature, moisture, humidity and ethylene. The ethylene content let us know about the level of food deterioration and its quality, while temperature, moisture and humidity give information about the environment of cold storage.

The mobile application fetches the real time data of the sensors from ThingSpeak API, then corresponding data in desired format will be displayed in the specified field. Further the details are represented graphically so that the user can visualize and monitor the environmental condition in food supply chain.

2.Web Page: The functions of the web page is similar to that of android application, but the motive is to enable the user to remotely access the data and control the environmental condition from there itself to avoid any loss also can download and view the historical data.

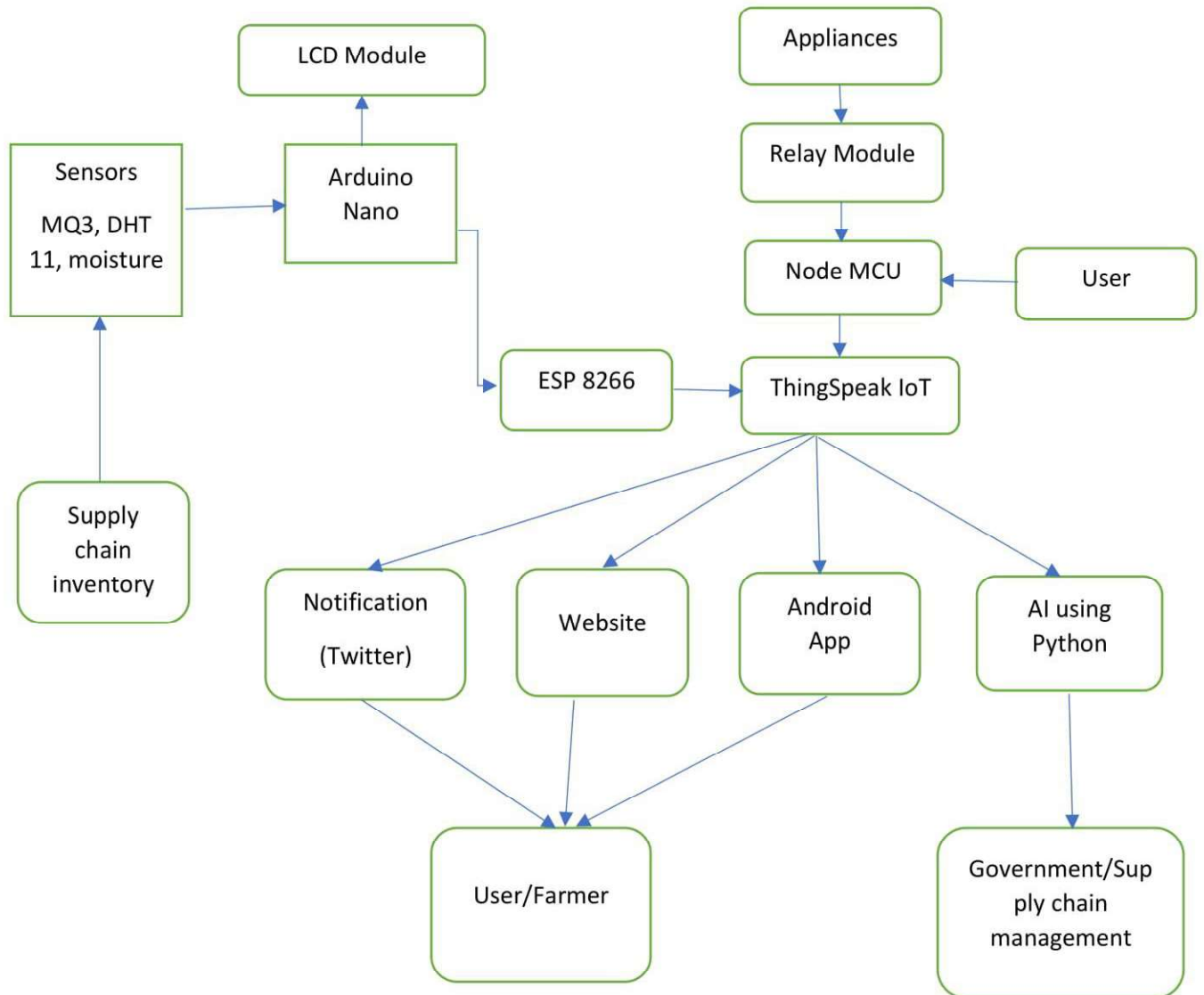
3.Analysis and prediction using AI: This module uses Python as programming language and its libraries such as Pandas, Numpy and Matplotlib, etc to analyse the data sent at ThingSpeak site and then uses AI to predict the future values parameters like temperature, moisture and humidity in order to avoid the further deterioration of food crops stored in cold storages also predict the stock values of the crops stored. These predicted values help the supply chain management system/government to take proper steps regarding capital investments and budgets.

4.Apart from these we are providing an onsite alarm alert to the user therefore if any chamber is having deteriorated food then the alarm



alert will arise from that chamber and enable the user to avoid the potential loss in the crop's quality.

h) BLOCK DIAGRAM/FLOW CHART:



SOL

i) IS THE PROJECT RELATED TO ANY LOCAL PROBLEM?

This project is related to the food supply chains and cold storages which are responsible for food supply and maintenance of its quality. These system uses traditional methodology for food's maintenance and quality monitoring which leads to heavy losses and even causes black marketing. This project aims to develop a smart self-functioning system that will continuously monitor the food in food supply chain and report any kind of food degradation or quality deterioration to the user. The AI part of this project help us to predict the future values of the environmental parameters of the cold storages so that we can take preliminary actions to avoid any loss and plan our investment accordingly.

j) COMMERCIAL APPLICATION/UTILITY IF ANY AND SCOPE OF FUTURE WORK: Agriculture production is an important contributor to Indian economy and provide nearly 67% of the country's employment. Over the past few years, horticulture has made a remarkable progress in terms of expansion in area and production. Production of horticulture crops is likely to touch a record 304.5 million tonne in 2017&2018 about 8% higher than the previous five years average. Fruits like banana fetch as much as 30 folds more remunerations.

Considering the high potential, the concept the increasing the farmer's income can work if we can deploy a system to maintain the quality of food after harvesting. The condition of cold storages in our country is very pathetic and lack of power makes the cold storages unfunctional and harvest faces 20-30% of post-harvest losses which is suffered by our farmers.

This loss can be compensated by using cold storages with proper IoT and AI application so that the farmers/cold storage management organization as well as government faces less loss and therefore they can optimize the income, reduces the workmen hours and decrease the post-harvest losses.

SQ



k) **RESULT AND CONCLUSION** (with specific reference to work carried out): At the local site i.e. at cold storages there are alarms in each chamber, in case if the environmental condition (temperature, humidity, moisture and gaseous content) changes they will alert the user/worker on site. Android application and web app continuously fetch data from ThingSpeak and display real time data, in case of any deterioration of food quality, application will send notification to the user of this system. An educated as well as uneducated user of this application can easily interpret the data as it also presented in graphical form and highlighted using red, green, and yellow colour respectively to identify quality as bad, good and need to check. Analysis and prediction using AI help us to automatically control and monitor the cold storage's environment without any human intervention. Send data to the user (government, supply chain management) to identify where they need to invest more capital in order to increase the revenue and decreases the post-harvest losses. According to demographical data analysis, government can pass budget and crop insurance policy according to region and variety of crops stored in local cold storages and help our farmers to reduce working hours and post-harvest loss.

SQ. 1



**Dr. A. P. J. ABDUL KALAM TECHNICAL UNIVERSITY**  
(Formerly UP Technical University)  
Sector-11, Jankipuram Vistar Yojna, Lucknow-226031

Ref: AKTU/Dean-PGSR/2019/ CRIP/ 45

Date: 24.07.2019

**To,**  
**The Director/Principal,**  
KIET Group of Institutions (Krishna Institute of Engineering & Technology), Ghaziabad (029) (Lead Institute)  
**I.M.S. Engineering College,** Ghaziabad (143) (Network Institute)

**Sub:** Award of Grant under “Collaborative Research and Innovation Program (CRIP) funding through TEQIP-III of AKTU” for 2019-20.

Dear Sir/Madam,

It is my pleasure to inform you that the research project submitted by a faculty member of your institute has been selected for the award of grant under “Collaborative Research and Innovation Program (CRIP) funding through TEQIP-III of AKTU” for 2019-20. The details of the selected projects are as follows:

<b>Title of the project</b>	Design and Analysis of MIMO Antenna with Incorporation of Substrate Integrated Waveguide	
<b>Name of principal investigator (Lead Institute)</b>	Dr./Mr./Ms. Ragini Sharma	
<b>Name of Co-principal investigator (Lead Institute)</b>	Dr./Mr./Ms. Vibhav Kumar Sachan	
<b>Name of Co-principal investigator (Network)</b>	Dr./Mr./Ms. Rudra Narayan Baral	
<b>Amount sanctioned</b>	Maximum funding Rs. 3.0 lakhs	
<b>Transaction Details</b>	First Instalment as 25% (Rs. 75000/-) of the total funding transferred*.	<b>Transaction Date:</b> 28/06/2019


\*Note- Please refer the circular [AKTU/Dean-PGSR/2019/1570](#) dated July 10, 2019 uploaded in your college login.

Breakup of the research grant and term & conditions for the fund utilization are given in the previous circular number AKTU/Dean-PGSR/Ph.D./2019/5052 dated May 3, 2019. You are advised to strictly follow all the terms and conditions as mentioned in the circular. At the end of the scheme, your institute will have to submit a detailed report with the all relevant documents along with the copies of publication(s) (SCI/SCOPUS Indexed and/or Patents if any) emanating from the project. Due acknowledgement must be given to the CRIP funding under TEQIP-3 and Dr. A.P.J. Abdul Kalam Technical University Uttar Pradesh Lucknow in your publications. AKTU at its discretion may appoint experts to visit your institute to access the progress of the project.

  
(Dr. D. P. Singh)  
Deputy Registrar Dean PGSR

Copy for information and necessary action to:

1. Registrar, AKTU
2. Finance Officer, AKTU
3. Coordinator TEQIP-III AKTU
4. Staff Officer, Hon'ble Vice-Chancellor for kind information to Hon'ble Vice-Chancellor

  
(Dr. D. P. Singh)  
Deputy Registrar Dean PGSR