



Rajgad Dnyanpeeth's

SHRI CHHATRAPATI SHIVAJIRAJE COLLEGE OF ENGINEERING

Gat No. 237, Pune Bangalore Highway, Dhangawadi, Tal - Bhor, Dist- Pune (Maharashtra)

Criteria 3: Research, Innovations and Extension

Key Indicator -3.1 Resource Mobilization for Research

3.1.1 Grants for research projects sponsored by the government/non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution during the last five years.(3)

Sr. No.	Name of the research project	Remark
1	Participatory rural appraisal in Nigudghar village	
2	Lacquer porosity testing machine	
3	8 KW Grid Tided Rooftop Solar System	
4	Project on Hybrid car design	
5	Project on Supra SAE India car design	




Principal

Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.
Dhangawadi, Pune-412206



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Gat No. 237, Pune Bangalore Highway, Dhangawadi, Tal - Bhor, Dist- Pune (Maharashtra)

Criteria 3: Research, Innovations and Extension

Key Indicator –3.1 Resource Mobilization for Research

3.1.3 Average Number of research projects per teacher funded by government and non-government agencies during the last five years (7)

Sr. No.	Name of the research project	Remark
1	Participatory rural appraisal in Nigudghar village	
2	Lacquer porosity testing machine	
3	8 KW Grid Tided Rooftop Solar System	
4	Project on Hybrid car design	
5	Project on Supra SAE India car design	



Principal
Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.,
Dhangawadi, Pune-412206

Project Report On

Participatory Rural Appraisal In Nigudghar Village

In the partial fulfillment of the requirement for Bachelor Degree in Civil Engineering.

Submitted by

Swapnali G. Dalvi	B120710009
Ravaji S. Devakate	B120710010
Ganesh B. Gavhane	B120710012
Arjun R. Patil	B120710024
Vaibhav L. Raut	B120710032
Chetan C. Shrivare	B120710040

Guided by

Prof. Mr. K. R. Suryavanshi



DEPARTMENT OF CIVIL ENGINEERING SCSCOE DHANGWADI, SAVITRIBAI
PHULE PUNE UNIVERSITY, PUNE

2017 – 2018



SHRI CHHATRAPATI SHIVAJIRAJI COLLEGE OF ENGINEERING

DHANGAWADI, BHOR, PUNE.

(SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE)



CERTIFICATE

This is to certify that the following students have satisfactorily carried out the first semester B.E. project work entitled "Participatory Rural Appraisal In Nigudghar Village" This work is being submitted for the award of degree of Bachelor of Civil Engineering. It is submitted in the partial fulfillment of the prescribed syllabus of Savitribai Phule Pune University, Pune for the academic year 2017 – 2018.

Name of the Student

Examination seat no.

Swapnali G. Dalvi

B120710009

Ravaji S. Devakate

B120710010

Ganesh B. Gavhane

B120710012

Arjun R. Patil


B120710024

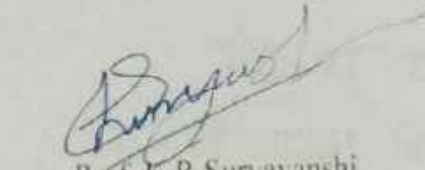
Vaibhav L. Raut


B120710032

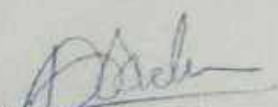
Chetan C. Shivtare

B120710040

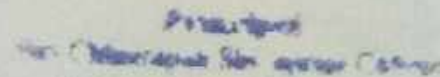

Prof. G. S. Jadhav
(H.O.D)


Prof. K.R. Suryavanshi
(Guide)


Dr. Prof. S. B. Patil
(Principal)


Prof. _____
External Examiner




Prof. _____
External Examiner



* स्वच्छतेतून समृद्धीचा ध्यास हाच आमचा ग्रामविकास *

ग्रुप ग्रामपंचायत निगुडघर-देवघर

ता. भोर, जि. पुणे

Email Id- gpnigudghar@gmail.com

श्री. विष्णू किसन मळेकर
उपसरपंच
मो.- 9494208343

श्री. एम. बी. लोहार
ग्रामसेवक
मो.- 9021093044

सौ. बायडाबाई किसन कंक
सरपंच
मो.- 9966224839

*** सदस्य ***

- सौ. चंद्रभागा श्रीकांत धोंडे
- श्रीम. विमल राजाराम कंक
- श्री. कांताराम दिनकर भावेकर
- सौ. बेबी हनुमंत बांदल
- श्री. अनिल नाना गायकवाड

जा. क्र.

दिनांक : 25/11/2015

प्रति,

मा. प्राचार्य,
श्री. छत्रपती शिवाजीराजे कॉलेज ऑफ एंग्लो-
थिंगलरी, ता. भोर, जि. पुणे.

विषय - निगुडघर ग्रामपंचायतर्फे विद्यार्थ्यांना
प्रयोजकत्व देणेबाबत.

मधेल्य.

उपरोक्त विषयावरून आपल्या कॉलेज मधील ग्रुप गावच्या एकात्मिक मुनभाषण झपाड्याचि झाली ग्रामपंचायतीच्या वतीने प्रयोजकत्व हेतु झायेत निगुडघर ग्रामपंचायतीच्या माध्यमातून विविध शासकीय मोठ्या यत्नेन येण झाला गावामध्ये आपल्या मधविद्यार्थ्यांच्या व्याप्य क्षमतांचिकी विकसाल्या वतीने मर्यादीत करवण पावे.

निगुडघर ग्रामपंचायतीतर्फे आपल्या मधविद्यार्थ्यांच्या विद्यार्थी रावना आवश्यक ते उत्कर्ष ग्रामपंचायतीतर्फे मिरेल.

(Handwritten signature)



ग्रामसेवक
ग्रामपंचायत निगुडघर
ता.भोर, जि.पुणे

बाकि कंक
सरपंच
ग्रामपंचायत निगुडघर
ता.भोर, जि.पुणे



पुणे जिल्हा मध्यवर्ती सहकारी बँक मर्यादित, पुणे
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२००५२५९८
D D M M Y Y Y Y

Pay प्राचार्य, श्री. छत्रपती शिवाजीराजे कॉलेज ऑफ इंजी. धांगवडी — or Bearer

Rupees रुपये दोन हजार फक्त

अदा करें।

₹ 2000=00

Current A/c. No.: 012001600000091

SPCA

For GRAM PANCHAYAT NIGUDGHAR

IFSC : HDFC0CPDCCB

(Signature)
ग्रामपंचायत निगुडघर
धांगवडी
ता. भोर जि. पुणे

Please sign above

⑈600020⑈ 411174001⑈ 000091⑈ 11



Rajgad Dnyanpeeth Technical Campus

Shri Chhatrapati Shivaji Raja College of Engineering

Approved by AICTE, Govt. of Maharashtra and Affiliated to the University of Pune (ID NO.PUN/14/Engg/376/2009)

Dr. Bhagyashree S. Patil

Hon. Secretary

Anant Rao Thopte

Founder President
Ex. Education Minister
Maharashtra State



RDEC SC/SCOE/Civil/2017-18

Date: 02/04/2017

To,

The Sarpanch

Grampanchayat,

Nigudghar, Tal- Bhor, Dist-Pune

Maharashtra, 412206.

Subject: - Sponsorship for project work.

Respected Sir,

Our Rajgad Dnyanpeeth Technical Campus, Shri Chhatrapati Shivaji Raja College of Engineering, Dhangawadi (Bhor) is affiliated to Savitribai Phule Pune University.

As per the curriculum of Savitribai Phule Pune University for Final year students of Civil Engineering, it is mandatory to work on emerging technologies, technology development, deployment of technology, Field issues, Softwares etc for one year. It enhances the skill of students to encourage creative thinking process to help them to get confidence about the actual field work. This year we are interested to work in nigudghar village to understand the development status, issues, scope and challenges. This study includes the participatory rural appraisal of village. The PRA report will be helpful to understand the development status and future planning of village for the sustainable development. For this work following students will be periodically visit the village.

1. Mr. Chetan C. Shivhare
2. Mr. Ravaji S. Davkate
3. Mr. Ganesh B. Gadhane
4. Mr. Arjun R. Patil
5. Mr. Vaibhav L. Raut
6. Ms. Swapnali G. Dalvi

We would like to request you to provide necessary technical and financial assistance along with a sponsorship letter.

Kindly do the needful.

Thanking you.

Prof. G. S. Jadhav

HOD, Department of Civil Engineering

Prof. Dr. S. R. Patil
Principal



PROJECT PHASE-II REPORT ON
**“ LACQUER POROSITY TESTING
 MACHINE ”**

SUBMITTED TO THE SAVITRIBAJ PHULE UNIVERSITY PUNE IN THE
 PARTIAL FULFILLMENT OF THE REQUIREMENTS
 FOR THE AWARD OF THE DEGREE
 IN

BACHELOR OF ENGINEERING
 (ELECTRONICS AND TELECOMMUNICATION)

SUBMITTED BY

Mr. BADE DEEPAK A.	SEAT NO. B120713002
Mr. KHOPADE AMAR V.	SEAT NO. B120713016
Miss. NIGADE SONALI P.	SEAT NO. B120713026
Miss. SURYAWANSHI SNEHAL Z.	SEAT NO. B120713036

UNDER THE GUIDANCE
 OF
 Prof. T.M.DUDHANE



DEPARTMENT OF
 ELECTRONICS AND TELECOMMUNICATION
 ENGINEERING

RAJGAD DNYANPITH'S TECHNICAL CAMPUS
 SHRI. CHHATRAPATI SHIVAJIRAJE COLLEGE OF
 ENGINEERING

S. NO. 237, DHANGAWADI, PUNE, M.S. - 412206.
 Academic Year 2017-18



CERTIFICATE

This is to certify that the project phase-II report entitled
"LACQUER POROSITY TESTING MACHINE"


Submitted by


BY

Mr. BADE DEEPAK A.	SEAT NO. B120713002
Mr. KHOPADE AMAR V.	SEAT NO. B120713016
Miss. NIGADE SONALI P.	SEAT NO. B120713026
Miss. SURYAWANSHI SNEHAL Z.	SEAT NO. B120713036

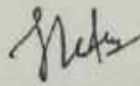
Is a bonafide work carried out by them under the supervision of Prof. T.M. DUDHANE and it is approved for the partial fulfillment of the requirement of Savitribai Phule Pune University, Pune for the award of the Degree of Bachelor of Engineering (Electronics and Telecommunication Engineering).

This project phase-I report has not been earlier submitted to any other Institute or University for the award of any degree or diploma.


Prof. T.M. Dudhane
Guide
Department of
E&TC


Prof. T.M. Dudhane
HOD
B.T.C. Department of
Engineering & Technology
Savitribai Phule Pune University
Pune


Dr. S.B. Patil
Principal
Principal
Rajgad Dnyanpeeth Technical Campus
Shri Chhatrapati Shivaji College of Engineering
Dhangawadi, Bor, Pune- 412 205


External Examiner

Place: RDTC SCSCOE, Dhangawadi.

Date:

MR. SHATRUGHAN KANSUBHE





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Tel. 020-30480200/1200
CIN: U28992PN2011PTC139385
Website: www.alumatic.in

Date - 28-09-2017

To Whom It May Concern

Re: Official sponsorship letter

Project Team Names-

- 1.Nigade Sonali Papat
- 2.Khopade Amar Vijay
- 3.Bade Deepak Ambadas
- 4.Suryawanshi Snehal Zumber.

I write to confirm that the above student is in receipt of official financial sponsorship from us regarding lacquer porosity testing machine development.

The sponsorship consists of a total of amount of 8000Rs (Eight thousand rupees only) for the development of the system. This covers R & D and development costing.
This will be as provided once the project is submitted in the company till 31th august 2018.

Should you require any further information please do not hesitate to contact me.

Yours



Akshay Kumar
Quality Department



सावित्रीबाई फुले पुणे विद्यापीठ
(पूर्वीचे पुणे विद्यापीठ)

दूरध्वनी क्रमांक. :

०२०-२५६०१२६४

२५६०१२६५

ई-मेल: pldvp@unipune.ac.in



नियोजन व विकास विभाग,
गणेशखिंड, पुणे-४११००७.

संदर्भ: साफुपुवि/निववि/१२१

दिनांक: ०१/०३/२०१९

प्रति,
मा. प्राचार्य/संचालक,
सर्व संबंधित संलग्न महाविद्यालये/मान्यताप्राप्त परिसंस्था.

विषय: महाविद्यालय गुणवत्ता सुधार योजनेअंतर्गत सौर उर्जा उपकरणे खरेदीकरीता मंजुर करण्यात आलेल्या अर्थसहाय्याची अंतिम देयके सादर करताना त्यासोबत द्यावयाच्या हमीपत्राबाबत.

महोदय/महोदया,

सर्व संबंधितांना कळविण्यात येते कि महाविद्यालय गुणवत्ता सुधार योजनेअंतर्गत सौर उर्जा उपकरणे खरेदीकरीता मंजुर करण्यात आलेल्या अर्थसहाय्याची अंतिम देयके सादर करताना सोबत जोडलेल्या नमुन्यानुसार हमीपत्र देयकांसोबत सादर करावे.

कळावे.

Radh
उपकुलसचिव
नियोजन व विकास विभाग

सोबत: वरीलप्रमाणे.

Store
Mr. Chavan
गोप दशरती
05/03/2019

राजगड ज्ञानपीठ टेक्निकल कॅम्पस

श्री छत्रपती शिवाजीराजे कॉलेज
ऑफ इंजिनीअरींग

ए.आय.सी.टी.ई. व डी.टी.ई. मान्यताप्राप्त व
सावित्रीबाई फुले, पुणे विद्यापीठ संलग्नीत.

राजगड ज्ञानपीठ, भोर



Since - 1972

RAJGAD DNYANPEETH TECHNICAL CAMPUS

Shri Chhatrapati Shivajiraje
College of Engineering

Approved by AICTE, Recognised by DTE

Affiliated to the Savitribai Phule University of Pune

● Founder President : Anantrao Thopte, Ex. Education Minister (M.S),

● Hon Secretary : Dr. Bhagyashri S. Patil

प्रति,

मा.डॉ. एस.आर. जाडकर

प्राध्यापक व संचालक

ऊर्जा शाखा पदार्थविज्ञान विभाग

सावित्रीबाई फुले विद्यापीठ

पूणे ४११ ००७ .

विषय : सौर ऊर्जा बाबत...

महोदय,

उपरोक्त विषयानुसार आपण महाविद्यालयास दिलेल्या भेटीदरम्यान सांगितल्याप्रमाणे सोलर पी.व्ही.
सिस्टम संदर्भातील संपूर्ण कागदपत्र या पत्रासोबत जोडत आहेत कृपया स्विकार करावा हि विनंती .

कळावे,



आपला विश्वासू

(प्रो. डॉ. एस. वि. पाटील)

Principal

Rajgad Dnyanpeeth Technical Campus
Shri Chhatrapati Shivajiraje College of Engineering
Dhangawadi, Bhore, Pune - 412 205

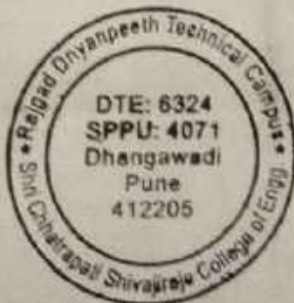


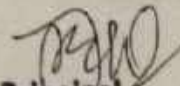
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Principal
25-2-19.

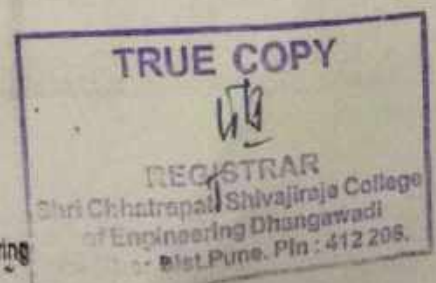


Savitribai Phule Pune University
School of Energy Studies
Final Inspection Report of Solar PV system installed under QIP of SPPU

1.	Name of the College	:	Rajgad Dnyanpeeth's Technical Campus Shri Chhatrapati Shivajiraje College Of Engineering
2.	Name of the Principal / Director and contact details	:	Dr. Sanjay Bapuso Patil Contact No.: 9970397696
3.	University's Sanction details (Enclose copy)	:	Copy Enclosed [Page No.] — NA —
4.	Prefeasibility Report details (Enclose copy)	:	Copy Enclosed [Page No.] — NA —
5.	Commissioning Date	:	
6.	Type of the System (Off-grid/hybrid/grid-tie)	:	Grid - Tie
7.	Whether net metering availed	:	YES
8.	Capacity (in KWp)	:	10 KW
9.	Total Sanction load of the college (in KW)	:	226 KW
10.	Details of Remote monitoring System: Web address, user id and password	:	— NA —
11.	Details of the vendor (Address, email & contact no.)	:	SIKCO Engineering Services, Office B-97, Sector-12, Kharghar-410210 Email- info@facilityindia.com Co. 022-65100181, 9930026102
12.	Photographs of the system (Attach photographs)	:	Photographs [Page No. 6]
13.	First installment release status	:	Received: Amount Received: Date of receipt:




Principal
Rajgad Dnyanpeeth Technical Campus
Shri Chhatrapati Shivajiraje College of Engineering
Dhangawadi, Bhor, Pune - 412 205



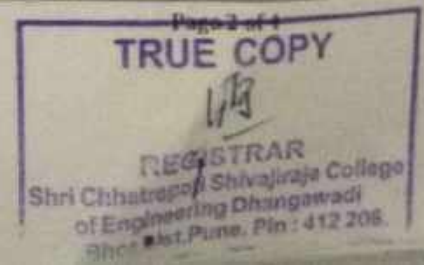
Sr. No.	Components	Standard Specification as per Work Order	Observation/ Remarks
1	Solar PV modules	The Modules shall contain (Solar PV) Crystalline Silicon Solar Cell Modules and they must be IEC 61215 / IS 14286 standard.	YES
		No. of Module (in Nos.)	31
		SPV Module Capacity (in Wp)	325Wp
		Project Capacity (in KW)	10 KW
		RFID Tag	YES
		Purchase Order of SPV modules (checking indigenous SPV modules).	YES [Page No.]
Module Mounting structure	Hot dip galvanized MS mounting structures may be used for mounting the modules / panels / arrays. Minimum thickness of galvanization should be at least 80 microns.		YES
		It shall withstand the wind speed of respective wind zone (wind speed of 150 km/ hour). Mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759. (as per EoI specifications)	YES
Junction Boxes	<ul style="list-style-type: none"> The junction boxes shall be made of GRP / FRP / Powder Coated Aluminum /cast aluminum alloy with full dust, water and vermin proof. The JBs shall be such that input & output termination can be made through suitable cable glands. All wires / cables must be terminated through cable lugs. Copper bus bars / terminal blocks housed in the junction box with suitable termination threads Conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Provision of earthings Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. 	IP65	YES
			YES
			YES
			YES
	• Make of JB:		SIKCO

ANNEXURE INSPECTION REPORT ROOFTOP PV_QIP



[Signature]
Principal

Raigad Dnyanpeeth Technical Campus
Shri Chhatrapati Shivaji Maharaj College of Engineering
Dhingawadi, Bhor, Pune - 412 205



DC DISTRIBUTION BOARD	<ul style="list-style-type: none"> It shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection 	YES
Battery Bank (If Any).	<ul style="list-style-type: none"> The cells must be as per IEC Standard & MNRE approved. • Make: 	NA
Charge Controller unit (If Any)	<ul style="list-style-type: none"> Capacity: Voltage.....V AmpAh 	NA
Grid Tie Inverter Make: Model: Sr. No:	<ul style="list-style-type: none"> Nominal Capacity:440V Input Voltage. 415V DC Nominal, The voltage variation shall be as per change in array output, Output Voltage .440V, 50 Hz, 1ϕ, Regulation: From minimum to maximum voltage 1%, Output Frequency: 50 Hz, + 0.5 Hz, 200% for 30 Second, Efficiency: 80% at 50% of load and More than 90% at full load 0.8 PF. Protection against Islanding of grid as per IEEE 1547/UL 1741/ IEC 62116 or equivalent BIS standard. 	AS MENTIONED Capacity 1
AC Distribution Panel Board	<ul style="list-style-type: none"> All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS 60947 part I, II and III. AC Distribution Panel Board should have necessary surge arrestors. 	YES Provided
	<ul style="list-style-type: none"> Cables must properly align and insulated. 	YES Provided
Danger Notice Plates for system having capacity 10KW or above.	<ul style="list-style-type: none"> Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. The inscriptions shall be in local language, Hindi and English. 	YES Provided
Earthing Systems.	<ul style="list-style-type: none"> The Earthing system for array and distribution system & SPV Power Plant Each array structure of the PV yard should be grounded/ earthed properly as per IS:30431987 	YES Provided
Tools kit (for system having capacity 10KW or above)	<ul style="list-style-type: none"> Necessary tools kit is to be provided along with the each Power Plant for any routine maintenance or immediate repair 	
Training, Operation Manual & Display Board	<ul style="list-style-type: none"> Training to the user for operation and maintenance of the system. 	YES

ANNEXURE 3: INSPECTION REPORT TOP PV_QIP



Principal
Rajgad Dnyanpeeth Technical Campus
Shri Chhatrapati Shivajiraje College of Engineering
Dhingawadi, Bhor, Pune - 412 205



Page 3 of 4

TRUE COPY

REGISTRAR
Shri Chhatrapati Shivajiraje College
of Engineering Dhingawadi
Bhor, Dist. Pune. Pin : 412 205

		• Supply of manual for Operation and Maintenance in two languages i.e. in English and in Marathi to Beneficiary.	YES
		• Display Board of size 3 ft x 3 ft which gives detailed circuit diagram of the system with its description.	YES
	Net Meter	• Details of net meter and Date of commissioning. (Get the details of release order from utility with details of meter.)	Enclosed Page No. Date:
	Lightening arrester	Lightning protection should be provided as per IEC 62305 standards.	YES
	Comprehensive Maintenance Contract (CMC)	Yes	YES
	Exact Geographic coordinates of the site.	Longitude: 73.8415° E Latitude: 18.1425° N	

The above system is installed, commissioned and found working satisfactory during the inspection and it is handed over to the beneficiary/user agency.

Signature of the Principal/Director	Signature of the Vendor/ Supplier
Name: Dr. Sanjay Bapuso Patil Contact number: 9970397696 Date:	Name: Mr. Milton Sikder Contact number: 9930026102 Date:
 Principal Rajgad Dnyanpeeth Technical Campus Shri Chhatrapati Shivajiraje College of Engineering Dhangawadi, Bhor, Pune - 412 205	

Remark: Recommended/ Not recommended for release of second installment



Signature of Authority
School of Energy Studies, SPPU



**List of Colleges Granted Financial Assistance for Rooftop Solar System under QIP
(2016-17)**

Sr. No.	File No.	Name of College, Address & Contact No.	Payment Received By DD No. Date	Payment Received By Challan No. Date	Place	Remark	Recommended colleges Yes/No
1.	58.	Akole Taluka Education Society's Technical Campus, Akole, A/P: Akole, Tal. Akole, Dist: AHMEDNAGAR 422 601, Tel.No. 02424 221123		17540000745 10/03/2017	Ahmednagar Akole	visited	Yes
2.	170	AES's Institute of Management and Business Administration Akole, Dhamangaon Awari Road, Akole, Dist Ahmednagar - 422601 Phone 02424 223942		17540001136 16/03/2017	Ahmednagar Akole	visited	Yes
3.	150.	RSS's Dada Patil Mahavidyalaya, Karjat Arts, Commerce & Science Dist: AHMEDNAGAR 414 402 Tel.No: 02489 222534, Res: 2222518		17540001588 23/04/2017	Ahmednagar Karjat	visited	Yes
4.	168	Rashtrapita Mahatma Gandhi Mahavidyalay, At Post Khed nagar Tal - Karjat, Dist Ahmednagar - 414403. Phone 02489 257300		17540001975 17/04/2017	Ahmednagar Karjat Khednagar	visited	Yes
5.	02.	KSKAS's Sou Sushilamai Kale Arts, Commerce & Science College, Gautamnagar, A/P Kolpewadi, Tal. Kopargaon, Dist : AHMEDNAGAR 423602 Tel.No. 02324 262613		17540000231 07/03/2017	Ahmednagar Kopargaon	visited	Yes
6.	49.	SRPS's Sanjivani Arts, Commerce & Science College, A/P Sahajanand nagar, Shingnapur, Tal.: Kopargaon, Dist: Ahmednagar 423 603. Tel.No.: 02423 222862		17540000310 15/03/2017	Ahmednagar Kopargaon	visited	Yes
7.	80.	PRES's Pravara Rural College of Pharmacy, Pravaranagar, A/P: Loni Bk. 413 736, Tal.: Rahata, Dist: Ahmednagar. Tel.No.: 02422 273526		17540000882 14/03/2017	Ahmednagar Rahata Loni	visited	Yes
8.	165	PIRENS's Technical Campus, Institute of Business Management and Administration (IBMA), Loni Bk. Tal Rahata, Dist Ahmednagar - 413736. Phone 02422 273493	447579 Dated 11.04.2017		Ahmednagar Rahata Loni	visited	Yes
9.	143.	SSSPM's Shri Chatrapati Shivaji College of Engineering, Shri Shivajinagar, (Rahuri Factory), Tal.: Rahuri, Dist: AHMEDNAGAR 413 706 Tel.No.: 02426 25141400		17540000277 2/03./2017	Ahmednagar Rahuri	visited	Yes



10.	59.	ASSVS's Amrutvahini College of Pharmacy, Sangamner, Amrutnagar PO, SANGAMNER S.K., 422608, Dist.: AHMEDNAGAR, Tel.No.: 02425 259335	17540000824 11/03/2017	Ahmednagar Sangamner	visited	Yes
11.	149.	PRES's Arts, Commerce, Science and Computer Science College, Ashvi(Kd), Tal.: Sangamner, Dist.: AHMEDNAGAR 413 738 Tel.: No. 02425 240051	17540001767 29/04/2017	Ahmednagar Sangamner Ashvi (Bk)	visited	Yes
12.	13.	RSS's Swami Sahajanand Bharati College of Education, Shrirampur, SHRIRAMPUR 413 709, Dist.: AHMEDNAGAR Tel. No. : 02422 222487	17540000323 08/03/2017	Ahmednagar Shrirampur	visited	Yes
13.	86.	RSS's Chandraroop Dhakle Jain College of Commerce, Shrirampur, SHRIRAMPUR-413 709, Dist.: AHMEDNAGAR Tel.No. : 02422 22245	17540001353 21/03/2017	Ahmednagar Shrirampur	visited	Yes
14.	153.	DVVPF's Dr. Vitthalrao Vikhe Patil College, Vadgaon Gupta, Vilad Ghat, Post: MIDC, Dist.: AHMEDNAGAR 414 111, 0241 2777296/ 2779496	30/04/2017	Ahmednagar Vilad Ghat	visited	Yes
15.	38.	GES's RNC Arts, JDB Commerce & NSC Science College Nashik Road, NASHIK - 422 005. Tel.No.: 0253 2571643	17540001158 17/03/2017	Nashik City	visited	Yes
16.	120.	MVPS's Arts, Commerce & Science College, Dindori, Tal.: Dindori, Dist. Nashik 422 202. Mobile No.: 9423962910	17540000283 08/03/2017	Nashik Dindori	visited	Yes
17.	130.	MVPS's Karmaveer Punjababa Govardhane Arts, Commerce & Science College, Near Take Ghoti, Mumbai-Agra Road, Igatpuri, NASHIK - 422 203. M.No.: 9422246092	17540000040 07/03/2017	Nashik Igatpuri	visited	Yes
18.	162.	MVPS's Karmaveer Ganpat dada More Arts, Commerce & Science College, Niphad Address: Pimpalgaon Road, Near Kundewadi, Niphad, Maharashtra 422303 Phone: 02550 241 084	17540000142	Nashik Niphad Kundewadi	Visited	Yes
19.	70.	NVPM's Arts, Commerce & Science College, Lasalgaon, LASALGAON 422 306, Tal.: Niphad, Dist.: NASHIK Tel.No.: 02550 266062	17540001115 16/03/2017	Nashik Niphad Lasalgaon	visited	Yes
20.	39.	MVPS's Arts, Science & Commerce College, Saikhed, Tal.: Niphad, Dist.: Nashik 422 210. Tel.No.: 02550 233389	17540000249 07/03/2017	Nashik Saikheda Niphad	visited	Yes



21.	10.	DS's Sahakarmitra Shivajirao Katkade Arts. Commerce College A/P. Naigaon, Tal.: Sinnar, Dist.: NASHIK -		17540000525 09/03/2017	Nashik Sinnar	visited	Yes
22.	97.	AVEWT's Shatabdi Institute of Engineering & Research, A/P.: Agaskhind, (via Deolali Camp), Bhagur, Tal.: Sinnar, Dist.: NASHIK 425 502. Tel.No.: 02551 304201		17540001503 22/03/2017	Nashik Sinnar Bhagur	visited	Yes
23.	27.	Mahatma Gandhi Vidya Mandir's Arts & Commerce College, Yeola, Dist.: NASHIK 423 401. Tel.No.: 02559 266269	549027 15/03/2017		Nashik Yeola	visited	Yes
24.	33.	JES's SND College of Pharmacy, Babhulgaon, Tal.: Yeola, Dist.: Nashik 423 401. Tel.No.: 02559 225041		17540000933 14/03/2017	Nashik Yeola	visited	Yes
25.	125.	JES's S N D Arts, Commerce & Science College, Yeola, Near Goshala Maidan, Vinchur Road, YEOLA, Dist. Nashik 423401 Tel.No.: 02559 269080		17540001492 22/03/2017	Nashik Yeola	visited	Yes
26.	11.	ADTE's Shardabai Pawar Mahila Mahavidyalaya, Arts, Commerce, Science & Home Science., Sharadanagar, Malegaon Bk, Tal.: Baramati, Dist.: PUNE -413 115. Tel.No. 02112 254250	165340 10/03/2017		Pune Baramati	visited	Yes
27.	12.	VP's Institute of Information Technology, Vidyanagari, Bhigwan Road, Baramati, Dist: PUNE Tel.No.: 0212 239551		17540000685 10/03/2017	Pune Baramati	visited	Yes
28.	50.	VP's Arts, Science & Commerce College, Vidyanagari, BARAMATI Dist.: PUNE 413 133. Tel.No.: 02112 243488		17540000807 10/03/2017	Pune Baramati	visited	Yes
29.	89.	VP's Kamalnayan Bajaj Institute of Engineering & Technology, Baramati, Vidyanagri, Bhigwan Road, Baramati, Dist.: PUNE 413 133. Tel.No.: 02112 239503		17540001348 21/03/2017	Pune Baramati	visited	Yes
30.	90.	VP's Vasantao Pawar Law College, Vidyanagari, Baramati, Dist.:PUNE 413 133. Tel.No.: 02112 239191		17540000951 21/03/2017	Pune Baramati	visited	Yes
31.	174	SVPM's Institute of Management, Malegaon Bk. Tal Baramati, Dist. Pune - 413115 Phone 02112 253975		17540001999 17/04/2017	Pune Baramati	visited	Yes
32.	166	SVPM's College of Engg. Malegaon Bk. Tal Baramati, Dist Pune - 413115 Phone 02112 254424		17540001968 12/04/2017	Pune Baramati Malegaon	visited	Yes



33.	36.	RD's College of Pharmacy, Bhor, Dist.: PUNE 412 206, Tel.No. : 02113 222841	17540000017 07/03/2017	Pune Bhor	visited	Yes
34.	171	RD's Sou Nirmalatai Thorate College of Education Bhor, Dist Pun 412206 Phone 02113 222835	17540000876 13/03/2017	Pune Bhor	visited	Yes
35.	47.	RD's Rajgad Dnyanpeeth Technical Campus, Shri Chatrapati Shivaji Raja College of Engineering, Gat No.237, Pune-Bangalore Highway, Dhangawadi, Tal.:Bhor, Dist.:PUNE 412 206. Tel.No.: 02113 282456	17540001073 16/03/2017	Pune Bhor Dhangawadi	visited	Yes
36.	132.	PJSM's Shankarrao Bheike Mahavidyalaya, Arts, Commerce & Science, Nasarapur, Tal.: Bhor, Dist.: PUNE - 412 213. Tel.No.: 02113 272213	17540000573 09/03/2017	Pune Bhor Nasarapur	visited	Yes
37.	139.	NESGI's Faculty of Management, MBA & MCA, Sector No.69, 70, 71, Naygaon (Nasarapur) , Pune- Satara Road, PUNE - 412 213. Tel.No.: 7769927007	17540001854 30/03/2017	Pune Bhor Nasarapur	visited	Yes
38.	179	Navshayadri Education Society's Navsahyadri Group of Institutes, Faculty of Engineering, Naigaon (Nasarapur), Tal Bhor, Dist-Pune - 412213. Phone: +91 7769927007 Principal Dr. Patil: 8698786162	17540001952 27/04/2017	Pune Bhor Road	visited	Yes
39.	08.	MES's Institute of Management and Career Courses, 131 Mayur Colony, Kothrud, PUNE - 411 038.	17540000518 09/03/2017	Pune City	visited	Yes
40.	09.	SCTR's Pune Institute of Computer Technology, S.No.27, Pune-Satara Road, Dhanakwadi, PUNE - 411 043. Tel.No.: 020 24371101	17540000208 07/03/2017	Pune City	visited	Yes
41.	51	ZES's Zeal College of Engineering and Research, S.No.39, Narhe, PUNE 411041. Tel.No.: 020 67206000	17540000265 08/03/2017	Pune City	visited	Yes
42.	69.	PJSM's Prof. Ramkrishna More Arts, Commerce & Science College, Sector 28, Ganganagar Pradhikaran, Akurdi, PUNE - 411 044. Tel.No.: 020 27650276	17540000600 09/03/2017	Pune City	visited	Yes
43.	75.	Symbiosis College of Arts & Commerce, Senapati Bapat Road, PUNE - 411 004. Tel.No.: 020 25653903.	17540001382 21/03/2017	Pune City	visited	Yes



44.	76.	STES's N B N Sinhgad School of Engineering, S.No.10/1, Ambegaon Bk Off. Sinhgad Road, PUNE - 411 041. Tel.No.: 020 24355042	17540001324 21/03/2017	Pune City	visited	Yes
45.	81.	BSPM's Jaykranti College of Computer Science & Management Studies, Pune, S.No. 70/2/1, Behind BRT Bus Stand, Katraj, PUNE - 411 046. Tel.No.: 020 24317168	17540000254 07/03/2017	Pune City	visited	Yes
46.	115.	Maharashtra Academy of Engineering & Educational Research, MIT College of Engineering, Pune, Sector No 124, MIT Engg.College Campus, Ex-Service Men Colony, aud Road, Kothrud, PUNE - 411 038. Tel.No.: 020 30273400	17540001444 21/03/2017	Pune City	visited	Yes
47.	116.	MIT S O M College, Pune Sector 124, Saraswati Vishwa Building, B Wing, Paud Road, Kothrud, PUNE-411 038. Tel.No. : 020 30273568	17540001416 21/03/2016	Pune City	visited	Yes
48.	158	STES'S Sinhgad college of science, Add: S.No. 9/1/5 & 9/2/4, Off West. Bypass Highway, Ambegaon, Pune 411041. Phone: 020 2434 1730	17540001906	Pune City	visited	Yes
49.	164	KES's Tikharam Jagannath Arts, Commerce and Science College, Elphinston Road, Khadki, Pune - 411003.Phone 020 25811491	17540001831	Pune City	visited	Yes
50.	173	JSPM's JSPM Narhe Technical Campus Rajarshi Shahu School of Engineering and Research, S. No 12/2/2 and 14/9 Narhe, Tal Haveli, Dist Pune - 411041 Phone 020 24608700	17540001705 24/03/2017	Pune City	visited	Yes
51.		RSCOE's Rajarshi Shahu Engineering College S.NO 80,Pune-Mumbai By-Pass Highway, Tathwade ,Pune 020 24608700	17540001780 29/03/2017	Pune City	visited	Yes
52.	82.	BES's Late K G Kataria College, Daund, Tal.: Daund, Dist: PUNE 413 801. M No. 9890266224	17540001245 20/03/2017	Pune Daund	visited	Yes
53.	24.	SPES's SKN Sinhgad Institute of Technology & Science, Gut No.309, Kusgaon Bk, Off Pune Mumbai Expressway, Lonavala, Dist: PUNE 410 401. Tel. No. : 9096833168,	17540000415 08/03/2017	Pune Lonavala	visited	Yes



54.	42.	STES's Sinhgad Institute of Business Administration & Computer Application, Kusgaon Bk, Off. Mumbai-Pune Expressway, Lonvala, Dist: PUNE 410 401. Tel.No.: 02114 304308	17540000220 07/03/2017	Pune Lonavala	visited	Yes
55.	127.	SDES's Sinhgad Institute of Technology, Gat No.309/310, Kusgaon Bk, Off Mumbai-Pune Expressway, Lonvala, PUNE 410401. Tel.No.: 02114 304353	17540000399 08/03/2017	Pune Lonavala	visited	Yes
56.	103.	SADRAA's Ayojan School of Architecture & Design, Pune Gat No.289, Wakdeewadi, Tal: Purandar, Dist: PUNE M No.: 9423001021	17540001463 22/03/2017	Pune Purandar Wakdeewadi	visited	Yes
57.	63.	BSS's Global Institute of Management, 132/8, Pune-Nashik Highway, Velhale, SANGAMNER, Dist: AHMEDNAGAR 422 605. Tel.No.: 02425 292177	17540001170 18/03/2017	Pune Sangamner Velhe	visited	Yes
58.	55.	PDEA's Seth Govind Raghunath Sable College of Pharmacy, Saswad, Tal: Purandar, Dist: PUNE -412 301, Tel.No.: 02115 222212	17540000895 14/03/2017	Pune Saswad	visited	Yes
59.	183	AEF'S Arihant Institute Of Teacher Training, pune s No 276/1/2,277/1/2,278/2, Bawdhan(hk), behind crystal Honda Showroom, New Pune-umbai, Highway, Pune-411021 Tel No.:02026333900, 9325999908	17540001934 11/5/2017	Pune mulshi	visited	Yes
60.	181	LUTJPS Dr Sudhkar Jadhavar Arts, Commerce & science College Dr Sushkar Jadhavarducational Campus, Manaji Nagar, Narhe ,Dhayari Pune ,411041 Tal No.:02065227117	17540000381 8/3/2017	Pune city	visited	Yes
61.	180	GSMT'S Parvatibai Genba Moze College of Engineering, Gat No.2181, Wgholi, tal. Haveli, Dist-Pune-412207 Tel No-020 27050937	15740002050 29/1/2017	Pune city	visited	Yes
62.	186	PES's Modern College of Arts, Science and Commerce, Shivajinagar, Pune-411 005 Tel no-9960263990	17540000721 10/3/2017	Pune city	visited	Yes
63.	187	ITSPM'S Arts College, Bhigwan Tal-Indapur Dist-Pune-413 130	17540002315 06/6/2017	Pune Indapur	visited	Yes



Zertifikat

Certificate



Zertifikat Nr. / Certificate No.
PV 60116443

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0001

Ihr Zeichen / Client Reference	Unser Zeichen / Our Reference	Ausstellungsdatum / Date of Issue	(day/month/yr)
	0001-21263085 001	03.01.2017	

Genehmigungsinhaber / License Holder
 EMMVEE Photovoltaic Power
 Private Ltd.
 "Solar Tower" #55, 6th Main
 11th Cross, Lakshmalah Block
 Bangalore - Ganganagar 560024
 India

Fertigungsstätte / Manufacturing Plant
 EMMVEE Photovoltaic power
 Private Limited
 #13/1 International Airport Road
 Bengaluru 562157
 India

Prüfzeichen / Test Mark



Geprüft nach / Tested acc. to
 IEC 61215:2005
 EN 61215:2005
 IEC 61730-1:2004+A1+A2
 IEC 61730-2:2004+A1
 EN 61730-1:2007+A1+A2
 EN 61730-2:2007+A1

Zertifiziertes Produkt (Geräteidentifikation)
 Certified Product (Product Identification)

Lizenzentgelte - Einheit
 License Fee - Unit

PV-Module

Type:
 with 6" poly cells

EMMVEE CRYSTAL
 (Power range = 260-350 W in steps of 1, 72 cells)
 (Power range = 205-290 W in steps of 1, 60 cells)
 (Power range = 195-265 W in steps of 1, 54 cells)
 (Power range = 175-235 W in steps of 1, 48 cells)
 (Power range = 130-175 W in steps of 1, 36 cells)

EMMVEE SAPPHIRE
 (Power range = 260-350 W in steps of 1, 72 cells)
 (Power range = 205-290 W in steps of 1, 60 cells)
 (Power range = 195-265 W in steps of 1, 54 cells)
 (Power range = 175-235 W in steps of 1, 48 cells)
 (Power range = 130-175 W in steps of 1, 36 cells)

continued on page 2

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
 Das Produkt entspricht den a.g. Anforderungen, die Herstellung wird nicht
 This certificate is based on our Testing and Certification Regulation. The product
 fulfills above mentioned requirements, the production is subject to surveillance.



[Signature]
Principal
 Rajgad Dnyanpeeth Technical Campus
 Shri Chhatrapati Shivajiraje College of Engineering
 Dhangawadi, Bhor, Pune - 412 205

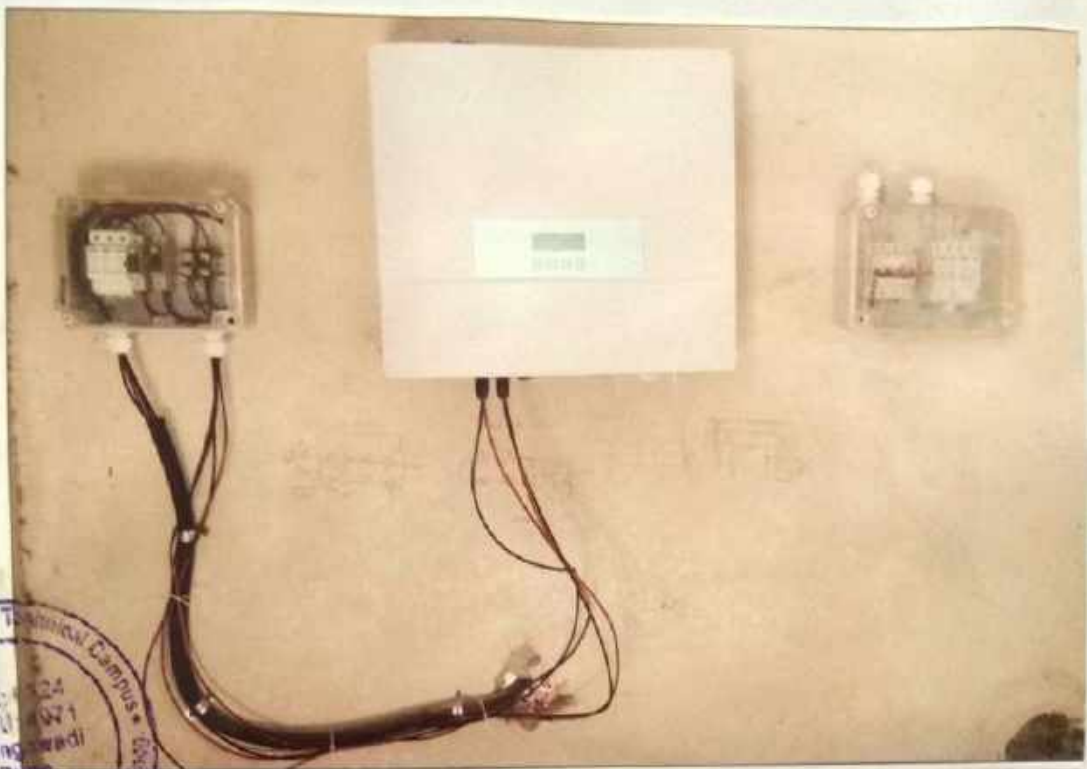


[Signature]
 Dipl.-Ing. M. Adriaan

TÜV Rheinland LGA Products GmbH, Tillystraße 7, 90411 Nürnberg
 Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
 Fax: +49 221 806-3935 http://www.tuv.com/safety

TRUE COPY
[Signature]
REGISTRAR
 Shri Chhatrapati Shivajiraje College
 of Engineering Dhangaawadi
 Tal-Bhor, Dist.Pune. Pin : 412 205.

5



Rajgad Dnyanpeeth Technical Campus
 DTE: 6/24
 SPPU: 4/1
 Dhangawadi
 Pune
 412205
 Shri Chhatrapati Shivajiraje College

[Handwritten Signature]

Inverter

Principal
 Rajgad Dnyanpeeth Technical Campus
 Shri Chhatrapati Shivajiraje College of Engineering
 Dhangawadi, Bhor, Pune- 412 205



Rajgad Dnyanpeeth Technical Campus
 DTE: 6/24
 SPPU: 4/1
 Dhangawadi
 Pune
 412205
 Shri Chhatrapati Shivajiraje College

System

UNDERTAKING OF 5 YEARS CMC

Date: 06/02/2019

To
The Director General
Maharashtra Energy Development Agency (MEDA),
S. No. 191/A, Phase - I, 2nd Floor, MHADA Commercial Complex,
Opp. Tridal Nagar, Yerwada, Pune - 411 006.

Subject: - Regarding given undertaking of 5 years CMC to Grid Connected Roof-top System.

Dear Sir,

We M/s. **SIKCO Engineering Services** is registered as a Channel Partner with MEDA. We have installed Grid Connected Roof-top System at given premises. I have given undertaking for 5 years Comprehensive Maintenance Contract (CMC) for this Grid Connected Roof-top System.

- **Name of The Beneficiary : Rajgad Dnyanpeeth's Technical Campus Shri Chhatrapati Shivajiraje College Of Engineering**
- **Address Of The Beneficiary : Gate No. 237, Pune Banglore Hig-hway, Dhangawadi, Tal. Bor, Dist. Pune - 412 206 (M.S.)**
- **Capacity : 10 KWp**
- **Service Rate : 5000/- per month**
Note* cleaning will be provided for 2 days every month.
- **Meter SL No.: XE 493104**


Principal

Rajgad Dnyanpeeth Technical Campus
Shri Chhatrapati Shivajiraje College of Engineering
Dhangawadi, Bor, Pune- 412 205





Yours faithfully,



SIKCO Engineering Services

B-97, Sector-12, Kharghar, Navi Mumbai -410210, Tel: +91 22 6517 4600
www.sikco.in / info@sikco.in



To,
The Principal,
Rajgad Dnyanpeeth Technical Campus
Shri chatrapati Shivaji Collge pf Engineering
Pune-Banglore highway Dhanwadi -Bhore
Pune 412206
Date: 23/01/18

Ref: **Work order Acceptance letter against Our quotation Date: 15/12/17.**
Respected Sir/Madam,

We accept the your order no Your order RDTC/SCSCOE/P.O./ E&TC /2017-2018 Po. No. 2017-2018/07
Date: 23.01.2018

Greeting from SIKCO..... !!!

With Regards,

Sincerely,

For **SIKCO** Engineering Services

MILIND UGALMUGALE
Business Head & VP
Call: +91-9987279587
Email: milind5353@gmail.com



MNRE Channel Partner - Grid Connected-Grade "A" Company
MNRE Channel Partner - Off-Grid Solar Power Plant



Thank you.

Your payment request has been successfully recorded. Please quote your transaction reference number for any queries relating to this request.

Transaction details	
Transaction Reference Number	LCB16031185480
Bank Reference Number	1255037000
Transaction Date and Time	05-02-2018 16:33:31
Consumer Number	179219046410
Billing Unit	0511
Processing Cycle	00
Due Date (dd/mm/yyyy)	07/03/2018
Bill Amount	1180.00

Print

Mahaprokash Payment

Powered by:



[Handwritten Signature]

Principal
Shri Chhatrapati Shivajiraje
College of Engineering, Dhangawadi
Tal- Bhor, Dist-Pune

[Handwritten Signature]
 8/03/18

आवक लिपीक
 म.रा.वि.दि.कं.मर्या.
 बारामती (ग्र.) मंडल

[Handwritten Signature]

Principal
Shri Chhatrapati Shivajiraje
College of Engineering, Dhangawadi
Tal- bhor, Dist-Pune



Material Purchase Order

To,

SIKCO ENGINEERING SERVICES
Kharghar,
Navi Mumbai
Pine-410210.

RDTC/SCSCOE/P.O./ E&TC /2017-2018
Po. No. 2017-2018/07
Date: 23.01.2018
Ref. Your quotation Date: 15/12/17.

Dear Sir,

With reference to your quotation we are pleased to place our firm order for supply of the material as detailed below.

SR	Work Detail
1	Design, supply, install, testing, commissioning with five years of comprehensive maintenance contract of installation of on grid connected roof top mounted fixed axis solar photovoltaic solar power System.

Plant Size: 10 Kw

SR	Detail	Amount
1	Basic Cost /Kw	62,500.00
2	Plant size Kw	10
4	Basic Project Cost	6,20,000.00
5	GST 5%	31,000.00
6	Total Cost	6,51,000.00
Rs Six lac fifty one thousand only		

Technical Specification

Sr	Item	Specifications	Make
1	A-1 Modules- Polycrystalline	Polycrystalline, 250 Wp-320 Wp range, including module interconnection MC4 Connectors (Indian Make with RFID TAG)	Vikram Solar
2	A-2 Grid-tie Inverter	Grid-tie On-line Solar String Inverters with SPD on both DC & AC Side	Delta
3	A-3 BOS Components	Single Core, Multistrand, 4 Sq. MM TUV approved, Solar Cable for DC side	Polycab
		Multi strand Cable for AC Side	Polycab
		MC4 Connectors suitable for 4 sq.mm Cable (Male & Female)	Multi-Contact
		Solar LT panels with generation meter and MCCB for	Siemens/L&T

		isolation	
4	A-4 Module mounting Structures	Module Mounting AL Profiles, Rails etc. for Metal Sheet Roof	SAPA/Jurchen
		Module Mounting Structure on RCC rooftops – Hot Dip Galvanized (80 Micron)	SIGMA if Hot Dipped
5	A-5 Grounding and Security System	Treated Earth Pits 50mm dia *3 mt Cu Bonded Earth Rods with back fill compound	Reputed / Green field
		Lightning Arrestor-ESE or Conventional type with Earth pit	JMV, SABO or Equivalent
		GI Strip (25 x 3 mm) for Plant Earthing	Reputed/SIGMA
6	A-6 Monitoring System, Cables and accessories	1 Mandatory: Generation Data Monitoring System with web based server and access of user id and password to access the same to be shared with Savitribai Phule Pune University)	Reputed
		2. Wi-Fi /GPRS internet modem	Intex
7	A-7 Cable Trays and Accessories	Cable Tray of required sizes	Reputed
		Cable glands, lugs, ferruls etc	Reputed
		HDPE/ PVC pipes	Reputed
8	A-8 Fire Fighting system	Danger Board	Reputed
		Fire Extinguishers Equipments	Reputed
9	A-9 Net-meter	MSEDCL approved Net-meter (HT)	Secure/ L&T

SIKCO's Scope of Works

SN	Description
1	Submission of details of design with drawing based on site after WO issued
2	Submission of time schedule & bar chart before commencing the job
3	Following of the time schedule, bar chart for timely implementation
4	Supply, transportation of all necessary materials & equipments to client site
5	Construction, fabrication and installation of the process system at client location
6	Documentation of net metering application
7	Testing & commissioning of the plant
8	Submission of Operation & Maintenance manual including startup & shutdown procedures, emergency handling procedures, troubleshooting etc., details of equipment specifications, warranty details if applicable, completion certificate, recommended spare list etc. along with handover file

Rajgard Engineering College Scope of Works

SN	Description
1	Identification of proposed site nearest to load
2	Supply of water & electricity for execution of the job
3	Engagement of two personnel to be trained on operation and maintenance of the plant
4	To manage all statutory documents require for the plant operational
5	To apply follow up for net metering from ESB (Net Metering ,Meter Testing of MSDCL Expenses will born by college)

TERMS & CONDITION:

Delivery: 7-8 weeks from date of advance
Payment: 30%.. Advance with purchase order.
60% .Against performa invoice (after compiling structure installation)
10% PDC against Installation & Commissioning of plant.

Taxes: Inclusive.
Packing / Forwarding: Nil
Transport: Nil.

GENERAL CONDITION:

1. Any change in dispatch instructions will be accepted on our prior permission.
2. You should send bill and delivery challan in duplicate along with material only.
3. If material not according to our purchase order will be rejected and returned back to you on your cost and risk.
4. Advance payment will be released after your acceptance letter of purchase order with all terms & condition.



A handwritten signature in black ink, appearing to read "Sanjay B. Patil".

Prof. Dr. Sanjay B. Patil
(Principal)

PRINCIPAL

Rajgad Dnyanpeeth Technical Campus
Sri Chhatrapati Shivaji Maharaj College Of Engineering
Dhangawadi, Bhor, Dist-Pune (M.S.), 412205



A handwritten signature in black ink, appearing to read "Sanjay".

To,
The Principal,
Raj Gard Dyanpit Technical Campus
Shri Chatrapati collage of Engineering
Gat no 237 Pune Bangalore Highway
Dangawadi Tal Bhord Dist Pune

Kind Attn: Mr Rahul Kamkar Sir

Date: 2/11/17

Ref: **As per Telecom/Discussion/Email-Quote for Roof top solar power solution for colleges.8KWp**

Respected Sir/Madam,

Greeting from SIKCO..... !!!

Heartily congratulations for getting chosen by Pune University to have a privilege of setup roof top solar power system at your collage with financial grand scheme i.e **GUNVATTA SUDHAR YOJANA IN YEAR 2016-17.**

Under QIP program of SPPU Year 15-16 SIKCO installed the systems more then 16 + collages i.e total 250KWp+ size systems.

Our organization M/s SIKCO Engineering Services(**MNRE Channel Partner - Grid Connected -Grade "A" Company**) (**Sr no 8 in Meda/University supplier List**) is a very well known brand in India among other companies in Solar Industry. Started in the year 2007, by Mr. Milton Sikder, an Engineering Graduate, Masters with Finance Management, a certified Energy Manager and specialization in the field of renewable energy, as a First Generation Entrepreneur

We pleased to offer intelligent solution on Solar Power Plant for cost optimization through alternative green energy. The proposed solution will be based on high-quality; high-performance. This can help you to reduce power consumption level by 70-80% with solar energy. Enclosed the Company profile with best quote for roof top solar system as per your requirement. We look forward to explore the next steps in forging a strong and mutually beneficial business relationship if needed. Kindly reply this mail once you received.

With Regards,

Sincerely,

For **SIKCO Engineering Services**

MILIND UGALMUGALE
Business Head & VP
Call: +91-9987279587
Email: milind5353@gmail.com

MNRE Channel Partner - Grid Connected-Grade "A" Company
MNRE Channel Partner - Off-Grid Solar Power Plant



SIKCO Engineering Services
SIKCO House, B-97, Sector-12, Kharghar, Navi Mumbai -410210,
Tel: + 91 22 6510 0181-82 / 6510 1180 /9987279587/ www.sikco.in / info@sikco.in



1.0 SIKCO's Scope of Works

SN	Description
1	Submission of details of design with drawing based on site after WO issued
2	Submission of time schedule & bar chart before commencing the job
3	Following of the time schedule, bar chart for timely implementation
4	Supply, transportation of all necessary materials & equipments to client site
5	Construction, fabrication and installation of the process system at client location
6	Co-coordinating for net metering
7	Testing & commissioning of the plant
8	Submission of Operation & Maintenance manual including startup & shutdown procedures, emergency handling procedures, troubleshooting etc., details of equipment specifications, warranty details if applicable, completion certificate, recommended spare list etc. along with handover file

2.0 Customer Scope of Works

SN	Description
1	Identification of proposed site nearest to load
2	Supply of water & electricity for execution of the job
3	Engagement of two personnel to be trained on operation and maintenance of the plant
4	To manage all statutory documents require for the plant operational
5	To apply for net metering from ESB

3.0 LIST OF COLLAGES provided solar power system under QIP Program of SPPU Year 15-16

SR	Name of collage	Area	Plant size Kwp
1	KVNN SPS Lokanete Gopinath Munde Collage of Engg	NASHIK	15
2	KVNN SPS Art Sci Comm collage	Nashik	15
3	STES's Sinhagad College of Commerce,	Pune	10
4	STES's Smt. Kashibai Navale College of Pharmacy	Pune	10
5	Dhole Patil College of Engineering	Pune	15
6	CES's Rasiklal M Dhariwal Institute of Managment	Pune-Pradhikaram	12
7	ATSS Institute of Industrial & Computer Management	Pune -Pradhikarn	15
8	ATSS collage of Phygotheripy	Pune-Pradhikarm	10
9	CHMES's Dr. Munje Institute of Management Bhosal military school Campu	Nashik	15
10	Gokhale Education Society's Srimato ManjulaBai Raojiba Kshatriya Art Fine Art HoMe Science Collage (SMRK)	Nashik	12
11	Modern Collage of Pharmacy	Pune -Pimpry	12
12	Vishal Institute of Pharmacy	Alephata Tal :Junnar	15
13	DSK	Pune-dyari	30
14	ATSS collage Business Studies	Pune -Chincwad	10

4.0 Commercials (Grid Tied)

SR	Work Detail	Qty	
1	Supply ,installation , testing & commissioning of 8 KW solar grid tied power generation system approved make Solar PV Modules, Structure Fabrication in MS with Hot deep galvanized Sections , NET metering arrangement with necessary sanctions of distribution licensee., Inverter Bi Directional type 8 KVA as per requirement of Site and system design with Synchronization of Grid. Wiring and Hard ware Kit from Solar PV Module to distribution boards etc all complete Installation and Commissioning at site . As per the specifications attached herewith for Pravara Rural College of Pharmacy, Loni	1	No

SR	Detail	FOR 8KWp
1	Basic Cost /KWp (Cost inclusive of GST 5%)	62000
2	Plant size KWp	10
3	Total	6,20,000.00
	GST 5%	31,000.00
		6,51,000

Terms & Conditions:

SN	TERMS	CONDITIONS
1	VALIDITY	Our offer is valid up to 30 days from the date of submission
2	TAXES	As applicable, presently 05% GST on solar system
3	DELIVERY SCHEDULE	Delivery starts within 03-04 weeks from the date of firm WO and completion by 06-08 weeks. (Gods hand, unforeseen incidents to be exempted)
4	INSURANCE	Client's scope after received at site
5	PAYMENT TERMS	<ol style="list-style-type: none"> 5 % advance along with work order 50% against completion of foundation & structural work PV Modules, Inverter etc. received at site etc 35% against Installation & Commissioning of plant 05% Handing over of the system after Net Metering
6	Warranty	05 Years On Manufacturing Defect
7	Life of System	25-30 Years under SOP (Standard Operating Procedure)
8	Delivery :	1. Works delivery shall be at 4 weeks from confirmed order with advance payment
9	Transaction:	All payments to be made on "SIKCO Engineering Services"
10	Offer Validity:	60 days from date of offer
11	SIKCO GST	27BACPS8691E1Z9
12	HSN no	Solar power generating system -85 (4/6 digit code awaited)

5.0 Technical Specifications

(Components are as per Rooftop PV system under QIP program of SPPU)

Sr	Item	Specifications	Make
1	A-1 Modules- Polycrystalline	1. Polycrystalline, 250 Wp-320 Wp range, including module interconnection MC4 Connectors (Indian Make with RFID TAG)	Waaree Solar /Vikram Solar or Equivalent
2	A-2 Grid-tie Inverter	2. Grid-tie On-line Solar String Inverters with SPD on both DC & AC Side	Delta or Equivalent
3	A-3 BOS Components	1. Single Core, Multistrand, 4 Sq. MM TUV approved, Solar Cable for DC side	Lapp / Leoni or Polycab
		2. Multi strand Cable for AC Side	Polycab
		3. MC4 Connectors suitable for 4 sq.mm Cable (Male & Female)	Multi-Contact
		4. Solar LT panels with generation meter and MCCB for isolation	Siemens/L&T
4	A-4 Module mounting Structures	1. Module Mounting AL Profiles, Rails etc. for Metal 2. Sheet Roof 3. Module Mounting Structure on RCC rooftops – Hot Dip Galvanized (80 Micron)	SAPA/Jurchen SIGMA if Hot Dipped
5	A-5 Grounding and Security System	1. Treated Earth Pits 50mm dia *3 mt Cu Bonded Earth Rods with back fill compound 2. Lightning Arrestor-ESE or Conventional type with Earth pit 3. GI Strip (25 x 3 mm) for Plant Earthling	Reputed / Green field JMV, SABO or Equivalent Reputed/SIGMA
6	A-6 Monitoring System, Cables and accessories	1 Mandatory: Generation Data Monitoring System with web based server and access of user id and password to access the same to be shared with Savitribai Phule Pune University) Optional: Weather monitoring system including of Irradiance sensor, Air temperature, Module temperature sensor, Power supply and accessories and data logger 2. Wi-Fi /GPRS Internet modem	Reputed NA Intex
7	A-7 Cable Trays and Accessories	1. Cable Tray of required sizes 2. Cable glands, lugs, ferruls etc 3. HDPE/ PVC pipes Reputed	Reputed Reputed Reputed
8	A-8 Fire Fighting system	1. Danger Board 2. Fire Extinguishers Equipments	Reputed Reputed
9	A-9 Net-meter	1. MSEDCL approved Net-meter	Secure/ L&T

6.0 LIST OF CUSTOMERS

LIST of other customer

Reference of Major Clients (Off grid/On grid Plant) Please find the client and project details with values more than 10 Lakhs.

SN	Client	Name of Contact Person	Value INR	Plant Capacity	Scopes (SITC)
1	Minus CO2, Panvel	Mr. Aditya Kumar	17,03,900	14 KWp	01 KWp Rooftop solar for 14 No DC solar ceiling fan operation for Cowshed. 10 KW solar project at mahad, 3 KWp at Panvel
2	Enterprise Centre, Vile Parle, Mumbai	Mr. Deepak K	20,40,000	34 KWp	Grid Tied System
3	JV with FEPL Engg. Pvt. Ltd (for IOCL)	Mr. Rajiv Sharma (IOCL)	4,45,00,000	1000 KWp	Grid Tied System. Plant is commissioned
4	Madhuri CHS, Kandivli	Mr. Sunil Pillai	19,00,000	30 KWp	Grid Tied System
5	Gune Hospital, Panvel	Mr. Gune	13,00,000	26 KWp	Grid Tied System
6	GD Goenka School, Agra	Mr. KP Singh	82,45,000	170 KWp	Grid Tied System
7	Vinay Unique, Virar	Mr. Negi	12,00,000	17 KWp	Grid Tied System
8	Gurudwara, Agra	Babaji	77,00,000	100 KWp	Off grid solar plant
9	Solex, Anand	Mr. Nitin B	54,00,000	100 KWp	Single Axis Tracking, Grid tied system
10	Hiranandani CHS, Thane	Dr. IB De	28,64,500	50 KWp	Grid Tied System

Note: Customer contact no. will produce as on request

Following are few of 50+ solar projects executed by SIKCO.

- Net meter Installed for projects by SIKCO so far –
- Private house (Dombivli) – 02 KWp,
- Private house (Panvel) – 3.5 KWp
- Private house (Panvel) – 04 KWp
- Private house (Panvel) – 06 KWp
- Private Enterprise (Vile Parle) – 34 KW
- CHS (Kandivli) – 30 KWp
- Hospital (Panvel) – 26 KWp
- Factory (Palghar) – 10 KWp
- CHS (Virar) – 17 KWp
- IGRUA (Raebareli) – 60 KWp
- CHS (Mazgaon) – 15 KWp.....more are going on

7.0 WO/Purchase Order:





संघल बैंक ऑफ़ इंडिया
Central Bank of India

1911 से आपके लिए "केटिल" "CENTRAL" TO YOU SINCE 1911

Central Bank of India
SARPOO_SAROLE
P.O.SAROLE, TAL.BHOR, DIST.:PUNE
Branch Code :02342
Account Number : 3086368734
Product type : HSS-GEN-PUB-OTH-RURAL-1NR

RAJGAD DNYANPEETH
AT DHNAGAWADI
POST DHANGAWADI
TAL BHOR
DIST PUNE

Email : scscoe@gmail.com

Statement Date : Fri Oct 19 11:23:45 IST 2018

Cleared Balance :1545547.22

Uncleared Amount :0.00

Drawing Power :0.00

STATEMENT OF ACCOUNT from 01/09/2018 to 19/10/2018

Post Date	Value Date	Branch Code	Cheque Number	Account Description	Debit	Credit	Balance
01/09/2018	01/09/2018	02684		BY TRANSFER/NEFT ASSISTANT COMMISSIONE AXTB182441494110		70003.00	1622442.56 CR
01/09/2018	01/09/2018	02342		CASH DEPOSIT/SELF		22000.00	1644442.56 CR
01/09/2018	01/09/2018	02342	055511	CHQ TRANSFER/DO ISS 1STE NEW DELHI SERVICES SUPPORT	41498.24		1602944.32 CR
01/09/2018	01/09/2018	02342	055512	CHQ TRANSFER/DO ISS 1STE NEW DELHI SERVICES SUPPORT	142270.24		1460674.08 CR
03/09/2018	03/09/2018	08103		BY TRANSFER/From A/C 3496625017/Advance Paid		25000.00	1485674.08 CR
03/09/2018	03/09/2018	02342		CASH DEPOSIT/CASH		22650.00	1508324.08 CR
04/09/2018	04/09/2018	02342		CASH DEPOSIT/CASH		5000.00	1513324.08 CR
05/09/2018	05/09/2018	02342		CASH DEPOSIT/CASH		67000.00	1580324.08 CR
05/09/2018	05/09/2018	02684		BY TRANSFER/NEFT SL - CL -PARKING GL E P18090534933893		50000.00	1630324.08 CR
06/09/2018	06/09/2018	02342		CASH DEPOSIT/CASH		45000.00	1675324.08 CR
07/09/2018	07/09/2018	03052	052640	CAS PRES CHQ/052640KANCHAN KANK	10000.00		1665324.08 CR
07/09/2018	07/09/2018	02342		CASH DEPOSIT/half		14600.00	1679924.08 CR
10/09/2018	10/09/2018	02342		CASH DEPOSIT/half		27000.00	1706924.08 CR
11/09/2018	11/09/2018	02342	055516	CHQ TRANSFER/NEFT MSEDCL CBINH18254132791	94563.00		1612361.08 CR
11/09/2018	11/09/2018			BANK COMMISSION	5.00		1612356.08 CR
11/09/2018	11/09/2018			GST	0.50		1612355.58 CR
12/09/2018	12/09/2018	02342	034306	CHEQUE DEPOSIT		350000.00	1962355.58 CR
12/09/2018	12/09/2018	02342	054937	CHEQUE DEPOSIT/SHRI CHH SHIVAJIRAJE COLLEGE OF ENGG		800000.00	2762355.58 CR
12/09/2018	12/09/2018	02342	055518	CHEQUE WDL	4000.00		2758355.58 CR
12/09/2018	12/09/2018	23266		BY TRANSFER/RTGS RAJAD DNYANPEETH S MAHBR52018091205612392		550000.00	3308355.58 CR
12/09/2018	12/09/2018	23266		BY TRANSFER/RTGS RAJAD DNYANPEETH S MAHBR52018091205612411		300000.00	3608355.58 CR
12/09/2018	12/09/2018	02342	055517	CAS SINGLE SIDED DEB/SALARY JUNE 2018	2538558.00		1069797.58 CR
14/09/2018	14/09/2018	02684		BY TRANSFER/NEFT JAGTAP MANGESH BABAN N257180632533130		64500.00	1124297.58 CR
15/09/2018	15/09/2018	00645	052193	CAS PRES CHQ/052193GAIKWAD ASHISHKUMAR SHI	6190.00		1118107.58 CR
17/09/2018	17/09/2018	02684		BY TRANSFER/NEFT ASSISTANT COMMISSIONE AXTB182606870735		1685480.00	2783587.58 CR
17/09/2018	17/09/2018	02684		BY TRANSFER/NEFT ASSISTANT COMMISSIONE AXTB182606651131		563760.00	3347347.58 CR
18/09/2018	18/09/2018	02342		CASH DEPOSIT		20000.00	3374747.58 CR
18/09/2018	18/09/2018	03052	055524	CAS PRES CHQ/055524/CICI LOMBARD GENERAL I	56762.00		3320985.58 CR
19/09/2018	19/09/2018	03052	055526	CAS PRES CHQ/055526/CICI LOMBARD GENERAL I	53785.00		3267200.58 CR
19/09/2018	19/09/2018	03052	055523	CAS PRES CHQ/055523/CICI LOMBARD GENERAL I	59922.00		3213478.58 CR
19/09/2018	19/09/2018	03052	055529	CAS PRES CHQ/055529/CICI LOMBARD GENERAL I	53895.00		3159583.58 CR
20/09/2018	20/09/2018	03052	055527	CAS PRES CHQ/055527/CICI LOMBARD GENERAL I	53744.00		3105839.58 CR
20/09/2018	20/09/2018	03052	055522	CAS PRES CHQ/055522/CICI LOMBARD GENERAL I	53087.00		3052752.58 CR
20/09/2018	20/09/2018	03052	052653	CAS PRES CHQ/052653/CICI LOMBARD GENERAL I	53884.00		2998868.58 CR
20/09/2018	20/09/2018	03052	055530	CAS PRES CHQ/055530/CICI LOMBARD GIC	54137.00		2944731.58 CR
20/09/2018	20/09/2018	03052	055513	CAS PRES CHQ/055513/TRIDAL EXSERVICEMEN SEC	80670.00		2864061.58 CR
20/09/2018	20/09/2018	03052	055513	CASH DEPOSIT/half		15500.00	2879561.58 CR
21/09/2018	21/09/2018	02342		CAS PRES CHQ/055521/CICI LOMBARD GENERAL I	50090.00		2829471.58 CR
24/09/2018	24/09/2018	02342	052657	CHQ TRANSFER/RTGS RAJGAD DNYANPEETH CEIN/R52018002410004413	1800000.00		1029471.58 CR
24/09/2018	24/09/2018			BANK COMMISSION	52.00		1028919.58 CR
24/09/2018	24/09/2018			GST	9.36		1028810.22 CR
24/09/2018	24/09/2018	02342	014919	CHEQUE DEPOSIT/SHRI CHH SHIVAJIRAJE COLLEGE OF ENGG		792780.00	1821590.22 CR
24/09/2018	24/09/2018	02342	014922	CHEQUE DEPOSIT/SHRI CHH SHIVAJIRAJE COLLEGE OF ENGG		5307220.00	7128810.22 CR

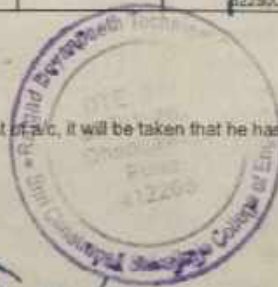
Post Date	Value Date	Branch Code	Cheque Number	Account Description	Debit	Credit	Balance
24/09/2018	24/09/2018	02684		BY TRANSFER/NEFT NIVRUTI GANPATI KUMBH BKIDN18267239381		34500.00	7163119.82 CR
24/09/2018	24/09/2018	02342	055881	CHQ TRANSFER/RTGS RAJGAD DNYANPEETH CBINR52018092410006514	480000.00		2363119.82 CR
24/09/2018	24/09/2018			BANK COMMISSION	55.80		2363064.02 CR
24/09/2018	24/09/2018			GST	9.90		2363054.12 CR
24/09/2018	24/09/2018	02684		BY TRANSFER/NEFT DISBURSEMENT FOR T. BKIDN18267275618		170000.00	2440054.12 CR
24/09/2018	24/09/2018	02342		CASH DEPOSIT/SELF		37000.00	2477054.12 CR
25/09/2018	25/09/2018	02342		CASH DEPOSIT/SELF		130000.00	2507054.12 CR
27/09/2018	27/09/2018	02342		TO TRANSFER/NEFT FINANCE AND ACCOUNTS CBINH18270134064	72000.00		2435054.12 CR
27/09/2018	27/09/2018			BANK COMMISSION	5.00		2435049.12 CR
27/09/2018	27/09/2018			GST	0.90		2435048.22 CR
27/09/2018	27/09/2018	02342		CASH DEPOSIT/SELF		18500.00	2453548.22 CR
27/09/2018	27/09/2018	02342		CASH DEPOSIT/SELF		40000.00	2493548.22 CR
28/09/2018	28/09/2018	03052	055519	CAS PRES CHQ/055519SIKCO ENGINEERING SERVI	35500.00		2178948.22 CR
28/09/2018	28/09/2018	03052	055514	CAS PRES CHQ/055514PRITHVIRAJ PETROLIUM	335972.00		1843977.02 CR
28/09/2018	28/09/2018	03052	055525	CAS PRES CHQ/055525CICI LOMBARD GENERAL I	50740.00		1790137.02 CR
28/09/2018	28/09/2018	03052	055528	CAS PRES CHQ/055528CICI LOMBARD GENERAL I	52744.00		1736393.02 CR
28/09/2018	28/09/2018	03052	052654	CAS PRES CHQ/052654UBHE DIPAK DYNESHWAR	20000.00		1716393.02 CR
29/09/2018	29/09/2018	02684	052641	CAS PRES CHQ/052641OPERATIONS SUSPENSE ACC	20000.00		1696393.02 CR
01/10/2018	01/10/2018	02684		BY TRANSFER/NEFT IRD ACCOUNTS IIT DELH SBIN618274053955		40000.00	1746393.02 CR
03/10/2018	03/10/2018	02342		CASH DEPOSIT/SELF		20000.00	1766393.02 CR
03/10/2018	03/10/2018	02342		CASH DEPOSIT/SELF		29000.00	1795393.02 CR
04/10/2018	04/10/2018	03052	052689	CAS PRES CHQ/052689VIL	8260.00		1787133.02 CR
04/10/2018	04/10/2018	02342	055923	CHQ TRANSFER/RTGS GUJAR MOTORS CBINR52018100410006835	695448.00		1091685.02 CR
04/10/2018	04/10/2018			BANK COMMISSION	65.00		1091620.02 CR
04/10/2018	04/10/2018			GST	9.90		1091610.12 CR
06/10/2018	06/10/2018	02342		CASH DEPOSIT/SELF		58000.00	1149610.12 CR
08/10/2018	08/10/2018	02342		CASH DEPOSIT/SELF		2004.00	1151614.12 CR
08/10/2018	08/10/2018	02342		CASH DEPOSIT/SELF		56300.00	1207914.12 CR
08/10/2018	08/10/2018	02342		CASH DEPOSIT/SELF		75000.00	1282914.12 CR
09/10/2018	09/10/2018	02342		CASH DEPOSIT/SELF		227100.00	1510014.12 CR
10/10/2018	10/10/2018	02342		CASH DEPOSIT/SELF		93000.00	1603014.12 CR
10/10/2018	10/10/2018	02342	055929	CHQ TRANSFER/NEFT CMS NATIONAL OPERATICBINH18283178678	127245.00		1475769.12 CR
10/10/2018	10/10/2018			BANK COMMISSION	15.00		1475754.12 CR
10/10/2018	10/10/2018			GST	2.70		1475751.42 CR
10/10/2018	10/10/2018	02342	055935	CHQ TRANSFER/NEFT OMKAR COMMUNICATION CBINH18283180375	211736.00		1325915.42 CR
10/10/2018	10/10/2018			BANK COMMISSION	25.00		1325890.42 CR
10/10/2018	10/10/2018			GST	4.50		1325885.92 CR
10/10/2018	10/10/2018	02342	055928	CHQ TRANSFER/NEFT FINANCE AND ACCOUNT CBINH18283187705	118298.00		1207587.92 CR
10/10/2018	10/10/2018			BANK COMMISSION	15.00		1207572.92 CR
10/10/2018	10/10/2018			GST	2.70		1207570.22 CR
11/10/2018	11/10/2018	02342		CASH DEPOSIT/SELF		107000.00	1314570.22 CR
12/10/2018	12/10/2018	03052	055411	CAS PRES CHQ/055411DIGITAL TECHNOLOGIES	104000.00		1210570.22 CR
12/10/2018	12/10/2018	03052	055926	CAS PRES CHQ/055926TRIDAL EXSERVICEMEN SEC	80634.00		1130028.22 CR
12/10/2018	12/10/2018	08103		BY TRANSFER/IMPSP2A826511168823 NR REVANNA		10000.00	1140028.22 CR
12/10/2018	12/10/2018	02342		CASH DEPOSIT/SELF		149000.00	1289028.22 CR
12/10/2018	12/10/2018	06310	055515	CHEQUE WDLTFR TO 1065410992	13570.00		1275458.22 CR
15/10/2018	15/10/2018	03052	055930	CAS PRES CHQ/055930M S JAYSHRI HARDWARE	140350.00		1135108.22 CR
15/10/2018	15/10/2018	03052	055927	CAS PRES CHQ/055927PRITHVIRAJ PETROLIUM	244769.00		890339.22 CR
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15/10/2018	15/10/2018	02342		CASH DEPOSIT/SELF		40000.00	1223047.22 CR
16/10/2018	16/10/2018	02342		CASH DEPOSIT/SELF		822500.00	1545547.22 CR

* Statement Downloaded By RAJGAD DNYANPEETH on Fri Oct 19 11:23:45 IST 2018

Unless a constituent notifies the Bank immediately of any discrepancy found by him in this statement of a/c, it will be taken that he has found the a/c correct.

END OF STATEMENT - from Internet Banking.

Unnat Bhoradi
Abhayan (contn. Gov.)



Principal

Rajgad Dnyanpeeth Technical Campus
Shri Chhatrapati Shivaji College of Engineering
Dhangawadi, Bhor, Pune - 412 205

122/2017

559241
7 57200
62441

Central Bank of India
SARPOO, SAROLE
P.O.SAROLE, TAL.BHOR, DIST.PUNE
Branch Code :02342
Account Number : 3056389734
Product type : HSS-GEN-PUB-OTH-RURAL-1NR

RAJGAD DNYANPEETH
AT DHNAGAWADI
POST DHANGAWADI
TAL BHOR
DIST PUNE

Email : scscoe@gmail.com

Statement Date : Sat Feb 24 11:54:28 IST 2018

Cleared Balance : 714127.30

Uncleared Amount : 0.00

Drawing Power : 0.00

STATEMENT OF ACCOUNT from 01/02/2018 to 24/02/2018

Post Date	Value Date	Branch Code	Cheque Number	Account Description	Debit	Credit	Balance
01/02/2018	01/02/2018	03052	049723	CAS PRES CHQ/0497235 N KAMTHE	29400.00		886618.90 CR
01/02/2018	01/02/2018	02342	034345	CHEQUE DEPOSIT		160000.00	1036618.90 CR
02/02/2018	02/02/2018	03052	049659	CAS PRES CHQ/0496595 HANTARAM PAYAR	150000.00		886618.90 CR
05/02/2018	05/02/2018	03052	049648	CAS PRES CHQ/0496485 SHIVAMENTERPRIS	9450.00		877168.90 CR
05/02/2018	05/02/2018	03052	049656	CAS PRES CHQ/049656 KANK ANIKET NARESH	25000.00		852168.90 CR
05/02/2018	05/02/2018	02342		CASH DEPOSIT/self		68000.00	920168.90 CR
06/02/2018	06/02/2018	03052	049873	CAS PRES CHQ/049873 DHANE SHITAL DAGADU	29400.00		890768.90 CR
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06/02/2018	06/02/2018	02684		BY TRANSFER/NEFT ASSISTANT COMMISSIONER AXTB180377685962		346497.00	1247765.90 CR
06/02/2018	06/02/2018	02684		BY TRANSFER/NEFT INWARD RTGS SAX331000489		2437771.00	3685536.90 CR
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07/02/2018	07/02/2018	04973	049639	CHEQUE WDL/Mr. DIGAMBAR DATTARAM SAWANT	29399.00		3631737.90 CR
07/02/2018	07/02/2018	02342		CASH DEPOSIT/self		12000.00	3643737.90 CR
07/02/2018	07/02/2018	02342	034348	CHEQUE DEPOSIT/SHRI CHH SHIVAJI RAJE COLLEGE OF ENGG		100000.00	3743737.90 CR
08/02/2018	08/02/2018	03052	049663	CAS PRES CHQ/049663 DIGITAL TECHNOLOGIES	25350.00		3718387.90 CR
08/02/2018	08/02/2018	03052	049733	CAS PRES CHQ/049733 VEER PRADNYA DILIP	29400.00		3688987.90 CR
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09/02/2018	09/02/2018	02342	049065	CHEQUE WDL	200000.00		3447017.90 CR
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12/02/2018	12/02/2018			BANK COMMISSION	30.00		811774.90 CR
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19/02/2018	19/02/2018	03052	049670	CAS PRES CHQ/049670 SIKDO ENGINEERING SERVI	157300.00		509274.50 CR
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22/02/2018	22/02/2018	02684		BY TRANSFER/NEFT FAO MAHBH18053539374		250000.00	714127.30 CR

* Statement Downloaded By RAJGAD DNYANPEETH on Sat Feb 24 11:54:28 IST 2018

Unless a constituent notifies the Bank immediately of any discrepancy found by him in this statement or a/c, it will be taken that he has received the same.

END OF STATEMENT - from Internet Banking.



(Signature)
Principal
Rajgad Dnyanpeeth Technical Campus
Shri Chhatrapati Shivajiraje College of Engineering
Dhangaawadi, Bhore, Pune - 412 205

Shri Chhatrapati Shivajiraje College of Engineering

Approved by AICTE, Govt of Maharashtra and Affiliated to the University of Pune (ID NO PU/PN/Engg/376/2009)

Dr. Bhagyashree s. Patil
Hon. secretary

Anantrao Thopte
Founder President
Ex. Education Minister
Maharashtra State



RD/SCSCOE/559

Date: 09/08/2016

To
The Honorary Secretary
Rajgad Dnyanpeeth,
Bhor.

Subject – Request for financial support of students participation in Hybrid Car Competition.

Respected Madam,

Our Mechanical Engineering students are going to participate in national level Hybrid Car Competition, which will be held during 16th to 19th Feb. 2017 at Noida, New Delhi. Various engineering colleges all over the India are going to participate in this competition. This competition is beneficial to improve technical skills of the students. For this competition, student requires financial support from our Rajgad Dnyanpeeth trust. The approximate cost for making Hybrid car is Rs. 7,00,000/-. Out of this, students will collect the 50% of amount through sponsorship and other sources. Remaining 50% financial support is expected from the management. So you are requested to provide financial support to the students of our college for participation in this competition. Please do the needful.

Thanking you.

Prof. R. S. Lavate
Staff coordinator

Prof. S. K. Pawar
HOD

Prof. Dr. S. B. Patil

Principal

Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.,
Dhangawadi, Pune-412206

50% amount
approved

Hon. Secretary
Rajgad Dnyanpeeth, Bhor

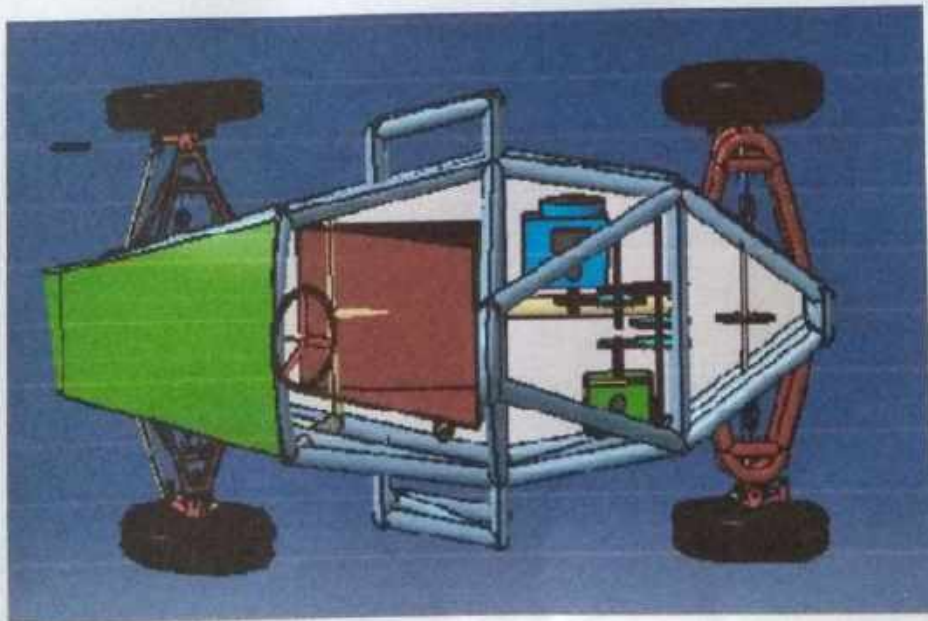
PROJECT REPORT ON HYBRID CAR

NAME OF GUIDE : Prof. S.K.Pawar

Prof.R.S.Lavate

ACADEMIC YEAR : 2016-17

DURATION OF PROJECT : 1 Year



TEAM_EMPYREAN

HYBRID VEHICAL CHALLENGE PRELIMINARY DESIGN REPORT

SHRI CHHATRAPATI SHIVAJIRAJE COLLEGE OF ENGINEERING, PUNE
AFFILIATED TO PUNE UNIVERSITY

ABSTRACT

The main motto of TEAM_EMPYREAN in HVC 2017 competition is to conceive, design & fabricate a car with all the knowledge gained so far. The objective of the design team is to build a prototype car on an assumption that a manufacturing company has contracted them to design, fabricate and demonstrate one for evaluation of the same as a product ready for production as per the rules specified by HVC. The vehicle will be tested for its cost analysis, overall design presentations, acceleration, braking, cornering capability, fuel economy and endurance.

INTRODUCTION

"HVC" when the words come in mind it thunders each and every member of our team to work with full dedication and their passionate work leads a way to build an economical formula style car.

TEAM_EMPYREAN consists a bunch of fully dedicated young engineers and with their astounding efforts that oaths to deliver a safe and sound vehicle. Our college is located near to India's greatest automobile hub PUNE, which helps us to get as much as resource and information required for the event and is equipped with all the instruments required to successfully build our car.

For this project the following software tools we will be using are Pro-ENGINEER 4.0, CATIA V5 R20 for designing and ANSYS 14.5 for analysis. As we are participating for the first time we have mainly focused on a simple & economical car. Project has not only encouraged students to think off the classroom theories but also created a healthy learning climate in our campus.



DESIGN GOALS

Certain design parameters were incorporated while designing as per the TEAM EMPYREAN rules, obstacles seen throughout the course. The parameters considered for designing of this year's HVC car are:

- **Simplicity And Reliability**
- **Balance**

VEHICLE SPECIFICATION

- Overall length: 2159 mm
- Wheel Base: 1524 mm
- Overall Height: 939.8 mm
- Track width: 1168.4 mm
- Ground Clearance: 150 mm
- Overall Weight: 250kg (with driver)
- Engine: BRIGGS & STATTON 208R
- Transmission: BRIGGS & STATTON 208R
- Tire size : 90/90-12
- Suspension
- Front: Double Wishbone arm damper to lower wishbone
- Rear: Double Wishbone arm damper to upper wishbone
- Steering: Rack and Pinion
- Brakes: Hydraulic Disk Brakes with Twin Master Cylinders



CHASSIS

Chassis is the skeleton of a vehicle. We tried to design the chassis as compact as possible by removing unwanted space. The design of frame is started by the coordinates of the points from suspension geometry. Ample space is provided in the cockpit to comfort and easy & quick egress (in case of emergency) of the driver, space for gear lever. The centre of gravity has been lowered to increase stability.

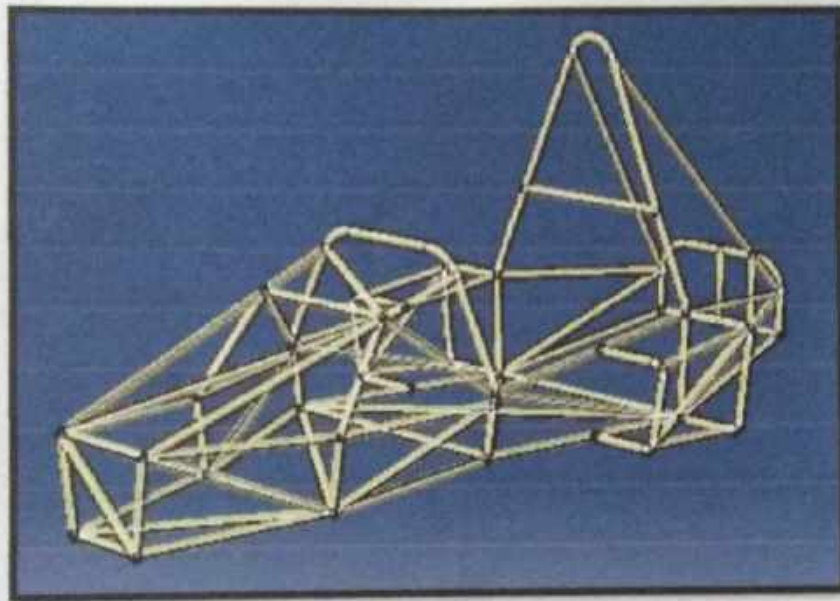


Fig.2 Chassis CAD Model

AISI 4130 Alloy steel is used which provides good machinability, weldability and ease of fabrication. For bending of pipes without any crimps pipe bending machine will be used. The centre of gravity of driver is kept in between the wheelbase to ensure a good balance of the car which directly affects the handling. The main purpose for lowering the CG is to maximize the down force for greater traction which is needed. Driver's comfort was our utmost consideration while designing the car.

The roll cage was fully designed in CATIA V5 R20. It has been analysed in ANSYS 14.5. The material selected for roll cage is AISI 4130 which has yield strength of 395 MPa and an ultimate tensile strength of 689 MPa which is suitable to bear the forces a formula car has to bear. The side impact members around the driver

cockpit are meant to maintain torsional rigidity at the same time greater side impact protection for maximum safety.

Front and Rear Track width is kept 1168.4mm. The wheelbase of the car is 1524 mm which provides good stability, traction and better manoeuvring ability.

STEERING

For smooth and better handling of vehicle an efficient steering system is needed. For that we chose Rack and Pinion type steering system because of its simple design, compactness and low weight. The mounting of this steering system is easier as compare to other system. We have tried to get 100% Ackerman geometry and the steering gear ratio is 5:1. Along with this detachable steering wheel is also used to ensure

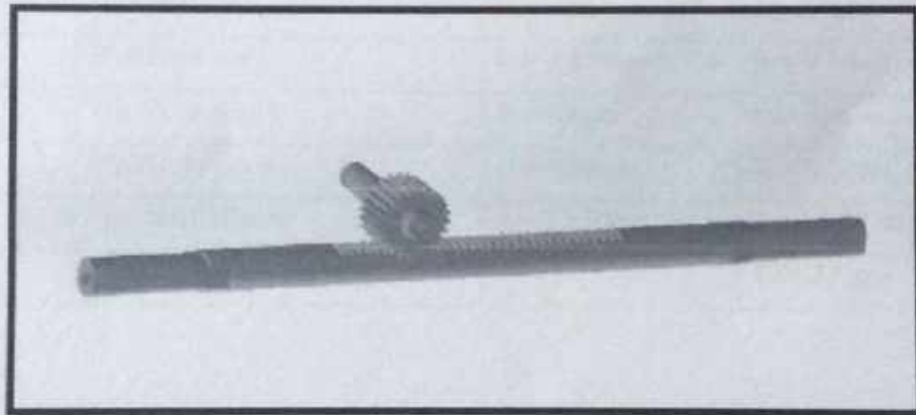


Fig.3 Steering Geometry

STEERING GEOMETRY

Sr.	Parameters	Value
1.	Angle of inside lock, θ	41 ^o
2.	Angle of outside lock, ϕ	29.73 ^o
3.	Arm inclination, α	16.69 ^o
4.	TCR of inner front wheel, R_{if}	2196.1mm
5.	TCR of inner rear wheel, R_{ir}	1626.3mm

6.	TCR of outer front wheel, R_{of}	3199.0mm
7.	TCR of outer rear wheel, R_{or}	2795.4mm
8.	Arm radius, r	273.4mm
9.	Displacement of rack for 1.2 rotation	2.72mm
10.	Arm base, Y	177.8mm

RACK AND PINION CONSTRUCTION

SR.NO	SPECIFICATION	PINION	RACK
1	No. of teeth	18	22
2	Module	$m = 2 \text{ mm}$	$m = 2 \text{ mm}$
3	P.C.D	$D_p = 36 \text{ mm}$	$D_r = 22 \text{ mm}$
4	Addendum	$h_a = 2 \text{ mm}$	$h_a = 2 \text{ mm}$
5	Deddendum	$h_f = 2.5 \text{ mm}$	$h_f = 2.5 \text{ mm}$
6	Working depth	$h_k = 4 \text{ mm}$	$h_k = 4 \text{ mm}$
7	Whole depth	$H = 4.5 \text{ mm}$	$H = 4.5 \text{ mm}$
8	Tooth thickness	$S = 1.5708 \text{ mm}$	$S = 1.5708 \text{ mm}$
9	Rack length		138.23mm



SUSPENSION

Suspension is the most important part of a vehicle and designing of suspension geometry is the foremost step of vehicle chassis designing. While designing suspension geometry various compromises had to make to get an accurate one. There is no optimum suspension for all conditions; therefore, for every improvement there is a sacrifice. The key is to decide what is most important for a particular application.

The suspension geometry we chose for our car is double wishbone independent suspension. The suspension consists of two A- Arm links which are connected to the wheel. One link is arranged below the wheel centre and the other is arranged above it, which enables the suspension to brace all of the forces and torque that occur at the wheel. One of the difficulties involved with roll centre selection is that it changes with wheel displacement.

There are three basic points for the roll centres are either the same height as the CG, below the ground or between the ground and the CG. So for good handling properties we chose the roll centre location between the CG and ground but close to ground. This consideration was done to prevent jacking force and to generate camber during the cornering.

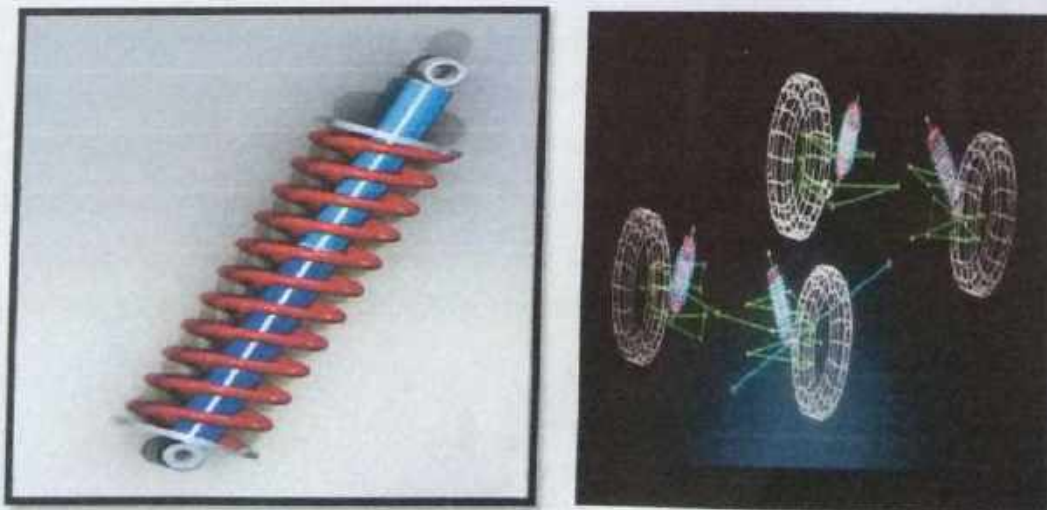


Fig.4 Suspension System



PARAMETER	FRONT	REAR
Upper Arm Length (from centre axis of car)	502.92mm	558.8mm
Lower Arm Length (from centre axis of car)	502.92mm	558.8mm
Stiffness	25.42 N/mm	37.55 N/mm
Free Length	132.5mm	134mm
Solid Length	80mm	78mm
Pitch	8.83mm	11.16mm
Track Width	1168.4mm	1168.4mm
Kingpin Inclination	0°	0°

BRAKES

The goal for braking system includes

- Increasing reliability
- Increasing Performance

The brake plays a very important role in any vehicle and is considered as the top most priority in safety checks. To keep the manufacturing weightless and provide reliability it was decided to use disc brakes on all four wheels instead of drum brake setup.

The vehicle will incorporate twin hydraulic master cylinder for the braking systems that act on all wheels and is operated by a single foot such, that in case of a leak or failure at any point in the system, effective braking power shall be maintained on at least two wheels. The brake lines will be constructed from flexible steel lines. For any driver of the car will always feel safe and secure knowing the brake system is reliable and service free.



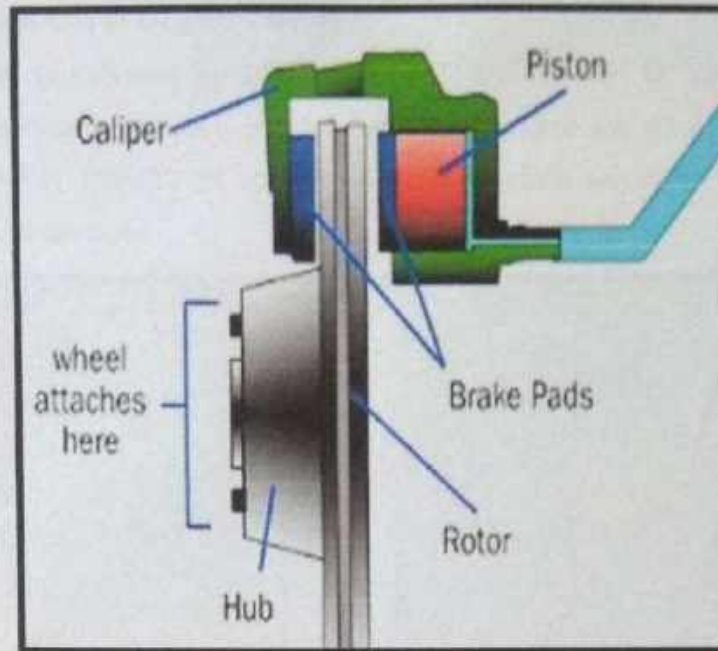


Fig.5 Disc Brake

PARAMETER	SPECIFICATIONS
Brake Biasing	Hydraulic Brakes
Rotor Size (Front And Rear)Dia.	200 mm
Front, Rear Calliper Piston Dia.	25 mm
Kerb Weight	250 kg
Centre Of Gravity From Ground	381 mm
Co-eff Of Friction Of Brake Pad	0.35
Maximum Deceleration	11.47 m/s ²
Stopping Distance	5.380 m
Stopping Time	0.9686 s
Braking Force: Front	1234.423 N
Rear	1218.070 N
Braking Torque: Front	327 N-m
Rear	154.2283 N-m
Clamping Force: Front	5184.84 N
Rear	5184.84N
Pedal Ratio	1:6

POWER TRAIN & DRIVE TRAIN

The vehicle is powered by BRIGGS AND STRATTON 208 CC Engine. It has powerful Air-cooled, Single - cylinder engine. The engine and the drive train are of BRIGGS AND STRATTON 208 CC. No modifications are to be made to the engine and drive train.

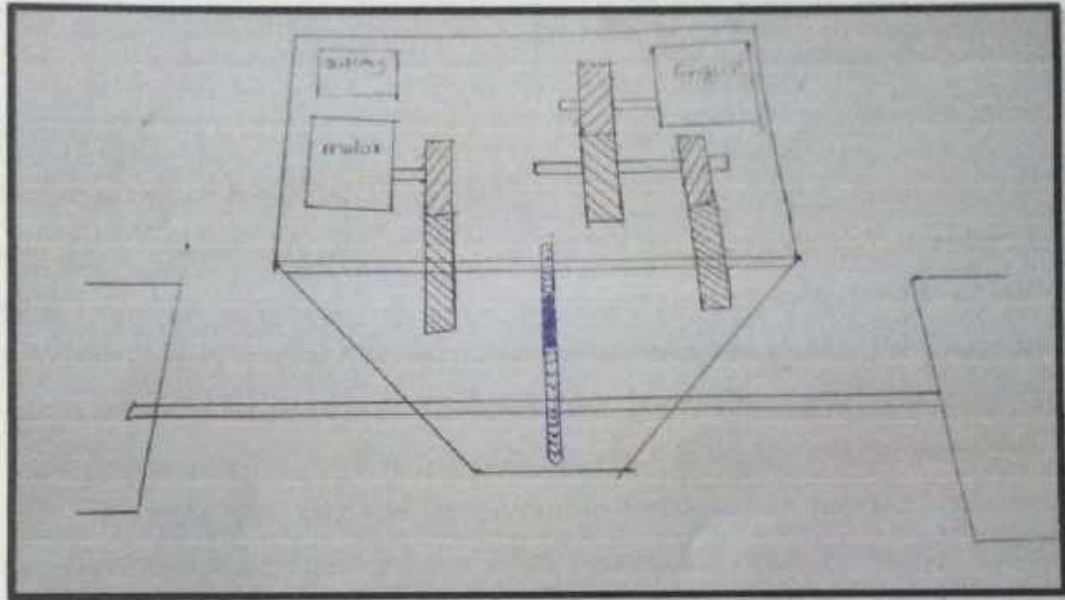


Fig. 6 Transmission System

ENGINE SPECIFICATION

PARAMETER	VALVES
Engine	Briggs & Stratton 208cc
RPM	3600
Power	6.5hp
Torque	12.86 N-m rise at 51.49 N-m
Gear reduction	2:1
Sprocket Ratio	2:1 (for 900 RPM)
Acceleration	0.37037m/s ²



MOTOR SPECIFICATION

PARAMETERS	VALUES
Motor RPM	3000
Torque	4.77 N-m
Gear Ratio	3:1 (for 3000 rpm)
Sprocket Ratio	2:1 (for 1000 rpm)

ERGONOMICS AND BODY WORKS

The ergonomics used in our vehicle is as per the HVC2017 rulebook. In order to ensure that the opening giving access to the cockpit is of adequate size of our vehicle, a cockpit opening & internal cross section template is used. The design of seat is made by keeping in consideration driver's visibility. Detachable steering wheel hub is used for quick egress of the driver. Our vehicle can accommodate 95th percentile male and the 5th percentile female which provide adequate vision and driver comfort. For driver safety harness, kill switch, brake over travel switch will be used. The vehicle is fully driver centric i.e., the vehicle design is optimized as per safety and comfort of driver. Design not only covers the technical aspects but also the style and look as well. The car fabrication work is aerodynamically stable and eye-catching. Sheet metal is used to cover the base and the firewall since they are well protected and need no curves and were to be covered properly. The vehicle dashboard will be assembled with speedometer and all the basic amenities required to the driver. Driver ergonomics of vehicle is greatly supported in our car and hence it comforts the driver.



Team Empyrean

REFERENCES

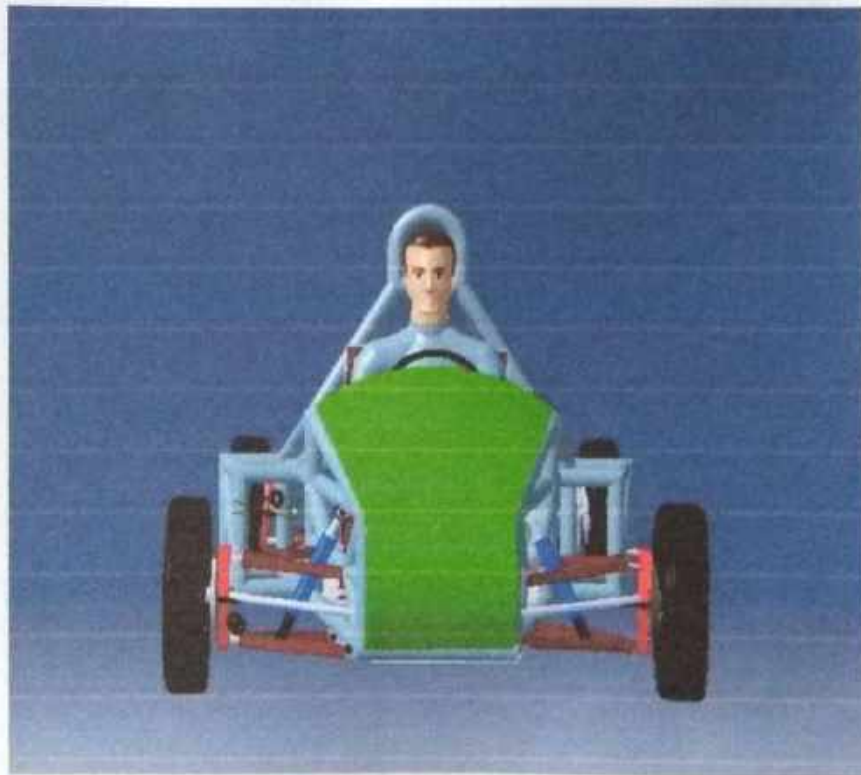
We have referred to various websites, e-books, design reports, papers and webinars to make our report. They were really helpful and guided us in the completion of this report. Some of them are following:

- 1) HVC 2017 rulebook
- 2) Chassis engineering- Herbs Adams
- 3) PSG data book
- 4) V.B.Bhandari Reference book "Design of Machine Elements".





Side View of Car



Front View Of Car



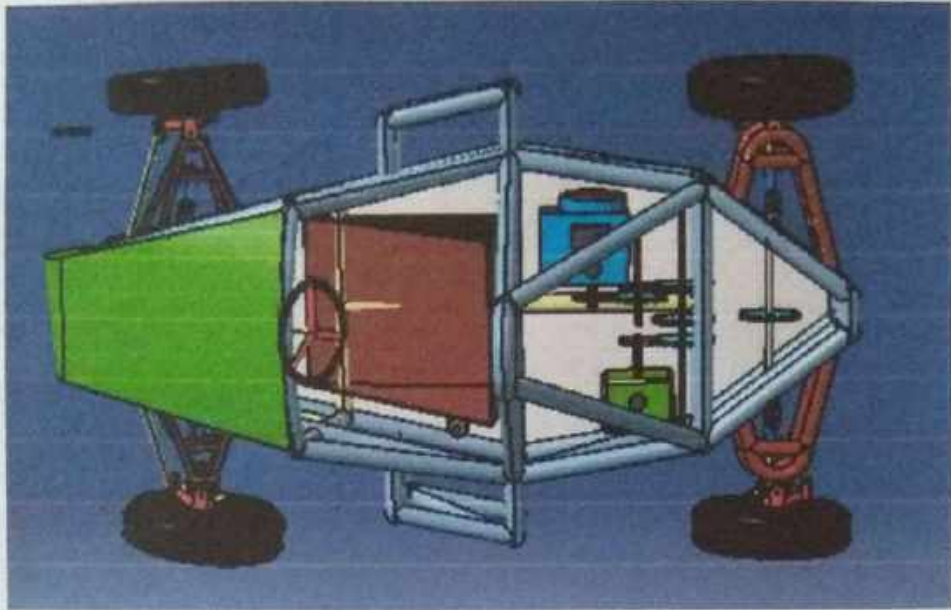


Fig: Top View

[Handwritten signature]

Head of Department
Dept. of Mechanical Engineering
Shri Chh. Shivajiraje College of Engg.
Dhangawadi, Pune-412206

[Handwritten signature]

Principal
Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.
Dhangawadi, Pune-412206



Gat No. 237, Pune-Banglore High Way
Dhangawadi, Tal - Bhor, Dist - Pune
Pin - 412206
Ph. No. - 02113-282456

Project Work Expenses A/c
Ledger Account

1-Apr-2015 to 31-Mar-2016

Date	Particulars	Vch Type	Vch No./Excise Inv. No.	Debit	Page 1 Credit
14-3-2016	Cr Central Bank of India, 3086368734 <i>M/s Imperial Society for participate in Hybride Car Design Competition</i>	Payment	1486	16,602.00	
				16,602.00	16,602.00
	Dr Closing Balance			16,602.00	16,602.00



Principal

Rajgad Dnyanpeeth's
Shri Chhatrapati Shivaji Raja College of Engg.,
Dhangawadi, Pune-412206

College of Engineering 2015-16
Gat No. 237, Pune-Bangalore High Way
Dhangawadi, Tal - Bhore, Dist - Pune
Pin - 412206
Ph. No. - 02113-282456
E-Mail :scscoe@gmail.com

Payment Voucher

No. : 1486

Dated : 14-Mar-2016

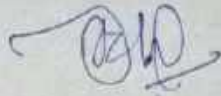
Particulars	Amount
Account : Project Work Expenses A/c	16,602.00
Through : Central Bank of India, 3086368734	
On Account of : M/s Imperial Society for participate in Hybride Car Design Competition	
Amount (in words) : Indian Rupees Sixteen Thousand Six Hundred Two Only	
	₹ 16,602.00

Receiver's Signature

Accounts Officer

Principal




Principal
Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.,
Dhangawadi, Pune-412206

Shri Chatrapati Shivajiraje College of Engineering 2016-17

Gat No. 237, Pune-Banglore High Way

Dhangawadi, Tal - Bhor, Dist - Pune

Pin - 412206

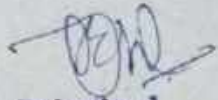
Ph. No. - 02113-282456

Project Work Expenses A/c Ledger Account

1-Apr-2016 to 31-Mar-2017

Date	Particulars	Vch Type	Vch No./Excise Inv.No.	Debit	Page 1 Credit
13-10-2016	Cr Central Bank of India A/c No. 3086368734 <i>Being payment made to Team Imperean for purchase Accessories & Material for making Hybrid Desined Car for Formula One Car Race Competition</i>	Payment	1019	50,000.00	
20-12-2016	Cr Central Bank of India A/c No. 3086368734 <i>Being payment made to Team Empyrean for making a Hybrid Car Design for the Competition</i>	Payment	1349	1,00,000.00	
1-1-2017	Cr Central Bank of India A/c No. 3086369590 <i>Being payment made to Team Empyrean for Hybrid Car Competition</i>	Payment	1509	1,00,000.00	
10-2-2017	Cr Central Bank of India A/c No. 3086369590 <i>Being amount paid to team Empyrean for Hybrid Car Competition</i>	Payment	1582	1,00,000.00	
				3,50,000.00	
Dr	Closing Balance				3,50,000.00
				3,50,000.00	3,50,000.00




Principal
Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.,
Dhangawadi, Pune-412206

Shri Chatrapati Shivajiraje College of Engineering 2016-17

Gat No. 237, Pune-Banglore High Way

Dhangawadi, Tal - Bhore, Dist - Pune

Pin - 412206

Ph. No. - 02113-282456

E-Mail : scscoe@gmail.com

Payment Voucher

No. : 1349

Dated : 20-Dec-2016

Particulars	Amount
Account : Project Work Expenses A/c	1,00,000.00
Through : Central Bank of India A/c No. 3086368734	
On Account of : Being payment made to Team Emperyan for making a Hybrid Car Design for the Competition	
Amount (in words) : Indian Rupees One Lakh Only	
	₹ 1,00,000.00

Receiver's Signature

Accounts Officer

Principal

Shri Chatrapati Shivajiraje College of Engineering 2016-17

Gat No. 237, Pune-Banglore High Way

Dhangawadi, Tal - Bhore, Dist - Pune

Pin - 412206

Ph. No. - 02113-282456

E-Mail : scscoe@gmail.com

Payment Voucher



No. : 1019

Dated : 13-Oct-2016

Particulars	Amount
Account : Project Work Expenses A/c	50,000.00
Through : Central Bank of India A/c No. 3086368734	
On Account of : Being payment made to Team Imperean for purchase Accessories & Material for making Hybrid Desined Car for Formula One Car Race Competition	
Amount (in words) : Indian Rupees Fifty Thousand Only	
	₹ 50,000.00

Receiver's Signature

Accounts Officer

Principal

Payment Voucher

No. : 1509

Dated : 25-Jan-2017

Particulars	Amount
Account : Project Work Expenses A/c	1,00,000.00
Through : Central Bank of India A/c No. 3086368590	
On Account of : Being payment made to Team Empyrean for Hybrid Car Competition	
Amount (in words) : Indian Rupees One Lakh Only	
	₹ 1,00,000.00

Receiver's Signature

Accounts Officer

Principal



Payment Voucher

No. : 1582

Dated : 10-Feb-2017

Particulars	Amount
Account : Project Work Expenses A/c	1,00,000.00
Through : Central Bank of India A/c No. 3086368590	
On Account of : Being amount paid to team Empyrean for Hybrid Car Competition	
Amount (in words) : Indian Rupees One Lakh Only	
	₹ 1,00,000.00

Receiver's Signature

Accounts Officer

Principal



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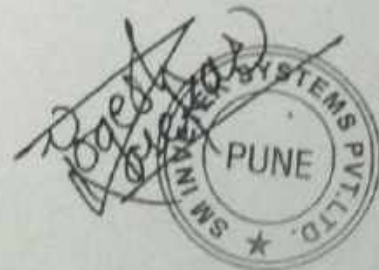
Ref: INVETEK/ 2016/ 191

Date: 07th Sept. 2016

TO WHOMSOEVER IT MAY CONCERN

This letter is to verify that, **SM INVETEK SYSTEM PVT. LTD** has provided **financial support Rs. 20,000/- in cash** to Students (Team Empyrean) of RDTC's **Shri Chhatrapati Shivajiraje College of Engineering, Dhangawadi, Tal- Bhor, Dist-Pune, Maharashtra-411205** participating at National Event "ISIE-Hybrid Vehicle Challenge 2017" in consideration with students professional development in near future.

Best Regards,



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Gat 261,
Moshi Alandi Road,
Moshi, Pune - 412 105.
Maharashtra, INDIA.

inveteksystems@gmail.com
www.inveteksystems.co.in
www.inveteksystems.in

Shri Chhatrapati Shivajiraje College of Engineering

Approved by AICTE, Govt of Maharashtra and Affiliated to the University of Pune (ID NO PU/PN/Engg/376/2009)

Dr. Bhagyashree s. Patil
Hon. secretary

Anantrao Thopte
Founder President
Ex. Education Minister
Maharashtra State



RD/SCSCOE/1099

Date: 28/06/2013

To
The Honorary Secretary
Rajgad Dnyanpeeth,
Bhor.

Subject – Request for financial support to students participation in SUPRA SAE India Competition.

Respected Madam,

Mechanical Engineering students from our college wants to participate in SUPRA SAE India car design competition to be held at Chennai in the month of July 2014. This is national level event. Number of students from various engineering college are going to participate. Participation in such competition is useful to enhance the practical skills and technical knowledge of students.

The approximate expenses required for car design, manufacturing and assembly are Rs. 7,20,000/-. Out of this 50% of the amount students are going to collect from various sponsors and their own contribution and remaining 50% amount is expected from management support. So you are requested to give financial support for the students participation in this competition. Please do the needful.

Thanking you.

S. S. Bhopale
Prof. S. S. Bhopale
Staff coordinator

S. K. Pawar
Prof. S. K. Pawar
HOD

R. L. Khandagale
Prof. Dr. R. L. Khandagale
Principal
Principal
Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.,
Dhangawadi, Pune-412206

50% amount
approved
S. S. Bhopale
Hon. Secretary
Rajgad Dnyanpeeth, Bhor



Rajgad Dnyanpeeth's
SHRI CHHATRAPATI SHIVAJIRAJE COLLEGE OF ENGINEERING
Gat No. 237, Pune Bangalore Highway, Dhangawadi, Tal-Bhor, Dist- Pune (Maharashtra)

REPORT ON SUPRA SAEINDIA CAR

DEPARTMENT : Mechanical Engineering

CLASS: TE & BE

TITLE OF PROJECT : Project on Design & Manufacturing of Supra Car.

NAME OF GUIDE : Prof. A.B Sanap & Prof. S.S Bhopale

ACADEMIC YEAR : 2013-14 and 2014-15

DURATION OF PROJECT: 2 Years

NUMBER OF STUDENT PARTICIPATED: 11

OBJECTIVE : Provide the platform to enhance the student Presentation and Communication skill Personality development and Way for the Creativity

DISCRIPTION:

SUPRA SAEINDIA is a student collegiate design series devoted to the design and construction of Formula one prototype cars. Over 100 Engineering colleges participate in this series with competitive events held in the Chennai India the event is known for the enthusiastic participation of engineering student and the wide range of engineering innovations utilized on the cars.

The Governing rules are limited in technical regulations expect in areas of safety. Although there exist many others avenues of exploration in engine package design, a large majority of teams use a naturally aspired four cylinder engine derived from available motorcycles. A team's engine choice is limited to any four stroke with a displacement less than 610 cc. The number of cylinders is unlimited. Rules also require a 20 mm restrictor when petrol fuel is used and a 19 mm restrictor when instead E-85 fuel is used. With four cylinder formula SAE engines, the shape, layout, size and packaging of intake manifolds vary. Each team uses different runner lengths, plenum volumes, restrictor designs etc. for their intake manifold along with different exhaust configurations, which do not allow for direct comparisons. While the concepts of intake manifolds vary, the restrictor performance is an important consideration for any intake design.



PHOTOS:



ACHIEVEMENT: All India Rank secure 57 (Location: IIT Chennai).

University of Pune's SUPRA SAEINDIA 2014 Team UFO racers (ULTIMATE FORMULA ONE RACERS) participated in this event. The team UFO RACERS choose CBR 250R four stroke engine Single cylinder. In this engine uses a Fuel Injector instead of a carburetor which required for inclusion of cam position sensing for accurate injection and spark timing.

As per the rulebook of SUPRA SAEINDIA due to smallest diameter of restrictor the airflow reduced to small amount with a high velocity and low pressure. It effects on engine and power.




Prof. Dr. R.L. Khandagale
Principal
 Rajgad Dnyanpeeth's
 Shri Chhatrapati Shivaji College of Engg.,
 Dhangawadi, Pune-412206

Shri Chatrapati Shivajiraje College of Engineering 2013-14

Gat No. 237, Pune-Bangalore High Way

Dhangawadi, Tal - Bhor, Dist - Pune

Pin - 412206

Ph. No. - 02113-282456

Project Work Expenses A/c Ledger Account

1-Apr-2013 to 31-Mar-2014

Page 1
Credit

Date	Particulars	Vch Type	Vch No./Excise Inv. No.	Debit	Credit
15-7-2013	Cr Cash <i>Being amount paid for registration fees for Supra SAE India</i>	Payment	326	16,950.00	
14-8-2013	Cr Central Bank of India, 3086368734 <i>Suspense A/c entry transferred for adjustment</i>	Payment	445	30,000.00	
16-9-2013	Cr Cash <i>Being amount paid for purchase material for Supra SAE India Car</i>	Payment	588	1,290.00	
5-10-2013	Cr Cash <i>Being amount paid to bhopale s s traveling at chennai for Supra SAE India Car</i>	Payment	678	24,610.00	
30-10-2013	Cr Cash <i>Being amount paid for printing sponership brochers foe SEA SUPRA</i>	Payment	808	2,800.00	
18-12-2013	Cr Cash <i>Being amount paid for purchase tools for Supra SAE India Car preparation work</i>	Payment	990	5,235.00	
31-12-2013	Cr Cash <i>Being amount paid for purchase material for Supra SAE India Car preparation work</i>	Payment	1033	9,280.00	
1-2-2014	Cr Central Bank of India, 3086368734 <i>Being payment made agst purchase Honda CBR Bike for SAI India Competition</i>	Payment	1158	1,32,000.00	
18-3-2014	Cr Cash <i>Being amount paid for attend workshop at Chennai for Supra SAE India Car preparation work</i>	Payment	1376	4,405.00	
				2,26,570.00	
Dr	Closing Balance				2,26,570.00
				2,26,570.00	2,26,570.00




Principal
 Rajgad Dnyanpeeth's
 Shri Chhatrapati Shivajiraje College of Engg.,
 Dhangawadi, Pune-412206

Payment Voucher

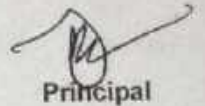
No. : 445

Dated : 14-Aug-2013

Particulars	Amount
Account : Project Work Expenses A/c	30,000.00
Through : Central Bank of India, 3086368734	
On Account of : Suspense A/c entry transferred for adjustment	
Amount (In words) : Indian Rupees Thirty Thousand Only	
	₹ 30,000.00


Receiver's Signature


Accounts Officer


Principal

Payment Voucher



No. : 326

Dated : 15-Jul-2013

Particulars	Amount
Account : Project Work Expenses A/c	16,950.00
Through : Cash	
On Account of : Being amount paid for registration fees for Supra SAE India	
Amount (in words) : Indian Rupees Sixteen Thousand Nine Hundred Fifty Only	
	₹ 16,950.00







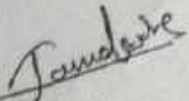
Shri Chatrapati Shivajiraje College of Engineering 2013-14
Gat No. 237, Pune-Banglore High Way
Dhangawadi, Tal - Bhore, Dist - Pune
Pin - 412206
Ph. No. - 02113-282456
E-Mail :scscoe@gmail.com

Payment Voucher


No. : 588

Dated : 16-Sep-2013

Particulars	Amount
Account : Project Work Expenses A/c	1,290.00
Through : Cash	
On Account of : Being amount paid for purchase material for Supra SAE India Car	
Amount (in words) : Indian Rupees One Thousand Two Hundred Ninety Only	
	₹ 1,290.00


Receiver's Signature


Accounts Officer


Principal

Shri Chatrapati Shivajiraje College of Engineering 2013-14
Gat No. 237, Pune-Banglore High Way
Dhangawadi, Tal - Bhore, Dist - Pune
Pin - 412206
Ph. No. - 02113-282456
E-Mail :scscoe@gmail.com

Payment Voucher



No. : 678

Dated : 5-Oct-2013

Particulars	Amount
Account : Project Work Expenses A/c	24,610.00
Through : Cash	
On Account of : Being amount paid to bhopale s s traveling at chennai for Supra SAE India Car	
Amount (in words) : Indian Rupees Twenty Four Thousand Six Hundred Ten Only	
	₹ 24,610.00


Receiver's Signature


Accounts Officer


Principal

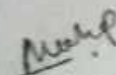
Shri Chatrapati Shivajiraje College of Engineering 2013-14
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Dhangawadi, Tal - Bhore, Dist - Pune
Pin - 412206
Ph. No. - 02113-282456
E-Mail :scscoe@gmail.com

Payment Voucher

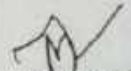
No. : 808

Dated : 30-Oct-2013

Particulars	Amount
Account : Project Work Expenses A/c	2,800.00
Through : Cash	
On Account of : Being amount paid for printing sposership brochers foe SEA SUPRA	
Amount (In words) : Indian Rupees Two Thousand Eight Hundred Only	
	₹ 2,800.00


Receiver's Signature


Accounts Officer


Principal

Shri Chatrapati Shivajiraje College of Engineering 2013-14
Gat No. 237, Pune-Banglore High Way
Dhangawadi, Tal - Bhore, Dist - Pune
Pin - 412206
Ph. No. - 02113-282456
E-Mail :scscoe@gmail.com

Payment Voucher



No. : 990

Dated : 18-Dec-2013

Particulars	Amount
Account : Project Work Expenses A/c	5,235.00
Through : Cash	
On Account of : Being amount paid for purchase tools for Supra SAE India Car preparation work	
Amount (In words) : Indian Rupees Five Thousand Two Hundred Thirty Five Only	
	₹ 5,235.00


Receiver's Signature


Accounts Officer


Principal

Payment Voucher

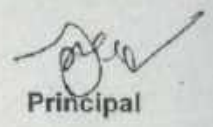
No. : 1033

Dated : 31-Dec-2013

Particulars	Amount
Account : Project Work Expenses A/c	9,280.00
Through : Cash	
On Account of : Being amount paid for purchase material for Supra SAE India Car preparation work	
Amount (in words) : Indian Rupees Nine Thousand Two Hundred Eighty Only	
	₹ 9,280.00


Receiver's Signature


Accounts Officer


Principal



Payment Voucher

No. : 1158

Dated : 1-Feb-2014

Particulars	Amount
Account : Project Work Expenses A/c	1,32,000.00
Through : Central Bank of India, 3086368734	
On Account of : Being payment made agst purchase Honda CBR Bike for SAI India Competition	
Amount (in words) : Indian Rupees One Lakh Thirty Two Thousand Only	
	₹ 1,32,000.00


Receiver's Signature


Accounts Officer

Principal

Shri Chatrapati Shivajiraje College of Engineering 2013-14
Gat No. 237, Pune-Banglore High Way
Dhangawadi, Tal - Bhore, Dist - Pune
Pin - 412206
Ph. No. - 02113-282456
E-Mail :scscoe@gmail.com

Payment Voucher

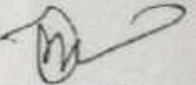
No. : 1376

Dated : 18-Mar-2014


Particulars	Amount
Account : Project Work Expenses A/c	4,405.00
Through : Cash	
On Account of : Being amount paid for attend workshop at Chennai for Supra SAE India Car preparation work	
Amount (in words) : Indian Rupees Four Thousand Four Hundred Five Only	
	₹ 4,405.00


Receiver's Signature


Accounts Officer


Principal




Principal
Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.,
Dhangawadi, Pune-412206

Shri Chatrapati Shivajiraje College of Engineering 2014-15

Gat No. 237, Pune-Bangalore High Way

Dhangawadi, Tal - Bhor, Dist - Pune

Pin - 412206

Ph. No. - 02113-282456

Project Work Expenses A/c Ledger Account

1-Apr-2014 to 31-Mar-2015

Page 1

Date	Particulars	Vch Type	Vch No./Excise Inv.No.	Debit	Credit
23-4-2014	Cr Central Bank of India, 3086368734 <i>Supra Car Material purchase</i>	Payment	87	10,800.00	
	Cr Central Bank of India, 3086368734 <i>Supra Car Material purchase</i>	Payment	89	13,641.00	
6-6-2014	Cr Central Bank of India, 3086368734 <i>Being payment made for purchase material for making car for Supra SAE India car racing competition</i>	Payment	219	30,000.00	
7-7-2014	Cr Central Bank of India, 3086368734 <i>Being payment made for purchase material for making car for Supra SAE India car racing competition</i>	Payment	337	91,553.00	
				1,45,994.00	
Dr	Closing Balance				1,45,994.00
				1,45,994.00	1,45,994.00



Rul
Principal

Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.,
Dhangawadi, Pune-412206

Payment Voucher

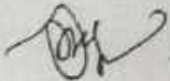
No. : 87

Dated : 23-Apr-2014

Particulars	Amount
Account : Project Work Expenses A/c	10,800.00
Through : Central Bank of India, 3086368734	
On Account of : Supra Car Material purchase	
Amount (in words) : Indian Rupees Ten Thousand Eight Hundred Only	
	₹ 10,800.00


Receiver's Signature


Accounts Officer


Principal

Shri Chatrapati Shivajiraje College of Engineering 2014-15
Gat No. 237, Pune-Banglore High Way
Dhangawadi, Tal - Bhor, Dist - Pune
Pin - 412206
Ph. No. - 02113-282456
E-Mail : scscoe@gmail.com



Payment Voucher

No. : 89

Dated : 23-Apr-2014

Particulars	Amount
Account : Project Work Expenses A/c	13,641.00
Through : Central Bank of India, 3086368734	
On Account of : Supra Car Material purchase	
Amount (in words) : Indian Rupees Thirteen Thousand Six Hundred Forty One Only	
	₹ 13,641.00


Receiver's Signature


Accounts Officer



Principal

Payment Voucher


No. : 219

Dated : 6-Jun-2014

Particulars	Amount
Account : Project Work Expenses A/c	30,000.00
Through : Central Bank of India, 3086368734	
On Account of : Being payment made for purchase material for making car for Supra SAE India car racing competition	
Amount (in words) : Indian Rupees Thirty Thousand Only	
	₹ 30,000.00


Receiver's Signature


Accounts Officer


Principal

Payment Voucher



No. : 337

Dated : 7-Jul-2014

Particulars	Amount
Account : Project Work Expenses A/c	91,553.00
Through : Central Bank of India, 3086368734	
On Account of : Being payment made for purchase material for making car for Supra SAE India car racing competition	
Amount (in words) : Indian Rupees Ninety One Thousand Five Hundred Fifty Three Only	
	₹ 91,553.00


Receiver's Signature


Accounts Officer


Principal



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Date: 14 02 14

TO WHOMSOEVER IT MAY CONCERN

This is to verify that, Students of Shri Chhatrapati Shivajiraje College of Engineering Bhor, Pune Maharashtra-411206 (SPPU University, Pune) are going to participate at National Level Car Design Competition "SUPRA SAE India" to be held at Chennai in the month of July 2014. Considering students professional development in near future, Ratnadeep Castings, Kasurdi, Pune have provided financial support of Rs. 50,000/- in cash

We Wish Best Wishes,

