



Shri Shivaji Education Society, Amravati's

**COLLEGE OF ENGINEERING
AND TECHNOLOGY, AKOLA**



CRITERIA 7
INSTITUTIONAL
VALUES & BEST
PRACTICES

Endorsement of Excellence



Awarded 'A' Grade by
NAAC with
3.37 CGPA



Criteria -7

7.1.2: *Alternate sources of energy and energy conservation measures, degradable and non-degradable waste, Water conservation, Green campus initiatives, Disabled-friendly, barrier free environment*



Shri Shivaji Education Society, Amravati's

COLLEGE OF ENGINEERING AND TECHNOLOGY, AKOLA



Founder President : Late Dr. Panjabrao alias Bhausaheb Deshmukh

At. Post. Babhulgaon (Jh.) NH.6, Tal.Dist. AKOLA (M.S.) 444 104 Phone : 0724 - 2259024, 7387523332

President : Shri. Harshvardhan P. Deshmukh

Principal : Dr. S. K. Deshmukh

Date: 04/05/2023

Declaration

This is to declare that the information, reports, true copies and numerical data etc

Furnished in this file as supporting documents is verified by IQAC and found correct.

Dr. S. K. Patil

IQAC Coordinator

Dr. S. K. Patil
IQAC Coordinator

College of Engineering and Technology,
Akola



Dr. S. K. Deshmukh

Principal

Principal
College of Engg.
& Tech., Akola

7.1.2 Alternate sources of energy and energy conservation measures, degradable and non-degradable waste, Water conservation ,Green campus initiatives, Disabled-friendly, barrier free environment

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7.1.2-1 The Institution has facilities for alternate sources of energy and energy conservation measures :

Energy conservation is the practice of reducing the consumption of energy. Energy is conserved to reduce the cost of consumption and to preserve the limited existing resources of energy. Energy can be conserved by using energy-efficient devices and other methods to consume energy and reduce the use of energy when there is no requirement. it is important to conserve energy.

Use of LED bulbs/ Power efficient equipment

Our Institute is using CFL, LED and star rated power equipment's etc. which consume lesser electricity, which in turn result in lesser energy utilization. Institute procures electrical equipment's which have energy star rating as per Bureau of Energy Efficiency (BEE) standard which ensure relatively lesser consumption of electricity. Our Institute has installed the LED light in the whole campus for low consumption of energy and replace the old light systems.

Our institution also initiated the measures for alternate energy sources for conservation of energy.

- Four poles top solar energy plate has been installed in four important locations as an alternative energy source.
- Institute adopted energy efficient lighting by replacing all the vacuum , tube lights of the classrooms, corridors, office building, street lights are replaced by L.E.D bulbs to promote energy efficiency.
- The process of installation of Solar Energy Panel.

CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2

SOLAR PANEL INSTALLATION:



CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2

Inward No. 25329022
Dt. 30.08.2022
College of Engg.
& Tech., Akola

Office of The Superintending Engineer
O&M Circle, Second Floor, Vidyut Bhavan,
Ratanlal Plots, Akola-444005.
E-mail: seakola@gmail.com

MAHAVITARAN
Ratanlal Plots, Akola-444005

No. SE/AKL/Tech/20-2719

Date: 22 AUG 2022

To: By E mail
✓ M/s The Principal College of Engineering & Tech
Consumer no. 318719023920, at Babhulgaon Tq. Dist. Akola.
(principalcoeta@gmail.com)

Sub: Approval to install Roof-top Solar PV system, under Net Metering Regulation 2019 in r/o M/s
The Principal College of Engineering & Tech, Consumer no. 318719023920 at Babhulgaon Tq.
Dist. Akola.

Ref: 1. Your application no 41347439 Dt. 20.06.2022
2. Joint inspection vide letter no EE/AK/ Testing/ 434 date 19.07.2022
3. Technical feasibility vide ref no. EE/AKL/R/ T/2848 Date 26.07.2022
4. Commercial Circular No. 258 Date 25.01.2016
5. Commercial Circular No. 322 Date 21.01.2020
6. CE Comm/GIRREGS regulations 2019 /12627 DT 20.07.2020

Dear Sir/ Madam,

Vide application under reference (1), you have requested for approval to install roof-top PV Solar system, under the provisions of the Maharashtra State Electricity Regulatory commissions (Net Metering for Roof-Top Solar PV Systems) Regulation 2019, at your premises bearing following details.

Name of Consumer	: M/s The Principal College of Engineering & Tech
• Consumer No.	: 318719023920
• Sanctioned Load	: 250Kw
• Contract Demand	: 55KVA
• Voltage Level	: 11kV
• Registration fee	: Paid Dt 29.06.2022
• Sanctioned RE Capacity Solar	: 51KW

As per powers delegated to the undersigned vide Commercial Circular No. 322 dated 21.01.2020, approval for installation of rooftop Solar PV system at above mentioned premises is hereby accorded, subject to following conditions.

1

HOD
Eleet
splc urgently
30/8/22

To Consult Dinesh P. Fule
Solar Consultant
30.08.22

merge
sent

SOLAR PANEL INSTALLATION APPROVAL LETTER

CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2

MAHAVITARAN
Maharashtra State Electricity Dist. Co. Ltd.
Office of the Superintending Engineer
O&M Circle office, Adyut Bhawan, Ratantol Plot, Akola
E-mail : seakola@gmail.com

CIN No U4010MH2005SGC 153645

Ref: SE/Akola/Tech/

To
Executive Engineer,
MSEDCL O&M Division,
Akola Rural

Date: 7/7/2022

Subject : Estimate for provision of NET metering arrangement to install Roof-top Solar PV system of 51Kwp for 11Ks HT connection in r/o M/s The Principal College of Engineering & Tech, Consumer no. 318719023920, at Bahubhagwan Village, Dist. Akola.

Ref: -

- 1 Application no 41347439 Dt. 20.06.2022
- 2 Joint inspection vide letter no EE/AK/ Testing/ 434 date 19.07.2022
- 3 Technical feasibility vide ref no. EE/AKL/R/ T/2848 Date 26.07.2022
- 4 Ex. Engr Akola Rural Email date 12.08.2022
- 5 Cost-Data 2019-20(CE Dist. /Cost Data 2019-20/18014 DT 27.06.2019)
- 6 CE/Testing/HT-EHV/Metering/Circular/8378 Dated 16.04.2018
- 7 CE/Testing/Standard CT ration/Circular/08 Date 14.05.2020
- 8 ED(Dist.II)/HT Conn/15940 Dated 29.06.17 (Commercial Circular No. 291)
- 9 Commercial Circular No 258 (Comm./CP/Solar-Net Metering/3051 Date 25.01.2016)
- 10 Commercial Circular No. 322 (CE/ Comm /GIRREGS regulations 2019/02184 Date 21.01.2020)
- 11 Competant authority approved office note date 12.08.2022

Brief Details of Estimate

Sr No	Particulars	Unit	Qty.	Rate	Amount in Rs.
1	Provision of Metering arrangement at Consumer end with HT Metering Cubical 5/5A, Class 0.5S, Burden 10 VA & PT-11kV/√3 /110v/√3, 0.5, 50 VA Resin Cst/Dry Type	No	1	As per Sheet	141997.00
A					
1	Transportation			Ex-work price	141997.00
2	T&P on material		4.00%		5679.88
3	Contingencies on material Cost		1.00%		1419.97
4	Erection cost on Material (Inside S/s)		2.50%		3549.93
5	Contractor Supervision on material		15.00%		21299.55
6	Insurance, Labour & Finance Cost		5.00%		7099.85
B			3.00%		4259.91
C				Total Services	43309.09
7	Contractor profit on "C"			Sub-Total "C"	185306.09
D			5%		9265.30
8	GST			Tender Cost "D"	194571.39
9	Price Excalation on net material cost		18%		35022.85
E			5%		7099.85
10	H.O. supervision charges@ 1.3% of material cost & erection charges		1.30%		236694.09
11	Interest during construction period on " E"		5.50%		2122.86
					8284.29
	Total estimated Cost (DPR Cost) A				247101
	Total Supervision charges with Gst @18%				2505

As per power delegated vide Commercial Circular No 291, the Superintending Engineer is the competent authority with full power for technical sanction & release of loads to all installations with contract demand above 107 HP & upto 3000 KVA on Non-Express feeder under DDF & all administratively approved scheme. Hence estimate is sanctioned vide no. SE/AKL/T/EST/2022-23 / 1.3% Sup. Charges /37 Dt. 22.08.2022

The amount for estimation purpose is Rs 247101/- (Rs. Two Lakh Forty Seven Thousand One Hundred & One Only).

SOLAR PANEL INSTALLATION ESTIMATE BUDGET

ENRGY CONSERVATION MEASURES:

1. ENERGY AUDIT

Detailed Energy Audit Report – College of Engineering
and Technology, Akola

PPS Energy Solutions
THE POWER OF ENERGY



MAHARASHTRA ENERGY DEVELOPMENT AGENCY

Maharashtra Energy Development Agency
(Government of Maharashtra Institution)
Aundh Road, Opposite Spicer College Road, Near Commissionerate of Animal Husbandary,
Aundh, Pune, Maharashtra 411067
Ph No: 020-35000450
Email: eee@mahaaurja.com, Web: www.mahaaurja.com

ECN/2021-22/CR-28/3412 06th July, 2021

**CERTIFICATE OF REGISTRATION
FOR CLASS 'A'**


We hereby certify that, the firm having following particulars is registered with
MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA) under given category as
"Energy Planner & Energy Auditor" in Maharashtra for Energy Conservation Programme of
MEDA.

Name and Address of the firm : M/s PPS Energy Solutions Pvt. Ltd.
B-403, Bharat Vihar, S.No-78,
Bharti Vidyapith, Campus,
Katraj, Pune-411043.

Registration Category : Empanelled Consultant for Energy Conservation
Programme for Class 'A'

Registration Number : MEDA/ECN/2021-22/Class A/EA-11

- Energy Conservation Programme intends to identify areas where wasteful use of energy occurs and to evaluate the scope for Energy Conservation and take concrete steps to achieve the evaluated energy savings.
- MEDA reserves the right to visit at any time without giving prior information to verify quarterly activities performed by the firm and canceling the registration, if the information is found incorrect.
- This empanelment is valid till **05th July, 2023** from the date of registration, to carry out energy audits under the Energy Conservation Programme
- The Director General, MEDA reserves the right to cancel the registration at any time without assigning any reasons thereof.


General Manager (EC)

2. Analysis of Consumption Details

Detailed Energy Audit Report – College of Engineering
and Technology, Akola



Consumption Details

Table 3 Billing Data

Month	kWH	KVAH	Billed MD	Demand Rate (Rs/KVA)	Billed PF	Industrial Units	Basic Unit rate (Rs/kWh)	Demand Charges (Rs)	Energy Charges (Rs)	TOD (Rs)	Electricity Duty (Rs)	Excess MD Charges	Total Current Bill (Rs)
Oct-21	5543	6121.00	44	432	0.905	6121	9.21	109008.00	56374.00	-117.00	16525.00	0.00	95310.00
Nov-21	6414	7458.00	55	432	0.860	7458	9.21	23760.00	68588.18	386.00	20370.00	0.00	118640.00
Dec-21	6473	7690.00	41	432	0.841	7690	9.21	17712.00	70324.90	-750.00	112714.00	0.00	112710.00
Jan-22	6,067	6509.00	41	432	0.931	6509	9.21	17712.00	59947.89	-803.00	16905.00	0.00	98610.00
Feb-22	6,910	7175.00	48	432	0.963	7175	9.21	20736.00	66081.75	-73.90	19059.00	0.00	111164.00
Mar-22	10354	10715.00	56	432	0.966	10715	9.21	24192.00	98585.15	-162.80	27616.21	648.00	159530.00
Apr-22	10534	10814.00	67	454	0.974	10814	8.96	30418.00	96893.44	-121.00	30130.00	8172.00	175372.00
May-22	10736	11029.00	66	454	0.973	11029	8.96	29964.00	98819.84	121.00	30380.21	7491.00	175130.00
Jun-22	10487	10952.00	64	454	0.957	10952	8.96	29056.00	98129.92	672.30	33427.13	6129.00	192810.00
Jul-22	7380	7916.00	49	454	0.932	7916	8.96	22246.00	70327.36	81.00	23502.23	0.00	136940.00
Aug-22	10514	11599.00	68	454	0.906	11599	8.96	30872.00	103927.04	833.00	35944.30	8853.00	207340.00
Sep-22	8217	8672.00	62	454	0.947	8672	8.96	28148.00	77701.12	177.00	27455.11	4767.00	159880.00
Aug	8302	8888	55	443	0.930	8888	9.09	31985	80583	70	32836	3005	145370
Max	10736	11599	68	454	0.974	11599	9.21	109008	103927	833	112714	8853	207340
Min	5543	6121	41	432	0.841	6121	8.96	17712	56374	-803	16525	0	96310
Sum	99629	106650				106650		383824	967001	243	394028	36060	1744436

3. ENERGY SAVING CALCULATIONS

Detailed Energy Audit Report – College of Engineering and Technology, Akola



Energy Saving Calculations:

Particular	Value	Unit
Total Annual Consumption	99629	kWh/Year
Unit Rate	9.09	Rs./kWh
Total Annual Energy Charges	905627.61	Rs./year
With Operation of all Capacitor banks, Annual Energy Saving	31696.97	Rs./year
Annual Energy Saving	0.32	Rs (Lakhs)/year
Billed PF Penalty	0.66	Rs (Lakhs)/year
Present Billed Power Factor	0.929	
Desired Billed Power Factor	1	
Multiplying Factor	0.395	
Total Connected Load	216	kW
Size of required Capacitor Bank	85.32	kVAR
Rate of Capacitor Bank	1500	Rs./KVAR
Total Investment	1.28	Rs.
Payback	4.04	Years

Month	Billed PF	PF Penalty (Rs)
Oct-21	0.905	5425.07
Nov-21	0.860	9733.39
Dec-21	0.841	11327.80
Jan-22	0.931	4182.57
Feb-22	0.963	2567.93
Mar-22	0.966	3515.53
Apr-22	0.974	2697.57
May-22	0.973	2817.67
Jun-22	0.957	4354.33
Jul-22	0.932	4934.81
Aug-22	0.906	9910.01
Sep-22	0.947	4224.05
Avg	0.93	5474.23
Max	0.97	11327.80
Min	0.84	2567.93
Sum		65690.73

7.1.2-2 facilities in the Institution for the management of the following types of degradable and non-degradable waste

Our institution has deep concern to protect environment, health and well-being through implementation of effective waste management practices such as segregation, recycling, and composting. Promoting the consciousness of generating less waste among students, staff and faculty members has also been adopted. Our house keeping staff, gardeners and sweepers help in segregation of waste.

It is segregated at source and collected by the sweepers to dispose off properly to the dumping tank. Waste like plastic, metals, glass, cardboard, newspaper and stationery are systematically collected, segregated. Our institute works on paperless concept by digitization of office procedures through electronic means via WhatsApp, email which helps thus in reducing paper-based waste and ultimately reduce carbon dioxide emissions. Use of paper printed on one side is encouraged in sending fax, print drafts before final document, meeting minutes, and notes in office practices as environmentally preferred alternative to waste management to reduce pollution. Students are encouraged to use waste paper and newspaper in creative practices during various extracurricular activities such as Wall Magazine, Waste to best etc. Trees waste such as dried leaves and plant clippings is collected from all around the campus and used for composting, compost so produced is used in organic farming. Institute provides Dustbins which have been installed throughout campus for waste segregation. The institute authorities are taking initiatives to make the campus paperless. Internal communication in the campus, through e-mail or e-messages, is driving towards paperless office. Electronic notice boards are installed in the campus to display circulars and information for the students. Electronic gadgets are preferred to transfer and store the official data and information. Library and examination sections are equipped with efficient software.

Green initiatives by the college:

ii)E-waste management: Out-dated and low-end e-components are being used for demonstration. E.g. CRO, Function Generator like these electronics equipments have been used as demonstration models in respective laboratories. The major e-waste such as out of use instruments / equipment, CRTs, Printers, Computers, Electronics gadgets, circuits, kits have been written off and then it is sold out to buyers by auctioning. All the miscellaneous e-waste such as CDs, batteries, fluorescent bulbs, PCBs and electronic items are collected from every department and office, and delivered for safe disposal. Useful parts of electronic gadgets like resistors, capacitors, inductors, diodes, transistors, thrusters etc have been removed from the gadgets for reuse purpose in practical/projects.

VII. WATER HARVESTING

Rainwater / roof water harvesting has been done in entire campus to increase underground water table. Surface run of & roof top water is collected and used for garden irrigation. Rainwater is collected from each shade and corner campus and drop into into the wells. For water harvesting survey has been carried out and underground storage tanks are constructed in campus. The tress and lawns are maintained with water drips and sprinklers respectively. Reuse of waste water for gardening. Every year NSS volunteers are involved in Special Camp where they construct CCTs (Contour Crafting Traversing) and coffer dams.

VIII. ENVIRONMENT CONSCIOUSNESS

Thus the institute is very much conscious about environmental issues. Regular practices and activities have been adopted to create environmental awareness. The institute is very keen for making the campus eco-friendly by adopting certain measures and policies. All the academic buildings and other surrounding area in the campus are cleaned regularly by sweepers. The Institute has adopted energy conservation practices, tree plantation and water harvesting for making the campus clean, green and healthy.

The institute has adopted following strategies for environmental consciousness:
 Regular Campus Cleanliness, Polythene free and smoking free zone helps to make campus eco-friendly. Green belt evergreen trees and plants.
 Tree Plantation on the occasion of Independence Day & "Tree plantation Day".
 Reduction in usage of papers by digitizing most of the records.
 Effective utilization of rough papers (one side printed) for printing.
 Students are motivated for eco- friendly practices.
 Maximum use of Public transport by students and staff.
 Sharing of cars and two wheelers by staff and students.
 Announcing 'NO VEHICLE DAY'.

Green initiatives by the college:

V. Use of ENERGY EFFICIENT APPLIANCES:

Energy audit is conducted for saving of electrical power. Resistive based fan regulators are replaced by solid state devices based regulators which reduce losses in the electrical power also electronic ballasts are used to control power. Replacing old light systems by energy efficient Compact Fluorescent Lamps (CFL) tubes and bulbs. The faculty, staff and students takes care of switching off lights, fans and other electrical devices to avoid wastage of energy when they are not in use. Single switch is used to switch off classroom, laboratory power supply for fans and light points. The workplaces are arranged to take advantage of natural light and ventilation from windows. Energy awareness campaigns have been carried out for the student, faculty and staff members. Placards, notice boards have been used for creating awareness about power saving and safety.

VI. WASTE MANAGEMENT:

Everyday all the academic buildings and other surrounding area in the campus are cleaned by sweepers and they separate out waste and dispose accordingly. Classrooms and studios are provided with dustbins which are prepared by students by reusing other materials.

i). COMPOSTING With the vision to produce fertilizer with the campus using the waste generated in the campus, the waste compost plant is installed and operated by department of civil engineering in college campus; Waste excluding polythene generated in the campus is converted in to compost by using PDKV culture. The waste mainly generated being a teaching institute is used papers along with other organic waste like leaves and garden residues. Initially all the organic and inorganic waste is separated so that organic waste can be put for composting. After 4 to 6 turnings in the period of four month, the fertilizer is obtained (approximately quantity of 20 sags of 50 kg). The efficiency obtained on volumetric basis is 111kg / cu-m / four months. Similarly another lot is obtained in the interval of four months.



Green initiatives by the college:

iii) Liquid fuel: Industries require Greece. Due to increase in temperature in industries and because of melting of grease in Mechanical Process get higher temperature, greasing is to be done frequently. The grease normally used in industry contents its excreted from Soap. We have added polymeric base to Greece for which our Institute have patent. Polymer liquid fuel can be uses as boiler fuel. We have been practically using liquid fuel with blending of Polymer base in several Industrial Unit at M.I.D.C., Akola successfully which is without in basic designing for Burning Unit.

iv) Modification of Bitumen

In construction of Village Roads, State and National Highways. Bitumen is normally used because of heavy traffic Bitumen develops cracks to reduce the cracking of Bitumen. We have added 4% of Plastic Waste for bridging the cracks and improvisation penetration index P.W.D.(Public Work Department, Akola) has accepted add ion of 4% of Plastic waste, for their Road Projects for, which we having and Reading and Test Certificates.

v) Plastic for Energy recovery from waste. We have designed, Kilns for 'down jet combustion. Down jet Combustion Technique show minimal level of Car and other Gases. Where the efficiency is seen to be 35% to 40%.

vi) Seed Processing:

In seed Processing Units for cleaning of cotton seeds and removal of sheathing. There was a tradition of using Hydrochloric Acid(HCL) , Sulphuric Acid (H₂SO₄) is created – about 60 to 80%. Which is highly corrosive and hazardous to environment and health and this spend acid used to be drained in low line areas quarries, which change nature of soil resulting in contamination of water and environment. We have developed environment solution of generation of dry Hydrochloric Acid in gaseous form. We have developed and technique where dry HCL gas is used without use of Sulphuric Acid (H₂SO₄). The non use of Sulphuric Acid (H₂SO₄) is instrumental in preserving the Environment. This is a Pilot Project.

viii) Seed Coating:

We have developed a Water Soluble Polymer for coating of seeds. This maintains the desired moisture level for germination. This help ensuring quality of seed and its branding. For example :Soya been Seeds: Soya been is only seed having its embryo outside it. In transportation, because of frequent impacts during loading and unloading the germination value is significantly reduced. Because of Polymer Coating the germination quality increased to level of more than 70% and process is Cost Effective.

PLASTIC WASTE MANAGEMENT ACTIVITIES

- ❖ Plastic Free Village Campaign Done By The Students And Collected 10 Kg Of Plastics In The Village on 16 Sept 2019 in Hiwara Korde.



- ❖ As per the directions of IITD , We have Displayed the banner of Unnat Bharat Abhiyan In College Campus To Motivate Students And Staff For This Nation Wide Program on 20 Sept 2019 in COET Akola

 Government of India
Ministry of Human Resource
Development

 UNNAT BHARAT ABHIYAN

 IIT Delhi

उन्नत भारत अभियान
UNNAT BHARAT ABHIYAN

शिक्षित भारत-स्वस्थ भारत- स्वच्छ भारत-स्वावलम्बी भारत-संपन्न भारत
सभी को मिलाकर गाँवों के विकास के लिए
Convergence of Knowledge/ Experience/ Resources for Rural Development

 Organic Farming

 Water Management

 Artisans, Industries
& Livelihood

 Basic Amenities

 Sustainable Energy

Invitation to Participate/ Contribute in Rural Development

- Unnat Bharat Abhiyan (UBA), a flagship programme of Ministry of Human Resource Development (MHRD), Govt. of India.
- Higher educational institutions (HEIs) of the country adopt villages for their development.
- Faculty and students to be involved in village development plan in collaboration with district administration.
- College of Engineering and Technology, Akola (C- 43169) is participating in UBA and adopted following villages for their development in collaboration with district administration.

1. Muramba 2. Hiwara Korde 3. Hirpur 4. Madhapuri 5. Palsoda

IIT Delhi, UBA cell invites all faculty and students to join UBA to bring for transformational change in the villages. For participation in UBA activities, please contact coordinator mentioned below.

Dr. G. S. Zamre
Coordinator UBA
Cell Phone : 9960691550
Email : gs zamre@yahoo.com

Prof. Virendra Kumar Vijay
National Coordinator UBA
Web: www.unnatbharatabhiyan.gov.in
Email: unnatbharatabhiyanitd@gmail.com
☎ : 01126591121, 01126591157

CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2

- ❖ As per the direction of AICTE , 40 students of our college along with 04 staff members conducted “Plastics Free Village campaign” and collected 22 kg plastic from Muramba village On 1 Oct 2019



- ❖ 40 students along with 04 staff members conducted” Jal Shakti Campaign” and “Swachhata Hi Seva” In Muramba on 1 Oct 2019.

7.1.2-3 Water conservation facilities available in the Institution:

College of Engineering and Technology Akola is located in rural area, there is no Municipal Water supply for the college. The college depends on ground water for all its water needs. Hence, efficient usage of available water and adaptation of water conservation measures are essential. The daily requirement of water in the campus is around 6.5 M³/Day.

The following measures are taken for the conservation of water:

1. RAIN WATER HARVESTING :

Run off generated in the campus is collected using a Check dam constructed in the campus on a natural drain passing through the campus. The stored water percolates into the ground to recharge ground water. The rain water coming from roof tops and that flowing within the campus are collected in five numbers of percolation pits of 3m x 3m size each, constructed at all feasible points in the campus recharge ground water.

2. OPEN WELL RECHARGE:

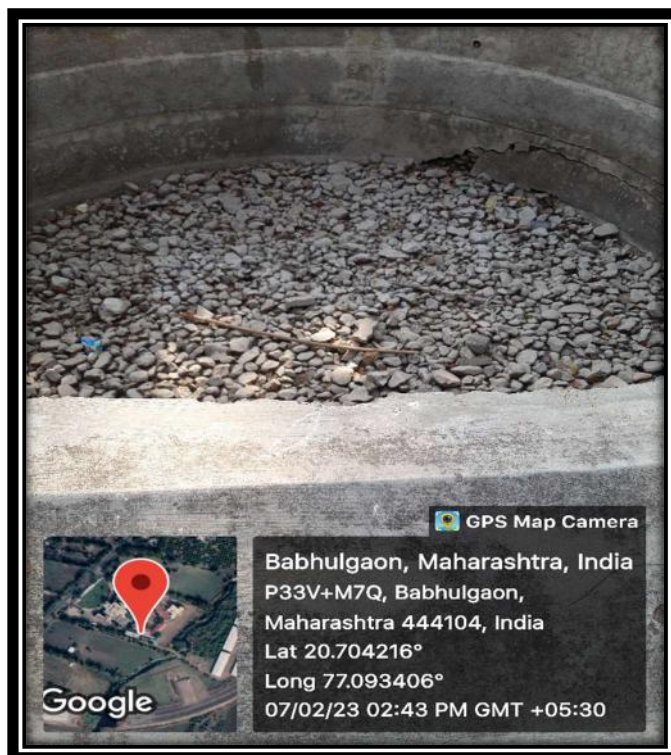
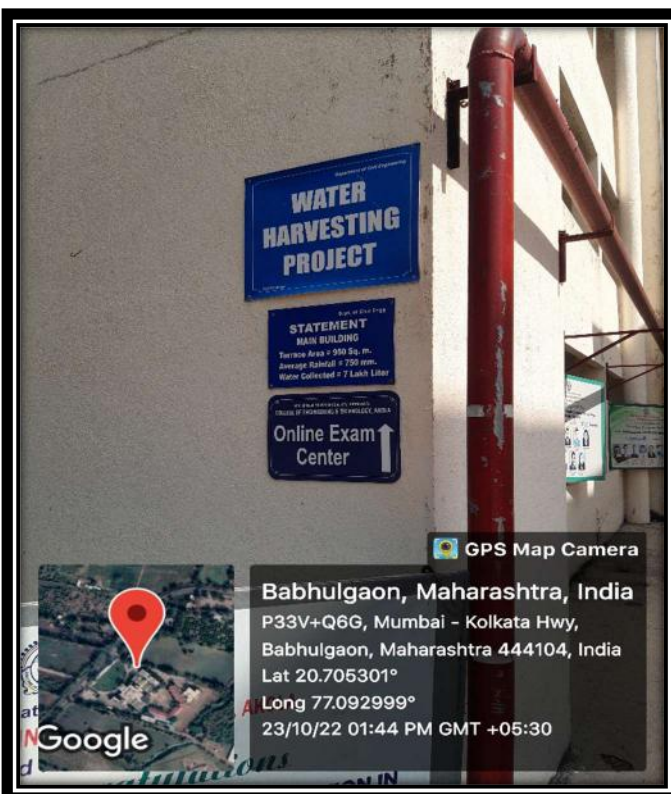
An open well located in the campus is recharged by rain water. The well also receives water from the percolation pits.

3. MAINTENANCE OF WATER DISTRIBUTION SYSTEMS IN THE CAMPUS:

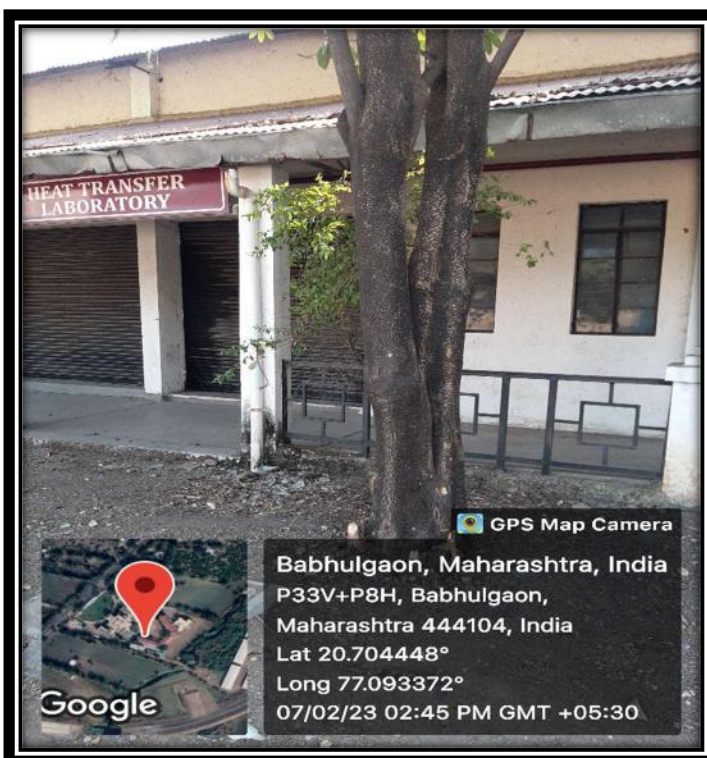
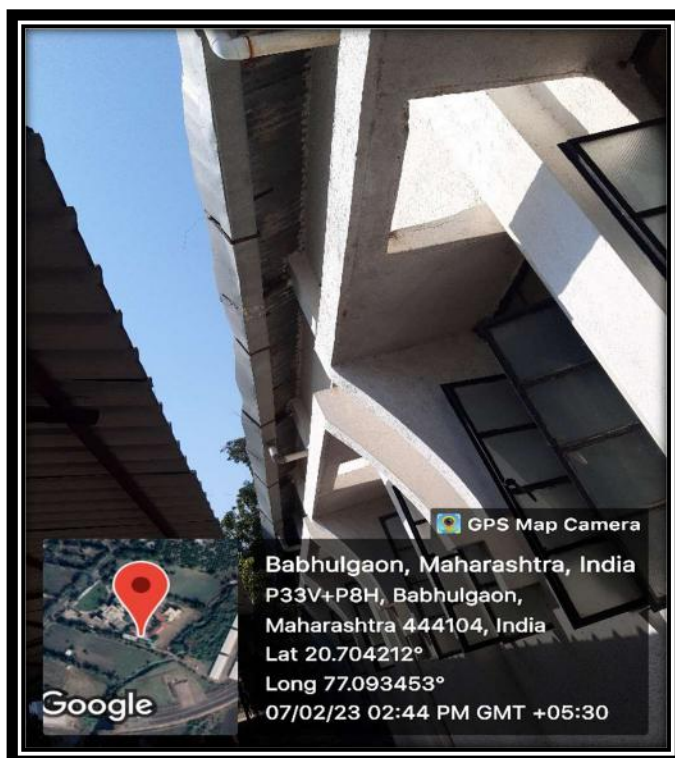
The ground water is pumped into storage tanks located at different places in the campus. There are nine numbers of over head storage tanks and one Elevated Service Reservoir in the campus. The water is distributed through well laid pipe network. Drinking water after treating in RO plant is supplied through a separate set of distribution pipes and water for all other purpose is supplied through another set of distribution pipes. Entire distribution system is well supervised by the maintenance department to ensure that there are no leakages and wastages of precious water through joints, valves etc. Waste usage of water is reduced using low

CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2

pressure flushes. All the stakeholders of the college are well educated to use water economically and efficiently.



CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2



7.1.2-4 GREEN CAMPUS INITIATIVES:

1. RESTRICTED ENTRY OF AUTOMOBILES:

The college operates with three buses covering to facilitate the students and staff. The institute encourages the staff and students to use the college transport instead of their own vehicles for safety, security, fuel conservation and to reduce environmental pollution. The college buses are checked for pollution by the authorized agency. The vehicles for two wheelers or four wheelers, security measures are mandatory.

2. USE OF BICYCLES : Our Institute is located nearly 14 km away from the Akola City and is located in Rural area. So it is not possible to carry bicycles by the students or staff. But every year our institute celebrates **“No Vehicle Day”** during celebration of Birth Anniversary of our Society Founder President Dr. Panjabrao alias Bhausaheb Deshmukh. During the celebration of **“No Vehicle Day”** Students and staff coming prefer bicycle as a mode of transport for attending the college. It is environment friendly and prevents pollution.

3. PEDESTRIAN FRIENDLY PATHWAYS:

Vehicle parking space is provided at the main entrance of the college campus. As the campus is vehicle free with some exceptions, students and staff experience comfort walking through the pedestrian friendly pathways. The internal roads are lined with trees and solar lights and they are properly maintained by the campus maintenance committee.

4. BAN ON USE OF PLASTIC:

Single-use plastic items such as plastic bottles, bags, spoons, straws and cups are banned completely and awareness is created among staff and students through orientation and display boards in the premises. To restrict the use of plastic, measures have been taken to replace plastic tea cups and glasses with paper tea cups in the canteen. The staff and students are informed to use steel or copper water bottles instead of plastic bottles.

5. LANDSCAPING WITH TREES AND PLANTS :

Landscaping of the college is worth seeing and reflects aesthetic sense. The institute has a lush green campus with large number of trees and plants to make the environment pollution free to safeguard the health of all the inmates. The lawns and the trees provide shade and beautiful ambience. Utmost care is taken to develop and maintain green landscaping by trained gardeners and supervisor. The construction, maintenance and beautification committee constituted in the college looks after the development and maintenance of the greenery in the campus.





7.1.5 GREEN CAMPUS INITIATIVES:

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Internal Green & Environment Audit Committee, College Of Engineering And Technology, Akola

Study of campus flora along with expert Dt. 12 December 2021:

In continuation with Campus Interpretation, ON Date 11 December 2021 we have arranged an Experiential Field Survey of our premises. Guidance regarding plant identification, characteristic features of plants, bushes, shrubs, trees, creepers were given by Botany expert Dr. S. P. Rothe. Prof. D.L. Jade, Prof. S.V. Dhokane, Ar. Malini Nathe, Ar. Gulfam Shaikh and students of Architecture were present.



Tree plantation: Tree plantation Activity was carried out by COET Akola under NSS program. Teaching, supporting staff, students of first year, and Hon'ble Principal actively participated in this activity.



Internal Green & Environment Audit Committee, College Of Engineering And Technology, Akola



Tree Plantation Dt. 24 July 2021 Venue- School Of Architecture Campus



Campus Interpretation, Coet, Akola

Students of second year, Third year n Fourth year studied different trees n and birds by visiting campus of College of Engineering and Technology Akola. Students draw sketches of college, trees.



23

Scanned with CamScanner

Green initiatives by the college:

A Long lasting road from waste plastic for a better and green world....

Disposal of waste plastic is a major problem. It is non-biodegradable & It mainly consists of low-density polyethylene. Burning of these waste plastic bags causes environmental pollution. To find its utility in bituminous mixes for road construction , Laboratory performance studies were conducted on bituminous mixes. Laboratory studies proved that waste plastic enhances the property of the mix. Improvement in properties of bituminous mix provides the solution for disposal in an useful way. Plastic roads mainly use plastic carry bags, disposable cups and bottles that are collected from garbage dumps as an important ingredient of the construction material.

When mixed with hot bitumen, plastics melt to form an oily coat over the aggregate and the mixture is laid on the road surface like a normal tar road.

What are waste plastic roads?

The roads constructed using waste plastic, popularly known as Plastic Roads, are found to perform better compared to those constructed with conventional bitumen.

1) The Indian Centre for Plastics in the Environment (ICPE) has been promoting the use of plastic waste to construct asphalt roads.

2) A few trial roads have been paved.



Aggregate of 20mm, 10 mm.

Stone Dust and Lime as Filler 60/70,80/100grade bitumen. Waste plastic in the shredded form.(PVC is not Used)

II) ARCHITECTURE DEPARTMENT-

Planning of building is compact planning with multiplexing of spaces e.g. Barrier free studios that can be used as exhibition spaces. Studios are equipped with furniture that is space efficient. We have provided built in cupboards in studios for students equipments. Steel windows are used which admit 100% light and ventilation. Walls of Studios are constructed with rat trap bond so as to protect from harsh sun rays in summer.





Internal Green & Environment Audit Committee, College Of Engineering And Technology, Akola

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Internal Green & Environment Audit Committee, College Of Engineering And Technology, Akola



Tree Plantation Dt. 24 July 2021 Venue- School Of Architecture Campus



Campus Interpretation, Coet, Akola

Students of second year, Third year n Fourth year studied different trees n and birds by visiting campus of College of Engineering and Technology Akola. Students draw sketches of college, trees.



23

Scanned with CamScanner

7.1.2-5 The Institution has Divyangjan-friendly, barrier free environment:

Our Institute provides barrier-free environment where students and staff with disabilities can move about safely and freely and use the facilities within the built environment. The environment supports the independent functioning of individuals so that they can participate without assistance in everyday activities within the campus. Buildings / places / transportation systems are made barrier free

RAMP :

Ramp-Rails, an inclined plane, are built in addition to staircases in the mail building and Computer Department, Architecture departments Buildings. The ramps are carefully designed as per specifications to be used by the differently abled people.

LIFT:

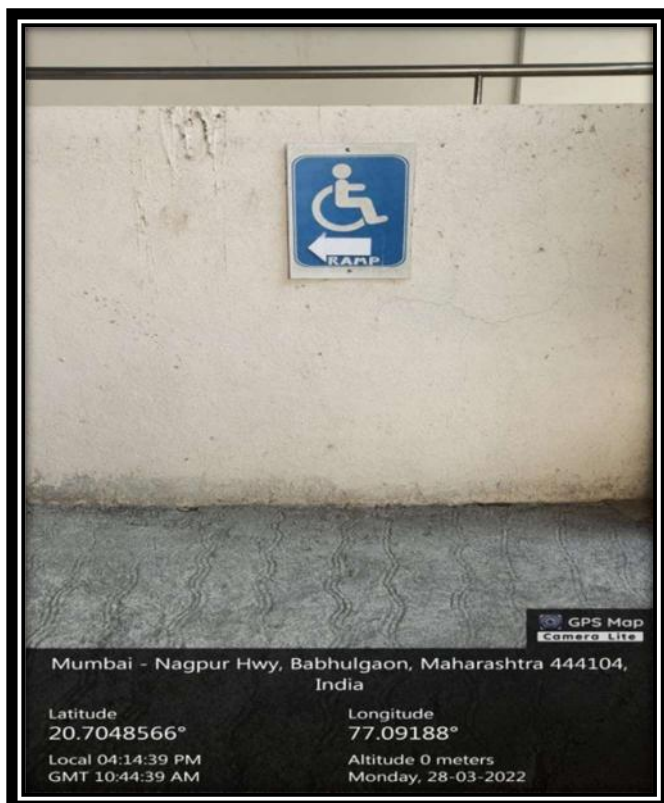
College buildings have provision of lift for barrier free access for students, staff, visitors and differently abled people. The lift facility is provided in the main building.

Divyangjan -friendly washrooms :

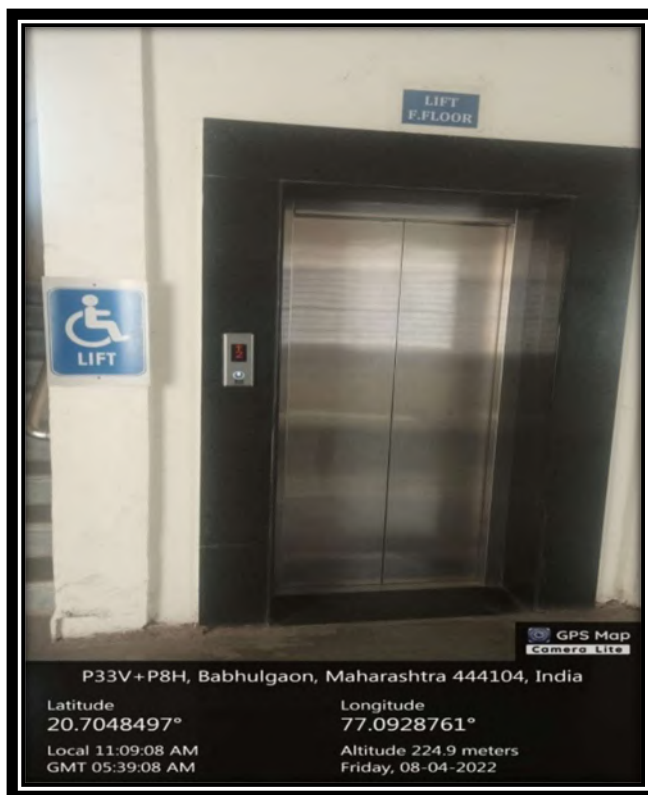
College buildings have provision of **Divyangjan** -friendly washrooms for barrier free access for students, staff, visitors with disabilities.

CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2

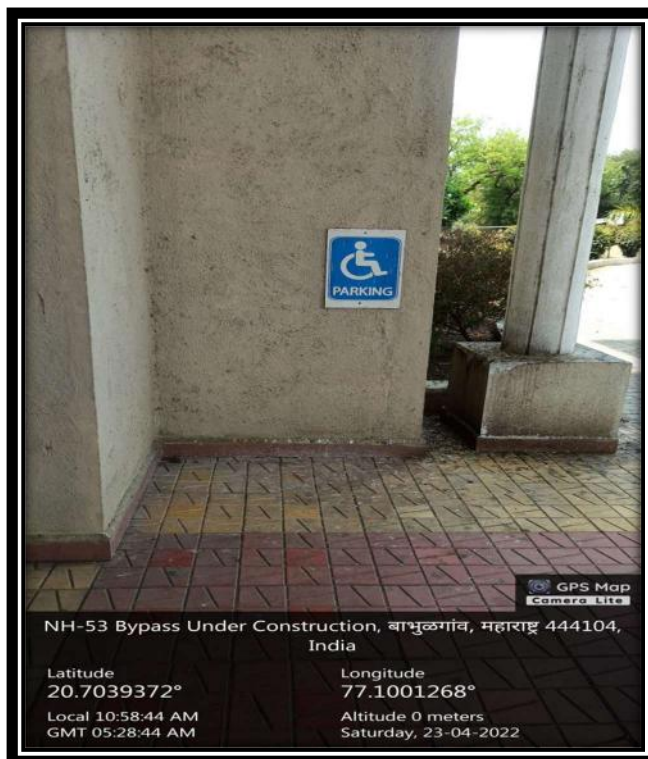
RAMP FACILITY



LIFT FACILITY



TOILET FACILITY



PARKING FACILITY

INITIATIVE TO ADDRESS SOCIAL CONCERNS ACTIVITY

ACTIVITY 1

SOCIAL INITIATIVE IS CHOSEN FOR RENOVATION AND TRANSFORMATION OF THE BLIND SCHOOL,MALKAPUR, AKOLA BY SCHOOL OF ARCHITECTURE COET AKOLA

KANUBHAI VORA BLIND SCHOOL - 15 AUGUST 2017

OBJECTIVE

AS PER THE OBJECTIVES, SOCIAL INITIATIVE IS CHOSEN FOR RENOVATION OF THE BLIND SCHOOL,MALKAPUR, AKOLA BY SCHOOL OF ARCHITECTURE COET AKOLA

THE CONTEXT

The blind school was in very bad condition , Blind school of akola and nearby students learn there ,so School of Architecture Students chosen project to renovate and transform that space in to well defined space for blind students.

THE PRACTISE – students cleared that space and decorated in to beautiful learning space for blind students

EVIDENCE OF SUCCESS-

Students learned how to express their ideas in to reality in Architectural form how to provide services for specially abled students.

PROBLEM ENCOUNTERED

In Akola the space was in very bad condition and students find some time vey hard to clear, renovate and transform .They have to work hard for transformation acc to need of blind people.



BEFORE THE ACTIVITY



BEFORE



USE OF WASTE TILES & BRICKS



,SOCIAL INITIATIVE FOR THE BLIND SCHOOL,MALKAPUR

ACTIVITY

TO IDENTIFY AN ABANDONED PUBLIC SPACE IN YOUR CITY THAT HAS THE POTENTIAL TO BE A VIBRANT URBAN SOCIAL SPACE.

TO EVOLVE A DESIGN FOR **ALTERNATIVE SPACES** THAT TRANSFORMS THE ABANDONED PUBLIC SPACE

TO ENGAGE IN REAL LIFE HANDS ON CONSTRUCTION PROGRAM AT THE CHOSEN SITE AND TRANSFORM THE PLACE

THE CHALLENGE WILL BE TO KEEP THE BUDGETS AFFORDABLE AND ENSURE ECOLOGICAL MATERIALS ARE USED

GIVING IMPORTANCE TO THE SPIRIT OF THE ALTERNATIVE SPACE



TRANSFORMATION BEGIN



BEST FROM WASTE

OUTCOME / RESULT OF THE ACTIVITY

It was really a great experience working for these students.

- these children enjoy each moment of their life while playing, eating, studying & singing.
- we enjoyed serving for them and also learned, that being physically disabled should not be our weakness, we have to accept it and keep going in our life.
- we developed sensory pathways so that they don't get harm even while walking.
- we painted their walls to make a innovative school for them to learn.
- Trees and lawn are provided so they can feel nature, enjoy being outside and feel fresh.
- Different textures for pavers i.e. Sensory pathway is created so they can feel it by their legs.
- toys are cleaned painted and installed properly so that they don't get harm and enjoy their playing time.

finally we enjoyed this experience and created a place where they are happy to live in



BEFORE AND AFTER



CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2



BEFORE AND AFTER



CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2



**INSTITUTIONAL NOTICES FOR CONDUCTION OF VARIOUS GREEN ENERGY
INITIATIVES PROGRAMS**

श्री शिवाजी शिक्षण संस्था, अमरावती.
अभियांत्रिकी व तांत्रिकी महाविद्यालय, अकोला.

दिनांक : १७/१२/२०१९

शिक्षण महर्षी डॉ. पंजाबराव उपाख्य भाऊसाहेब देशमुख यांच्या १२१ व्या जयंती उत्सवानिमित्त
खालील प्रमाणे कार्यक्रम राबविण्यात येत आहेत—

- १) स्वच्छता अभियान सप्ताह — १८/१२/२०१९ ते २५/१२/२०१९ (विभाग निहाय)
२) वाहन विरहित दिवस — २०/१२/२०१९

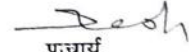
सर्व कर्मचाऱ्यांसाठी बस व्यवस्था जुन्या कॉम्पसवरून खालील प्रमाणे राहील—

अ) ८:१५ वाजता

ब) १०:०० वाजता

विभाग निहाय स्वच्छता अभियान

अ.क्र.	विभाग	दिनांक	वेळ
१	सिव्हिल	१८/१२/२०१९	०९ ते १०.३०
२	एफ. वाय. एम. सी.	१९/१२/२०१९	०९ ते १०.३०
३	मेकॅनिकल	२०/१२/२०१९	०९ ते १०.३०
४	केमिकल	२१/१२/२०१९	०९ ते १०.३०
५	कॉम्प्युटर	२३/१२/२०१९	०९ ते १०.३०
६	आर्किटेक्चर	२४/१२/२०१९	०९ ते १०.३०
७	ऑफिस, अॅकॅडेमिक, अकाउन्ट्स, मेन्टेनन्स, लायब्ररी व वर्कशॉप	२५/१२/२०१९	११ ते १२.३०


प्राचार्य

NOTICE FOR CLEANLINESS DRIVE WEEK FROM 18/12/2019 TO 25/12/2019

NOTICE FOR NO VEHICLE DAY ON 20/12/2019

CRITERIA-7 INSTITUTIONAL VALUES AND BEST PRACTICES / 7.1.2

श्री शिवाजी शिक्षण संस्था, अमरावती द्वारा संचालित,
अभियांत्रिकी व तांत्रिकी महाविद्यालय, अकोला.

// कार्यक्रम पत्रिका //

शिक्षण महर्षि कृषिरत्न डॉ. पंजाबराव उपाख्य भाऊसाहेब देशमुख हयांच्या १२२ वा जयंती उत्सव साजरा करणेबाबत.

श्री शिवाजी शिक्षण संस्था, अमरावतीच्या वतीने प्रथेनुसार शिक्षण महर्षि कृषिरत्न डॉ. पंजाबराव उपाख्य भाऊसाहेब देशमुख हयांच्या जयंती पर्वाने दिनांक २५/१२/२०२० ते २७/१२/२०२० पर्यंत खालील कार्यक्रमाचे आयोजन करण्यात येत आहे.

दिनांक २५/१२/२०२०	होंडावंदन	स. :- ११:०० वा.
	भाऊसाहेबांच्या प्रतिमेस हारार्पण	स. :- ११:१५ वा.
	"स्वच्छता अभियान आंतरविभाग"	दु :- १२ ते २ पर्यंत
दिनांक २६/१२/२०२०	"वृक्षारोपण"	स. :- ११:०० वा.
	"स्वच्छता अभियान आंतरविभाग"	दु :- १२ ते २ पर्यंत
दिनांक २७/१२/२०२०	सकाळी ९:०० वाजता डॉ. पंजाबराव उपाख्य भाऊसाहेब देशमुख यांच्या प्रतिमेसमोर फुलवात प्रज्वलीत करून त्यांना अभिवादन करून आदरांजली अर्पण.	
	पूर्णाकृती पुतळ्यास हारार्पण व पुष्पांजली वाहून आदरांजली अर्पण.	

प्रा. एन. बी. बुजरूक

प्राचार्य

NOTICE FOR CLEANLINESS DRIVE ON 25/12/2020 & 26/12/2019