



D.A.PANDU MEMORIAL R.V.DENTAL COLLEGE & HOSPITAL  
J.P.NAGAR, BANGALORE

DAPM RVDC/1499/2019-20

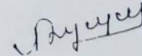
24.07.2019

CIRCULAR

In connection with the project on "Sustainable Campus – Feasibility" we are collaborating with M/s.Tata Consultancy, Bangalore and R.V.College of Engineering. The following faculty members, PG students & Interns will be co-ordinating the project :

- |                         |  |
|-------------------------|--|
| 1. Dr.Preethi Hegde     | - Reader, Dept. of Physiology                    |
| 2. Dr.Jyotsna S         | - Reader, Dept. of Public Health Dentistry       |
| 3. Mrs.Asha Kumari P G  | - Lecturer, Dept. of Physiology                  |
| 4. Dr.Alba Dinesh       | - PG student, Dept. of Oral Medicine & Radiology |
| 5. Ms.Sandra Susan Saji | - Intern   |
| 6. Mr.Vignesh Kasal     | - Intern   |

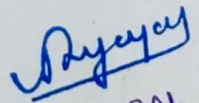
All the concerned HODs are requested to permit the above faculty & students whenever the meetings of the project Sustainability Campus – Feasibility are scheduled.

  
Principal & Chairman  
IOAC

To,

All HODs Dental and Medical Departments



  
PRINCIPAL  
D.A. PANDU MEMORIAL  
R.V. DENTAL COLLEGE  
CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
BANGALORE-560 078



Dr Keshav  
10 road hall  
1/15 Asha/R...  
25 June 2019 at 18:08

## Sustainable Campus Initiatives

Registrar RVEI <registrar@rvei.edu.in>

Dr Asha Raghunandan Iyengar <principal.rvdc@rvei.edu.in>, Principal RV College of Architecture <principal.rvca@rvei.edu.in>, Principal RVCE <principal@rvce.edu.in>, Principal RVITM <principal.rvitm@rvei.edu.in>, Prof B H RAJASHEKARAI AH <principal.rvcn@rvei.edu.in>, RVCP Pruthviraj Principal <principal.rvcp@rvei.edu.in>, RVIM Purushottam Bung <principal.rvim@rvei.edu.in>, "ceo.rvlsi@rvei.edu.in" <ceo.rvlsi@rvei.edu.in>, principal nmkrv <principal.nmkrv@rvei.edu.in>, principal.ssmrv@rvei.edu.in" <principal.ssmrv@rvei.edu.in>, sarah abraham <principal.rvps@rvei.edu.in> A V S Murthy <alampalli.murthy@gmail.com>, D P Nagaraj <devatha.nagaraj@gmail.com>

Dear all,  
Further to the discussion on 14th June with CTO of TATA Consulting Engineers on Sustainable Campus Initiatives. We can add Dental College also as they have NAAC.

They have submitted the proposal for two campuses, request Dr Bung, Dr Snehalata and Dr Asha to take the lead for the campuses, other HOI's can help them. This is a pilot project and can be extended to other Campuses as well in future.

Request Dr Subramanya to help as they have done these initiatives in RVCE.

Please provide the information at the earliest.

Thanks & Regards

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

From: Rajashekhar R Malur <rmalur@tce.co.in>  
Date: Tue, 18 Jun 2019 at 11:32 AM  
Subject: RE: Sustainable Campus Initiatives  
To: registrar rvei <registrar@rvei.edu.in>  
Cc: D Geethalakshmi <geethalakshmi@tce.co.in>

Dear Sir,

Thank you for organizing the meeting with the Principals of your institutions last week on Friday, 14<sup>th</sup> June 2019.

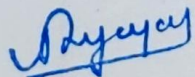
As discussed, we have herewith attached brief scope and number of students required to conduct this study at the campuses. We have also attached a list of preliminary inputs needed.

Our D Geethalakshmi will be leading this initiative from our side. We would request for a guide / mentor for the projects from your side - one for RVCE Microgrid project and one for Sustainable Campus Initiative at NMKRV and SSMRV.

Student requirement is also indicated in the attached documents. We would request you to come back to us by 25<sup>th</sup> June so that we can get started on this initiative at the earliest.

For any clarifications, please feel free to get connected with D Geethalakshmi (+91 9003246311) or myself.

Regards,  
Rajashekhar Malur

  
PRINCIPAL  
D.A. PANDU MEMORIAL  
R.V. DENTAL COLLEGE  
CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
BANGALORE - 560 078

Dr Asha Raghunandan Iyengar <principal.rvdc@rvei.edu.in>

Dr Keshava  
10/06/19  
25 June 2019 at 18:08

## Sustainable Campus Initiatives

istrar rvei <registrar@rvei.edu.in>  
Dr Asha Raghunandan Iyengar <principal.rvdc@rvei.edu.in>, Principal RV College of Architecture <principal.rvca@rvei.edu.in>, Principal RVCE <principal@rvce.edu.in>, Principal RVITM <principal.rvitm@rvei.edu.in>, Prof B H RAJASHEKARAI AH <principal.rvcn@rvei.edu.in>, RVCP Pruthviraj Principal <principal.rvcp@rvei.edu.in>, RVIM Purushottam Bung <director.rvim@rvei.edu.in>, "ceo.rvlsi@rvei.edu.in" <ceo.rvlsi@rvei.edu.in>, principal nmkrv <principal.nmkrv@rvei.edu.in>, principal.ssmrv@rvei.edu.in" <principal.ssmrv@rvei.edu.in>, sarah abraham <principal.rvps@rvei.edu.in>, A V S Murthy <alampalli.murthy@gmail.com>, D P Nagaraj <devatha.nagaraj@gmail.com>

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For any clarifications, please feel free to get connected with D Geethalakshmi (+91 9003246311) or myself.


Regards,  
Rajashekhar Malur


*Rajashekhar*  
PRINCIPAL  
D.A. PANDU MEMORIAL  
DENTAL COLLEGE  
CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
BANGALORE - 560 078


[quoted text hidden]

4 attachments

 RVEI SCI Inputs.pdf  
142K

 RVEI SCI Inputs.xlsx  
11K

 Microgrid study R0.pdf  
94K

 Sustainable Campus\_Scope and team R0.pdf  
523K



*Praveen*

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CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
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## Microgrid – Feasibility Study

College Campus: RV College of Engineering

### Scope:

To carry out a feasibility study to implement Microgrid at RVCE campus.

The feasibility study will include the following activities

- Identification of existing generation sources and its operating profile
- Identification of existing renewable energy sources
- Viability study for battery energy storage to improve the power availability
- Arrive at the optimum energy mix and recommendation of the generation schedule
- 1<sup>st</sup> order cost estimation and payback period
- Documentation of the analysis and recommendation

### RV Project Team

Task group	Discipline	No of Students
Microgrid study	Electrical	3
	Mechanical	1

Duration: 3-4 months

RV Project Team

*Rajeev*  
PRINCIPAL  
D.A. PANDU MEMORIAL  
R.V. DENTAL COLLEGE  
CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
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### TATA CONSULTING ENGINEERS LIMITED

Sheriff Centre 73/1 St Marks Road Bangalore 560 001  
Tel +91 80 6622 6000 Fax +91 80 2227 4873 email mail@tce.co.in website www.tce.co.in CIN U74210MH1999PLC123010  
Registered Office Matulya Centre A 249 Senapati Bapat Marg Lower Parel (West) Mumbai 400 013



INPUTS REQUIRED

Grid	
1	Grid supply power (kw)
2	Mean outage frequency in a day
3	Mean outage hour in a day
4	Grid voltage variation
5	Variable tariffs applicable (y/n)
6	Energy cost (Rs/kwh)
7	Net Metering availability (y/n)
8	If yes selling power cost
Diesel Generator	
1	Make of generator
2	No of generators
3	Nominal capacity
4	Daily operating profile ( If available)
Solar	
1	Solar module PV make and type
2	Solar capacity
3	Solar generation profile
Load	
1	Hourly load profile for total load (actual load data) for a year
2	Load list (critical and non critical load)
Battery (Existing)	
1	Type of battery
2	Application
3	Backup time
4	Capacity (existing)
Water	
1	Consumption Pattern (potable)
2	Consumption Pattern (Non potable)
3	Existing Rain water harvesting details
4	Water Tariff
5	Major consumers within campus
6	Water recycling done? If yes broad details
Solid Waste	
1	Type of wastes
2	Any existing management available. If yes provide the broad details
Others	
1	Any power generation source available at site (Biomass, geothermal etc.)
2	Type
3	Capacity
4	Generation profile
Input Documents/Drawings Required	
1	Power distribution SLD
2	DG Technical datasheets
3	Metering data for last one year
4	Overall plot plan
5	Water Schematic (If available)
Please provide as detailed information as available / possible. Please use additional sheets and attachments as necessary.	

*Prayee*

PRINCIPAL  
 A. PANDU MEMORIAL  
 DENTAL COLLEGE  
 CA 37, 24th Main,  
 J.P. Nagar, 1st Phase,  
 BANGALORE-500 028

**TATA CONSULTING ENGINEERS LIMITED**

Sheriff Centre 73/1 St Marks Road Bangalore 560 001  
 Tel +91 80 6622 6000 Fax +91 80 2227 4873 email mail@tce.co.in website www.tce.co.in CIN U74210MH1999PLC123010  
 Registered Office Matulya Centre A 249 Senapati Bapat Marg Lower Parel (West) Mumbai 400 013

## INPUTS REQUIRED

### Grid

1	Grid supply power (kw)	
2	Mean outage frequency in a day	
3	Mean outage hour in a day	
4	Grid voltage variation	
5	Variable tariff applicable (y/n)	
6	Energy cost (Rs/kwh)	
7	Net Metering availability (y/n)	
8	If yes selling power cost	

### Diesel Generator

1	Make of generator	
2	No of generators	
3	Nominal capacity	
4	Daily operating profile ( If available)	

### Solar

1	Solar module PV make and type	
2	Solar capacity	
	Solar generation profile	

### Load

1	Hourly load profile for total load (actual load data) for a year	
2	Load list (critical and non critical load)	

### Battery (Existing)

1	Type of battery	
2	Application	
3	Backup time	
4	Capacity (existing)	

### Water

1	Consumption Pattern (potable)	
2	Consumption Pattern (Non potable)	
3	Existing Rain water harvesting details	
4	Water Tariff	
5	Major consumers within campus	
6	Water recycling done? If yes broad details	

### Solid Waste

1	Type of wastes	
2	Any existing management available. If yes provide the broad details	

### Others

1	Any power generation source available at site (Biomass, geothermal etc.)	
2	Type	
3	Capacity	
4	Generation profile	

### Input Documents/Drawings Required

1	Power distribution SLD	
2	DG Technical datasheets	
3	Metering data for last one year	
4	Overall plot plan	
5	Water Schematic (If available)	

Please provide as detailed information as available / possible. Please use additional sheets and attachments as necessary.

*Wajjay*

**PRINCIPAL**  
**V.A. PANDU MEMORIAL**  
**R.V. DENTAL COLLEGE**  
 CA 37, 24th Main,  
 J.P. Nagar, 1st Phase,  
 BANGALORE - 560 078



## Sustainable Campus – Feasibility Study

**College Campuses:** NMK RV for Women and SSMRV College

**Objective:** To promote energy efficiency and sustainability to create a green and sustainable university campus

**Scope:**

To carry out a feasibility study to make the campus sustainable.

The feasibility study will include the following audit works and studies

- i. Energy Audit
- ii. Study for Green energy
- iii. Water Audit and Management

**Energy Audit**

- a. Identification of areas of energy wastage and estimation of energy saving potential in the college campus.
- b. Suggesting cost effective measures to improve the efficiency of energy use.
- c. Estimation of implementation costs and payback periods for the recommended action
- d. Documenting the audit results and analysis and suggested way forward

**Study to explore possibility of implementing Green energy**

- a. Identify the potential of solar power generation
- b. Brief comparative study of different technologies suitable for the specific application
- c. Computation of 1<sup>st</sup> order capital cost estimation, cost of generation and payback period.
- d. Broad timeline for installation

**Water Audit and Water Management**

- a. Identification of areas of water wastage and estimation of water saving potential in the college campus
- b. Suggesting cost effective measures to conserve water.
- c. Explore rain water harvesting and recycle and reuse of water
- d. Estimation of implementation costs and payback periods for the recommended action
- e. Documenting the audit results and analysis and suggested way forward

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Registered Office Matulya Centre A, 249 Senapati Bapat Marg Lower Parel (West) Mumbai 400 013

*Rajeev*  
A. PANDU MEMORIAL  
R.V. DENTAL COLLEGE  
CA 37 - 24th Main,  
J.P. Nagar, 1st Phase,  
BANGALORE - 560 078





RV Project Team for each study (for each college)

Task group	Discipline	No of Students
Energy Audit Green energy study	Electrical	2
	Mechanical	3
Water Audit and Water Management	Civil	1

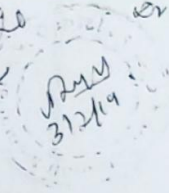
Note: Team requirement is given considering team members are engineering students. Science Students from NMKRV / SSMRV who needs to be involved may be provided by respective colleges (2 each)

Duration: 3 Months to perform the studies in each college.

*Rajeev*  
PRINCIPAL  
R.V. PANDU MEMORIAL  
DENTAL COLLEGE  
CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
BANGALORE-560 078

**Fwd: RVCE Student details -Sustainable Campus & Micro grid Feasibility Study**

registrar rvei <registrar@rvei.edu.in> 2 July 2019 at 20:25  
 To: Dr Asha Raghunandan Iyengar <principal.rvdc@rvei.edu.in>, RSST Dr T V Raju <director.rvim@rvei.edu.in>, principal nmkrv <principal.nmkrv@rvei.edu.in>, \*principal.ssmrv@rvei.edu.in" <principal.ssmrv@rvei.edu.in>  
 Cc: Principal RVCE <principal@rvce.edu.in>

1355/19  
 3/2/19  


Dear all

For information please.

Regards

----- Forwarded message -----  
 From: Principal RVCE <principal@rvce.edu.in>  
 Date: Tue, 2 Jul 2019 at 12:15 PM  
 Subject: RVCE Student details -Sustainable Campus & Micro grid Feasibility Study  
 To: Rajashekhar R Malur <rmalur@tce.co.in>  
 Cc: <geethalakshmid@tce.co.in>, Registrar RVEI <registrar@rvei.edu.in>

Dear Sir,

As discussed, please find below the details of student names for Microgrid and Sustainable Campus - Feasibility Study.

**Microgrid – Feasibility Study**

College Campus: RV College of Engineering

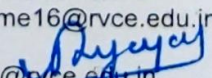
Scope: To carry out a feasibility study to implement Microgrid at RVCE campus.

**RV Project Team**

Task Group	Discipline	No. of Students
Microgrid study	Electrical and Electronics Engineering	1..AKSHITHA MAGOTRA / 1RV16EE008/9108769132/ akshitamagotra.ee16@rvce.edu.in 2. HITESH S / 1RV16EE024/7892083614/hiteshs.ee16@rvce.edu.in 3. PRADEEP T /1RV16EE042/9482499602/ pradeept.ee16@rvce.edu.in
	Mechanical Engineering	1.KUMARKUSH/1RV16ME048/9880578758/kumarkush.me16@rvce.edu.in

**Sustainable Campus – Feasibility Study**

Task Group	Discipline	No. of Students
Energy Audit	Electrical and Electronics Engineering	1..SIDDHANT VILAS GOSWAMI / 1RV16EE054/ 9482472738/siddhantvg.ee16@rvce.edu.in 2. AKSHAY V / 1RV16EE064/7090051035/ akshayv.ei16@rvce.edu.in
Green Energy Study	Mechanical Engineering	1. SHAH MOHAMMED AQIP/ 1RV16ME098/ 8660872895/shahmohammeda.me16@rvce.edu.in 2. SHREYANSH TRIPATHI/ 1RV16ME101/shreyansht.me16@rvce.edu.in

  
 PRINCIPAL  
 P.A. PANDU MEMORIAL  
 R.V. DENTAL COLLEGE  
 CA 37, 24th Main,  
 J.P. Nagar, 1st Phase,  
 BANGALORE-500 078

Water Audit and Water Management		3. PAYAL S SHETTY/ IRV16ME075/9980251882/payalssh etty.me16@rvce.edu.in
	Civil Engineering	1. A G. HARINATHA REDDY / IRV14CV008 9880455588 // harinatharag.cv14@rvce.edu.in

With regards

Principal  
RV College of Engineering  
Mysuru Road  
Bengaluru-59.

—  
Thanks & Regards

Registrar  
RV Educational Institutions

*Payal S Shetty*  
PRINCIPAL  
A. PANDU MEMORIAL  
DENTAL COLLEGE  
R.V. CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
BANGALORE-560 078

Subject: Sustainable Campus - Feasibility Study - Start up Meeting

8 July 2019 at 12:12

Registrar rvei <registrar@rvei.edu.in>  
"principal@rvce.edu.in" <principal@rvce.edu.in>, principal nmkrv <principal.nmkrv@rvei.edu.in>, Dr Asha Raghunandan Iyengar <principal.rvdc@rvei.edu.in>, RSST Dr T V Raju <director.rvim@rvei.edu.in>, principal.ssmrv@rvei.edu.in  
Rajashekhar R Malur <rmalur@tce.co.in>, "chandrana.rvim@rvei.edu.in" <chandrana.rvim@rvei.edu.in>, D Geethalakshmi <geethalakshmid@tce.co.in>

Dear All,

Please take note of the mail from Tata Consulting Engineers on first meeting in RVIM Campus on 10th July 2019 to kick start the campus sustainability Initiatives. Request Principal, RVCE to inform the students concerned to attend this meeting in RVIM. Other institutions to nominate one faculty each to coordinate and also depending on the work load to nominate some students to assist the RVCE students for study.

Mrs. Geethalakshmi: madam request you to include DAPM RV Dental College, JP Nagar also in this study if feasible.

With Warm Regards

Diyed Shahameer,  
Registrar,  
RV Educational Institutions  
-91-80-46746410/26562386  
www.rvinstitutions.com

On Fri, 5 Jul 2019 at 16:18, D Geethalakshmi <geethalakshmid@tce.co.in> wrote:

Dear Sir

We would like to initiate the startup meeting with the students and resp. faculties to carry out the Sustainability Campus - Feasibility Study. As discussed Self and team of 2 Engineers will be visiting RVIT campus on 10<sup>th</sup> July (Wednesday) at 10.a.m.

Agenda for the visit will be as below

- Meeting with students & faculties and briefing about the study
- Visit to College campuses (RVIT, NMKRV and SSMRV)
- Forming groups for Data collection and discussion on activities to be carried out

Request you to inform all identified students from RVCE and respective campuses to be present. Also request you to assign one internal guide for the students who can also be the single point contact on technical front.

Regarding microgrid study, we can fix up a suitable date for our visit to RVCE during our forthcoming meeting on 10<sup>th</sup>.

Best Regards

D Geethalakshmi

Discipline Head - Electrical

9003246311

*Diyed Shahameer*  
PRINCIPAL  
A. PANDU MEMORIAL  
R.V. DENTAL COLLEGE  
CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
BANGALORE-560 078

**From:** Principal RVCE <principal@rvce.edu.in>  
**Sent:** Tuesday, July 2, 2019 12:16 PM  
**To:** Rajashekhar R Malur <rmalur@tce.co.in>  
**Cc:** D Geethalakshmi <geethalakshmid@tce.co.in>; Registrar RVEI <registrar@rvei.edu.in>  
**Subject:** RVCE Student details -Sustainable Campus & Micro grid Feasibility Study

Dear Sir,

As discussed, please find below the details of student names for Microgrid and Sustainable Campus - Feasibility Study.

### Microgrid – Feasibility Study

College Campus: RV College of Engineering

Scope: To carry out a feasibility study to implement Microgrid at RVCE campus.

### RV Project Team

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### Sustainable Campus – Feasibility Study

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*D. Geetha*  
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CA 37, 24th Main,  
J.P. Nagar, 1st Phase,  
BANGALORE-550 078

Renewable Energy Study	Mechanical Engineering	1. SHAH MOHAMMED AQIP/ IRV16ME098/ 8660872895/shahmohammeda.me16@rvce.edu.in  2. SHREYANSH TRIPATHI/ IRV16ME101/shreyansht.me16@rvce.edu.in  3. PAYAL S SHETTY/ IRV16ME075/9980251882/payalssh etty.me16@rvce.edu.in
Water Audit and Water Management	Civil Engineering	1. A G. HARINATHA REDDY / IRV14CV008 9880455588 // harinatharag.cv14@rvce.edu.in

With regards

Principal

RV College of Engineering

Mysuru Road

Bengaluru-59.

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*P. Jayaram*  
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