Shri Shivaji Education Society Amravati's

Shri Shivaji Science & Arts College
Chikhli, Dist. Buldhana

NAAC Reaccredited 'B++' Grade (CGPA 3.00)

Department of Physics

Sponsored by

पीएम-उषा PM-USHA

PM-USHA Grant Component 3.0

(Strengthen College)

Organizes

Certificate Course in

Renewable Energy

Duration: 03 Months

01 August 2025 to 18 February 2026

Time: 07:00 AM to 10:00 AM

Dr. P. R. Padole

Principal

Shri Shivaji Science and Arts College Chikhli, Dist. Buldhana

Shri Shivaji Education Society, Amravati.

Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.

Department of Physics

Certificate Course in Renewable Energy

01 August 2025 to 18 February 2026

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Shri Shivaji Education Society, Amravati's

Shri Shivaji Science and Arts College

Chikhli, Dist. Buldana

Department of Physics
Organizes
Certificate Course in Renewable Energy

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PM USHA Grant Component 3.0 (Strengthen College)

01 August 2025 to 18 February 2026

Time: 07:00 to 10:00

Organizer

Dr. V. U. Pochhi
Officiating Principal & IQAC Coordinator

Organizing Committee

Dr. S. I. Jukkalkar PM-USHA Coordinator	**Dr. V. B. Huse** Head of Department, Physics	**Dr. P. P. Padghan** Convener	
Dr. P. B. Nalle Member	**Dr. D. N. Bhoyar** Member	**Mr. E. L. Jadhao** Technical Support	**Mr. A. V. Bahekar** Technical Support

- **Eligibility:** XII Science/Any Graduate and Post Graduate students can apply for this certificate course.
- **Link for Registration:** https://chat.whatsapp.com/K97ot8v2DRXJTU7qvFiKuZ?mode=gi_t

Objectives of the Course

- To provide fundamental knowledge of renewable energy sources with special emphasis on solar energy.
- To develop understanding of the working principles of solar cells and photovoltaic (PV) modules.
- To impart knowledge about major components of solar PV systems such as batteries, inverters, and charge controllers.
- To develop basic skills in solar PV system sizing, installation, and safety practices.
- To train students in identification, troubleshooting, and maintenance of PV modules and associated components.
- To enable students to analyze real-time solar plant case studies and prepare simple project reports.

Learning Outcomes

After completion of this course, students will be able to:

- Develop knowledge about renewable energy sources.
- Develop skill of solar cell/PV technology.
- Understand inverter and battery systems.
- Fix and troubleshoot PV module issues.
- Participate in solar plant installation and analyze real case studies.

Scheme of Course

Course Structure	Examination Scheme
• Course Name:-Certificate Course in Renewable Energy • Number of Modules : 05 • Number of Theory (Hours) : 10 • Number of Practical (Hours) : 20	• Internal Marks :20 • Theory Marks : 40 • Practical Marks : 40 • Total Marks : 100

Syllabus

Sr. No.	Course Content
01	**Module I: Renewable Energy Fundamentals** • Introduction to Renewable Energy sources • Solar energy potential and importance • Solar radiation basics • Solar PV and Solar Thermal systems
02	**Module II: Solar Cell & PV Technology** • Working principle of Solar Cell • I–V Characteristics, Efficiency and Fill Factor • Solar Cell to Module and Array • Types of PV Modules • Factors affecting PV module performance
03	**Module III: Inverter and Battery Systems** • Types of Batteries and characteristics • Charging and discharging process • Types of Inverters and working • Charge Controllers (PWM & MPPT) • Selection criteria of inverter and battery
04	**Module IV: Solar Plant Installation & Troubleshooting** • Basics of Solar PV system sizing • Site survey and shading analysis • Installation of PV modules and mounting structure • Basic wiring and safety measures • Common faults in PV modules • Troubleshooting of PV modules
05	**Module V: Case Study & Field Application** • Case study of Grid-connected Solar PV System • Performance analysis.

List of Practicals

1. Measurement of solar radiation using solar meter / pyranometer
2. Identification of components of Solar PV system
3. Study of working principle of Solar Cell
4. Plotting I–V Characteristics of Solar PV Module
5. Calculation of Efficiency and Fill Factor of Solar Cell
6. Demonstration of Battery charging and discharging process
7. Basic Solar PV system sizing calculation
8. Site survey and shading analysis for solar installation
9. Demonstration of Solar PV module installation & mounting
10. Identification of common faults in PV modules

(Practical sessions will be demonstrated through offline platform)

Important Instructions

- Registration is mandatory for enroll for this course.
- Lectures will be conducted through online and offline mode.
- For the successful completion course, it is mandatory for each participant to submit assignments.
- At the end of course exam will be conducted.
- Each participant should score a minimum of 50% in total to avail course completion certificate.
- Join the What's app Group for link and other information of Course.
- Certificate will be issued for all active participants.
- Feedback is mandatory.

Time Table			
Day/Time	07:00-08:00	08:00-09:00	09:00-10:00
Monday	Lecture	Lecture	Lecture
Tuesday	Lecture	Lecture	Lecture
Wednesday	Lecture	Lecture	Lecture
Thursday	Lecture	Lecture	Lecture
Friday	Lecture	Lecture	Lecture
Saturday	Practical	Practical	Practical

Lecturers:

- **Dr. V. S. Kalyamwar (Guest lecture)**

  Department of Physics. Bhartiya Mahavidyalay Amravati

- **Dr. V. B. Huse**

  Department of Physics, Shri Shivaji Science and Arts College, Chikhli.

- **Dr. P. B. Nalle**

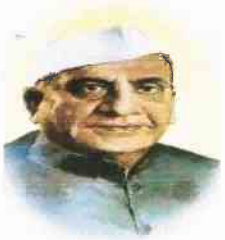
  Department of Physics, Shri Shivaji Science and Arts College, Chikhli.

- **Dr. P. P. Padghan**

  Department of Physics, Shri Shivaji Science and Arts College, Chikhli.

- **Dr. D. N. Bhoyar**

  Department of Physics, Shri Shivaji Science and Arts College, Chikhli.



Shri Shivaji Education Society, Amravati's

Shri Shivaji Science and Arts College

Chikhli, Dist. Buldana

Department of Physics
under
Certificate Course in Renewable Energy

Sponsored by

PM USHA Grant Component 3.0 (Strengthen College)

organizes

Guest Lecture on Photovoltaic Cell and Applications

05 February 2026 **Time: 11:00 to 01:00**

Organizer

Dr. P. R. Padole
Principal

Recourse Person

Dr. V. S. Kalyamwar
Department of Physics,
Bhartiya Mahavidyalaya Amravati

Organizing Committee

Dr. S. I. Jukkalkar PM-USHA Coordinator	**Dr. V. B. Huse** Head of Department, Physics	**Dr. P. P. Padghan** Convener

Dr. P. B. Nalle Member	**Dr. D. N. Bhoyar** Member	**Mr. E. L. Jadhao** Technical Support	**Mr. A. V. Bahekar** Technical Support

Shri Shivaji Education Society, Amravati's
Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.
Department of Physics
Certificate Course in Renewable Energy
01 August 2025 to 20 February 2026

Registration Form

Roll No.	:	
Name of Student	:	Shiza Asnal Mohammad Atique
Date of birth	:	..22./.03../. 2008..... (DD-MM-YYYY)
Gender	:	○ Male ● Female
Class	:	BSc - Ist (Math)
Semester:	:	
ABC Id	:	26017 —
Mobile No.	:	8805299625
Email Id.	:	farheenkausar208@gmail.com
Address for Correspondence	:	Moti Chowk at Amdapur.

Signature

Shri Shivaji Education Society, Amravati's
Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.
Department of Physics
Certificate Course in Renewable Energy
01 August 2025 to 20 February 2026

Registration Form

Roll No.	:	—
Name of Student	:	Jayesh Devidas Jadhao
Date of birth	:	09/02/2008 (DD-MM-YYYY)
Gender	:	● Male ○ Female
Class	:	(B.SC I)
Semester:	:	—
ABC Id	:	—
Mobile No.	:	7020354908
Email Id.	:	jadhaojayesh61@gmail.com
Address for Correspondence	:	At Post Udaynagar Ta. Chikhli Dist. Buldhana

Signature

Shri Shivaji Education Society, Amravati's
Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.
Department of Physics
Certificate Course in Renewable Energy
01 August 2025 to 20 February 2026

Registration Form

Roll No.	:	
Name of Student	:	Ku. Shilpa Dhammpal Maghade
Date of birth	:	13./06./.2007..... (DD-MM-YYYY)
Gender	:	○ Male ● Female
Class	:	B.Sc Ist year
Semester:	:	(Sem Ist)
ABC Id	:	218148980184
Mobile No.	:	9270327431
Email Id.	:	maghadeshilpa9@gmail.com
Address for Correspondence	:	At. Post Kolara Tq. Chikhli dist. Buldana.

Signature

Shri Shivaji Education Society, Amravati's
Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.
Department of Physics
Certificate Course in Renewable Energy
01 August 2025 to 20 February 2026

Registration Form

Roll No.	:	—
Name of Student	:	Rayyan Ahmad Khan Jamil Ahmad Khan
Date of birth	:	12.4.2007 (DD-MM-YYYY)
Gender	:	~~O~~ Male O Female
Class	:	BSc - I st (2 st sem)
Semester:	:	(2 st sem)
ABC Id	:	—
Mobile No.	:	8793305160
Email Id.	:	rayyanahmadas@gmail.com
Address for Correspondence	:	Fatrabad Road Near Noorani Masjid Chikhli

Signature

Shri Shivaji Education Society, Amravati.
Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.
Department of Physics
Certificate Course in Renewable Energy
01 August 2025 to 18 February 2026

List of Enrolled Students

Sr. No.	Name of Student	Class	Mobile Number	Email
1	Abhishek Dadarao suste	B. Sc. - I	9921771788	abhisheksuste45@gmail.com
2	Achal Anil chikte	B. Sc. - I	9921519142	achalchikte07@gmail.com
3	Anuja Anil Ingle	B. Sc. - I	8459632057	anujaingle2007@gmail.com
4	Anuja Gajanan Kulkarni	B. Sc. - I	7387397421	anujakulkarni532@gmail.com
5	Devkanya Rameshwar Parihar	B. Sc. - I	8767770224	parihardevkanya0@gmail.com
6	Divya Raju mutthe	B. Sc. - I	9529814161	mutthedivya@gmail.com
7	Gauri Dilip Gawate	B. Sc. - I	7517867419	gavategauri771@gmail.com
8	Janhavi vilas jagtap	B. Sc. - I	8793864504	janhavijagtap0207@gmail.com
9	Jayesh jadhao	B. Sc. - I	7020354908	jadhaojayesh61@gmail.com
10	Ketan deshmukh	B. Sc. - I	9881309592	ketandeshmukh003@gmail.com
11	Kirti Ananta Deshmane	B. Sc. - I	9763006364	srthkdeshmane@gmail.com
12	Laxmi sanjay chavan	B. Sc. - I	9822938019	anjalichavan2906@gmail.com
13	Mohammad Kaif	B. Sc. - I	9359056360	kaifmohmmad6360@gmail.com
14	Namrata raju ingle	B. Sc. - I	9881625176	namrataingle191@gmail.com
15	Nikita Anil Raut	B. Sc. - I	9075652173	sangitaraut530@gmail.com
16	Ovi Pandurang Vasu	B. Sc. - I	9322059804	vasuovi@gmail.com
17	Pavan Rameshwar kokate	B. Sc. - I	7028454336	kokatep286@gmail.com
18	Poonam Bhanudas Shewale	B. Sc. - I	7498638960	poonamshewale74@gmail.com
19	Prachi sudhakar Deshmukh	B. Sc. - I	8767016917	aviramdeshmukh@gmail.com
20	Pratiksha ramesh Waghmare	B. Sc. - I	8421293730	pratikshawaghamare16@gmail.com
21	Priyanka Vishvas Dhole	B. Sc. - I	8669892527	priyankadhole810@gmail.com
22	RAHID RAHIM SHEKH	B. Sc. - I	8010159722	shekhrahid801@gmail.com

23	Rayyan Ahmad Khan	B. Sc. - I	8793305160	rayyanahmadas@gmail.com
24	Rina Shaikh Raees	B. Sc. - I	9850731332	shaikhnida0472@gmail.com
25	Rohan Babalu Hiwrale	B. Sc. - I	7666141277	hiwralerohan16@gmail.com
26	Sakshi Gajanan Maind	B. Sc. - I	8459270592	harshalmaind83@gmail.com
27	Sanika Dattatray wayse	B. Sc. - I	9373374955	Sanikawayse805@gmail
28	Saniya Parveen shaikh Israil	B. Sc. - I	9145105808	saniyaisrailsk@gmail.com
29	Sayali Baburao Chharrye	B. Sc. - I	7620244990	saylichharre@gmail.com
30	Shaikh Miran	B. Sc. - I	9370520942	shaikhmiran1121@gmail.com
31	Shaikh Rehan Shaikh Nazakat	B. Sc. - I	9881500484	shaikhrehan9881500@gmail.com
32	Shazmina parvin Mohd. shafique	B. Sc. - I	7887565424	shazminaparvin626@gmail.com
33	Shilpa Dhammpal Maghade	B. Sc. - I	9270327431	maghadeshilpa9@gmail.com
34	Shivani Pradip Bahekar	B. Sc. - I	8975724871	sbahekar01@gmail.com
35	Shiza Asnal	B. Sc. - I	8805299625	farheenkousar208@gmail.com
36	Shruti Ravindra Jadhao	B. Sc. - I	7558569172	shrutijadhao262@gmail.com
37	Sneha mailind paithane	B. Sc. - I	8149676607	harshalpaithane55@gmail.com
38	Tushar Dnyaneshwar kothale	B. Sc. - I	8999625418	Tusharkothale52@gmail.com
39	Vedant Dnyaneshwar upase	B. Sc. - I	9172926448	upasevedant4@gmail.com
40	Zahed Khan Nisar Khan	B. Sc. - I	7038463892	zahed6380@gmail.com

Coordinator

HoD

Head of Physics Department
Shri Shivaji Science & Arts College
CHIKHLI

Bio-data

VINOD SURESH KALYAMWAR

Dr. Vinod Suresh Kalyamwar
Assistant Professor,
Department of Physics
Bharatiya Mahavidyalaya,
Rajapeth, Amravati,
Mobile: +919404104014
E-Mail: vskalyamwar@gmail.com

Present position:

- Assistant Professor, Department of Physics, Bharatiya Mahavidyalaya, Rajapeth, Amravati.

Educational Details:

Sr. No.	Degree	Specialization /Subjects	Board / University	Year
1	**M.Sc.**	Physics (Condense Matter Physics)	SGB Amravati University Amravati	2005
2	**Ph.D.**	Physics, Title ' Synthesis & Gas Sensing performance of nanostructure Zinc Oxide.'	SGB Amravati University Amravati	2013
3	**SET**	Physical Science	Pune University	2006
4	**B.Sc.**	Physics, Mathematics, Chemistry	SGB Amravati University Amravati	2003
5	**H.S.C.**	General Science	Amravati Board	2001
6	**S.S.C.**	General	Amravati Board	1999

Experience:

Teaching Experience: **UG: 12 years 3 Month** **PG: 01 years**

- One year four month teaching experience at Shrankarlal Khandelwal Arts, Science & Commerce College, Akola as Assistant Professor (Graduate Level) form 13th Aug 2007 to 19th Des 2008.
- As Assistant Professor (Graduate Level) form 20th Des 2008 onward at Bharatiya Mahavidyalaya, Amravati.

- One year at Vidyabharati Mahavidyalaya, Amravati as CHB Lecturer (Post-Graduate level) 2005-2006.
- One Year at Shivramji Moghe Arts, Commerce & Science College, Pandharkawada as CHB Lecturer (Graduate Level) 2006-2007.

Research Experience:

- **07** years

Research Guide Experience:

- **No of M.Sc. Project - 01**

Research Project:

Title of the Project	Status	Funding Agency Lett. No. Remark
Synthesis and gas sensing characters of ZnO Nanoparticles with porous Morphology	Completed	UGC File No. 47-1266/09 (WRO)
Gas sensing properties of Pure and Surface activated nanostructured Zinc Oxide based Thick Films	Ongoing	UGC File No.47-1065/14 (WRO)

Current Area of Research:

- Synthesis and Characterization of nanostructure materials for Gas Sensors.
- Synthesis and Characterization of Conducting polymers.

Place of Research

- Dept. of Physics, Bharatiya Mahavidyalaya, Amravati.

Foreign country Visit:

- China, Wuhan to present the research paper in 12th Asian conference on Solid State Ionics during May, 2010.

Publications in International Journals:

1. **Zinc Oxide Nanostucture Thick Films as H_2S Gas Sensors at Room Temperature, Journal of Sensor Technology, 2013, Vol. 3, Pages 31-35.**

2. **TiO_2 modified ZnO thick film resistors as ammonia gas sensors, Advance Materials Letters, 2013, Vol. 4, Issue 12, Pages 895-898.**
3. **Zn_2SnO_4 modified ZnO thick film resistors as LPG sensor, International Journal of Basic and Applied Research, 2013, Vol. 4, Pages 289-296.**
4. **Electrical Conductivity of Surface Activated Nanostructure ZnO Thick Films, International Journal of Basic and Applied Research, 2013, Vol. 4, Pages204-207.**
5. **Synthesis of nanocrystalline mg0.5cd0.5al2o4 for lpg sensing, 2017, multilogic Science Vol.6 Issue XIX**
6. **CuO modified ZnO thick film resistors for H_2S sensing operable at room temp, International Journal for engineering application and technology,2016, Issue 2 vol. 3 pages 82-85**
7. **Synthesis of Nano structure Zinc Oxide by Spray Pyrolysis and its Characterization for Gas Sensing Application, 2015, International Journal of Electrical Engineering Issue 2 Vol. 3 pages 12-17**
8. **Study of Ammonia gas sensor based on SnO2 and ZnO nanoctrystalline composite Material, International Journal of current engineering and scientific research, Volume 5, Issue 1, 2018 pages 199-208**
9. **Preparation & Characterization of FE2O3 Modified Nan crystalline Cr2O3 Based Thick Films, International Journal of current engineering and scientific research, Volume 5, Issue 1, 2018 pages 320-323**
10. **Synthesis and Chracterization of SnO2 –ZnO composites nano particles, International Journal of Scientific Research in Science and Technology, Volume 4, Issue 1, 2018 pages 286-289**
11. **Synthesis and characterization of Nanocrystalline Zn doped Magnesium ferrite via sol-gel route, , International Journal of Scientific Research in Science and Technology, Volume 4, Issue 1, 2018 pages339-343.**
12. **Synthesis & Characterization of CdO-CuO nanocomposite by sol-gel method, , International Journal of Scientific Research in Science and Technology, Volume 4, Issue 1, 2018 pages 344-346.**
13. **Synthesis and characterization of CdO nanopoarticles by microwave assisted irradiation technique, International Journal of current engineering and scientific research, Volume 5, Issue 1, 2018 pages 128-130**
14. **Characterization of pure nanostructure ZnO and its application as gas sensor, Journal of Pure Applied and Industrial Physics, Volume 5, Issue 2, 2015, pages 47-56**

Paper Presentation in National & International conferences:

1. ***Effect of Temperature of Polymerization on Conductivity and morphology of polyaniline***, 12th Asian conference on solid state ionics, Wuhan, China (2010) 11
2. ***Synthesis, Characterization and ac electrical conductivity of polyaniline***, 11th Asian conference on solid state ionics, Coimbatore, India (2008) 661

3. ***Synthesis, characterization and electrical conductivity of polyaniline/fly ash composites***, 11th Asian conference on solid state ionics, Coimbatore, India (2008) 621.
4. ***Synthesis, characterization and electrical conductivity of polyaniline***, 11th Asian conference on solid state ionics, Coimbatore, India (2008) 519.
5. ***Influence of reaction time on the morphologies of synthesized nanostructure Zinc oxide***, national conference on material science: trends & future, Vidyabarati Mahavidyalaya, Amravati (2010) 59.
6. ***Effect of temperature of polymerization on conductivity of polyaniline***, national conference on material science: trends & future, Vidyabarati Mahavidyalaya, Amravati (2010) 71.
7. ***Effect of surface activation on electrical conductivity of nanostructure zinc oxide thick film***, National conference on material science: trends & future, Vidyabarati Mahavidyalaya, Amravati (2010)101.
8. ***Variation of electrical conductivity of polyaniline with HCl as a dopant***, International conference on Advance materials and application, Kolhapur, India (2007) 212.
9. ***Variation of electrical conductivity of different polymers with temperature***, International conference on Advance materials and application, Kolhapur, India (2007) 319.
10. **Reduced Graphene Oxide- ZnO Composites based gas sensors: A Review, 2nd International Conference on Condensed Matter and Applied Physics (ICC2017), 2017**
11.

Personal Details:

- Date Of Birth : 4th May, 1981
- Sex : Male
- Nationality : Indian
- Mother Tongue : Marathi
- Languages Known : English, Hindi, Marathi & Telagu.

Signature

(Dr. V. S. Kalyamwar)

Shri Shivaji Education Society Amravati's

Shri Shivaji Science & Arts College
Chikhli, Dist. Buldana- 443201(MS)

Department of Physics

Report on Certificate Course on Renewable Energy

Activity: Certificate Course on Renewable Energy

Aim: To create awareness about renewable energy sources and promote sustainable energy practices among students.

Notice: The leaflet of program displayed on notice board.

Organizer: Dr. P. R. Padole (Principal)

IQAC Coordinator: Dr. V. U. Pochhi

PM-USHA Coordinator: Dr. S. I. Jukkalkar

Convener: Dr. V. B. Huse (Head, Department of Physics)

Course Coordinator: Dr. P.P. Padghan

Members: Dr. P.B. Nalle and Dr. D.N. Bhoyar

Number of Participants: 40

The Practice/Activity:

The Certificate Course on Renewable Energy was organized by the Department of Physics, Shri Shivaji Science and Arts College, Chikhli, District Buldana, under the PM-USHA Component 3.0 (Strengthening of Colleges) Grant. The duration of the course was from 1 August 2025 to 18 February 2026.The primary objectives of the course were to provide fundamental knowledge of renewable energy sources with special emphasis on solar energy; to develop an understanding of the working principles of solar cells and photovoltaic (PV) modules; to impart knowledge about major components of solar PV systems such as batteries, inverters, and charge controllers; to develop basic skills in solar PV system sizing, installation, and safety practices; to train students in the identification, troubleshooting, and maintenance of PV modules and associated components; and to enable students to analyze real-time solar plant case studies and prepare simple project reports.

The course commenced with a welcome address delivered by Dr. V. B. Huse, who emphasized the growing importance of renewable energy and the need for developing technical expertise among students in the field of sustainable energy systems.

The introductory session of the course, covering Module I: Renewable Energy Fundamentals; Module II: Solar Cell & PV Technology; Module III: Inverter and Battery

Systems; Module IV: Solar Plant Installation & Troubleshooting; and Module V: Case Study & Field Application, was conducted by Dr. P. P. Padghan. He elaborated on the fundamentals of renewable energy, solar radiation, photovoltaic technology, and the working principles of solar cells. The session also included detailed discussions on solar PV system components such as batteries, inverters, and charge controllers, along with system sizing, installation procedures, troubleshooting techniques, safety practices, and practical applications, thereby providing students with both theoretical knowledge and practical insight.

A case study session was successfully conducted focusing on the on-grid solar power system installed on the rooftop of the college. The session was jointly demonstrated by Dr. P. P. Padghan and Dr. D. N. Bhoyar, who provided detailed practical insights into the installed solar plant. They explained the different types of solar PV systems, the working principle of the on-grid system, its major components, power generation process, grid synchronization, and performance monitoring. The demonstration also covered technical aspects such as system capacity, inverter functioning, safety measures, and maintenance practices. Furthermore, the limitations and practical challenges of monocrystalline (monofacial) solar panels were discussed, enabling students to understand both the advantages and constraints of the technology. This hands-on exposure helped students effectively connect theoretical knowledge with real-time field applications.

Additionally, a guest lecture on Solar Energy was delivered by Dr. V. S. Kalyamwar, Bhartiya Mahavidyalay Amravati on 05/02/2026. In his lecture, he elaborated on the current advancements in solar energy technology, emerging trends in photovoltaic systems, and the future scope of solar power in India. He also discussed practical challenges in implementation, efficiency improvement techniques, and career opportunities in the renewable energy sector. The session was highly informative and provided students with expert insights beyond the regular course curriculum.

The course witnessed enthusiastic participation from B.Sc.-I students. Interactive sessions and practical demonstrations enhanced the learning experience and motivated students to explore career opportunities in the renewable energy sector.

The success of the course was made possible due to the sincere efforts of Dr. V. B. Huse, Dr. P. P. Padghan, Dr. P. B. Nalle, Dr. D. N. Bhoyar, Mr. Anil Bahekar, and Mr. Eknath Jadhav.

Assessment Examination:

As part of the Certificate Course, continuous internal assessment was carried out through assignments and class tests. A theory examination was conducted at the end of the course to evaluate students' understanding of renewable energy concepts. The examination included objective questions covering Modules I to V. Students who successfully qualified in the examination was awarded certificates.

Feedback:

Link for feedback: https://forms.gle/dyDitb8yMPpVoGQV6

Point wise Feedback:

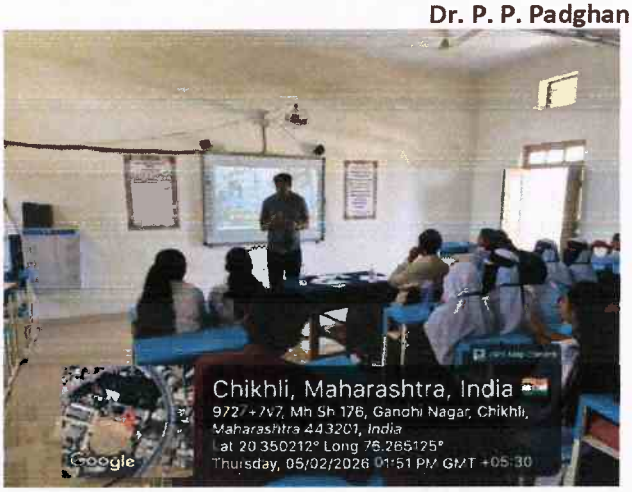
- Course content was informative and well-structured.
- Rooftop on-grid solar plant demonstration was very useful.
- Guest lecture provided valuable practical insights.
- Students requested more hands-on training sessions.
- Suggested inclusion of advanced topics and industrial visits.

Action Taken:

- Additional practical sessions will be included in the next batch.
- Curriculum will be updated with advanced topics like hybrid systems and net metering.
- Proposal will be submitted for an industrial visit to a solar power plant.
- More expert guest lectures will be arranged in future.

Glimpses:

Dr. P. P. Padghan Delivering Lecture



Dr. V. S. Kalyamwar, Bhartiya Mahavidyalay Amravati Delivering Guest Lecture

Students are handling the Multimeter to understand its working.

Students Performing Experiment based on Solar Cell

Case Study Session on On-grid solar panel installed on the top of Shri Shivaji Science and Arts College Chikhli

Co-ordinator **HoD** **Principal**

Shri Shivaji Science & Arts College
CHIKHLI Coordinator
IQAC, Shri Shivaji Sci. & Arts
College, Chikhli Dist. Buldhana

Shri Shivaji Education Society, Amravati.

Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.

Department of Physics

Certificate Course in Renewable Energy

01 August 2025 to 18 February 2026

Assignment & Test

Sr. No.	Name of Student	Topic
01	Abhishek Dadarao Suste	*Case study of Grid-connected Solar PV System*
02	Achal Anil Chikte	
03	Anuja Anil Ingle	
04	Anuja Gajanan Kulkarni	
05	Devkanya R. Parihar	
06	Divya Raju Mutthe	
07	Gauri Dilip Gawate	
08	Janhavi Vilas Jagtap	
09	Jayesh Jadhao	
10	Ketan Deshmukh	
11	Kirti Ananta Deshmane	
12	Laxmi Sanjay Chavan	
13	Mohammad Kaif	
14	Namrata Raju Ingle	
15	Nikita Anil Raut	
16	Ovi Pandurang Vasu	
17	Pavan Rameshwar Kokate	
18	Poonam Bhanudas Shewale	
19	Prachi Sudhakar Deshmukh	
20	Pratiksha R. Waghmare	

21	Priyanka Vishvas Dhole	Performance analysis of Solar Panel.
22	Rahid Rahim Shekh	
23	Rayyan Ahmad Khan	
24	Rina Shaikh Raees	
25	Rohan Babalu Hiwrale	
26	Sakshi Gajanan Maind	
27	Sanika Dattatray Wayse	
28	Saniya Parveen Sk. Israil	
29	Sayali Baburao Chharrye	
30	Shaikh Miran	
31	Shaikh Rehan Shaikh Nazakat	
32	Shazmina Parvin M. Shafique	
33	Shilpa Dhammpal Maghade	
34	Shivani Pradip Bahekar	
35	Shiza Asnal	
36	Shruti Ravindra Jadhao	
37	Sneha Mailind Paithane	
38	Tushar Dnyaneshwar Kothale	
39	Vedant Dnyaneshwar Upase	
40	Zahed Khan Nisar Khan	

Syllabus of Assignment	Format of Assignment
➢ Case study of Grid-connected Solar PV System ➢ Performance analysis of Solar Panel.	1. Title 2. Summary 3. Introduction 4. Methods 5. Conclusions 6. References
Note: Submit your assignment on or before 14/02/2026 till 5:30 PM in given format.	
Link of Test Exam: https://forms.gle/MFUVUTJpivQSQe4FA	

Coordinator

HoD

Head of Physics Departmet
Shri Shivaji Science & Arts Coll
CHIKHLI

Shri Shivaji Education Society, Amravati.

Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.

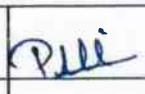
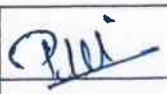
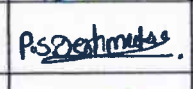
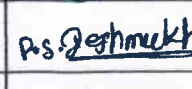
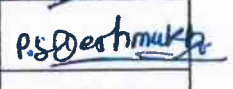
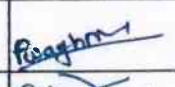
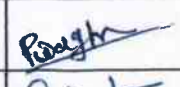
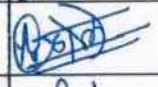
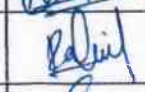
Department of Physics

Certificate Course in Renewable Energy

01 August 2025 to 18 February 2026

Attendance Sheet

Sr. No.	Name of Student	Internal Assessment	Theory Assessment	Practical Assessment
01	Abhishek Dadarao Suste			
02	Achal Anil Chikte			
03	Anuja Anil Ingle			
04	Anuja Gajanan Kulkarni			
05	Devkanya R. Parihar			
06	Divya Raju Mutthe			
07	Gauri Dilip Gawate			
08	Janhavi Vilas Jagtap			
09	Jayesh Jadhao			
10	Ketan Deshmukh			
11	Kirti Ananta Deshmane			
12	Laxmi Sanjay Chavan			
13	Mohammad Kaif			
14	Namrata Raju Ingle			
15	Nikita Anil Raut			
16	Ovi Pandurang Vasu			
17	Pavan Rameshwar Kokate			

18	Poonam Bhanudas Shewale			
19	Prachi Sudhakar Deshmukh			
20	Pratiksha R. Waghmare			
21	Priyanka Vishvas Dhole			
22	Rahid Rahim Shekh			
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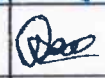
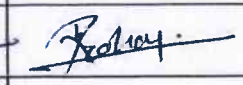
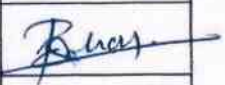
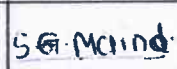
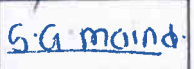
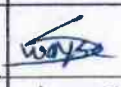
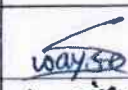
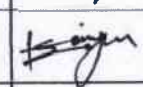
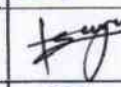
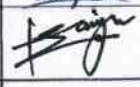
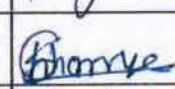
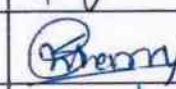
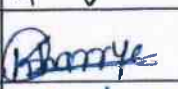
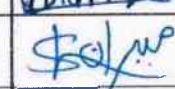
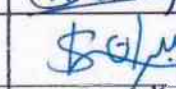
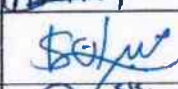
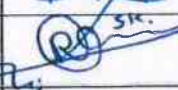
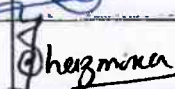
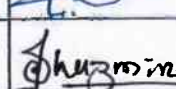
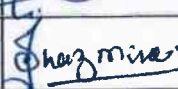
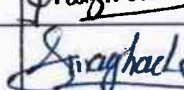
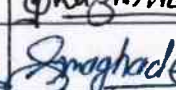
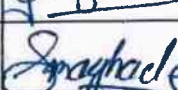
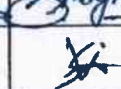
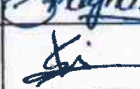
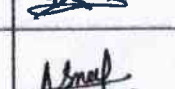
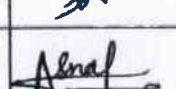
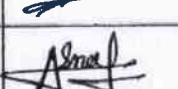
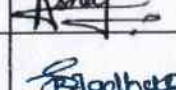
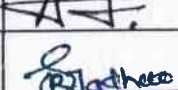
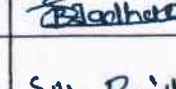
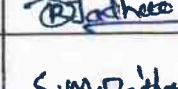
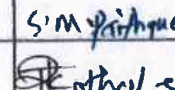
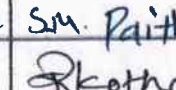
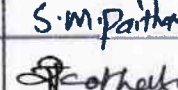
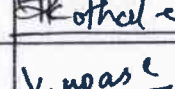
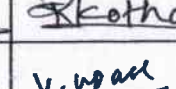
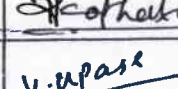
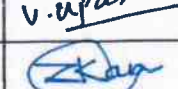
24	Rina Shaikh Raees			
25	Rohan Babalu Hiwrale			
26	Sakshi Gajanan Maind			
27	Sanika Dattatray Wayse			
28	Saniya Parveen Sk. Israil			
29	Sayali Baburao Chharrye			
30	Shaikh Miran			
31	Shaikh Rehan Shaikh Nazakat			
32	Shazmina Parvin M. Shafique			
33	Shilpa Dhammpal Maghade			
34	Shivani Pradip Bahekar			
35	Shiza Asnal			
36	Shruti Ravindra Jadhao			
37	Sneha Mailind Paithane			
38	Tushar Dnyaneshwar Kothale			
39	Vedant Dnyaneshwar Upase			
40	Zahed Khan Nisar Khan			

Theory Exam for Certificate course in Renewable Energy

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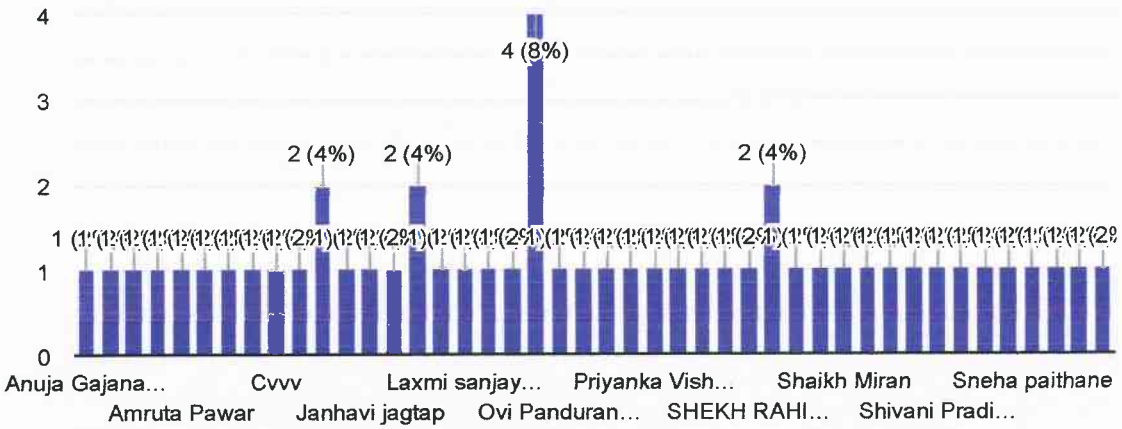

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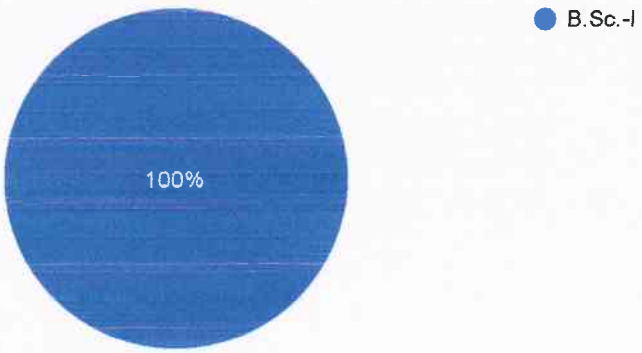

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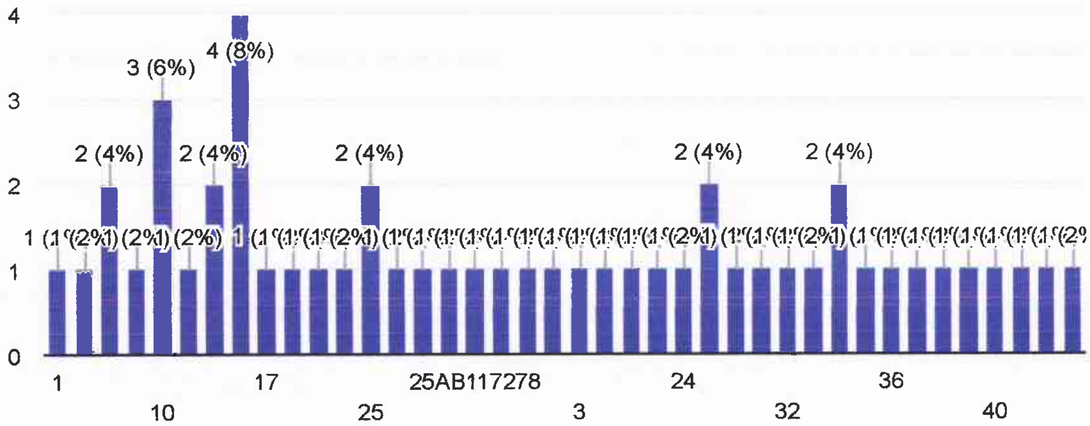

Module I: Renewable Energy Fundamentals

1. Which of the following is a renewable energy source?

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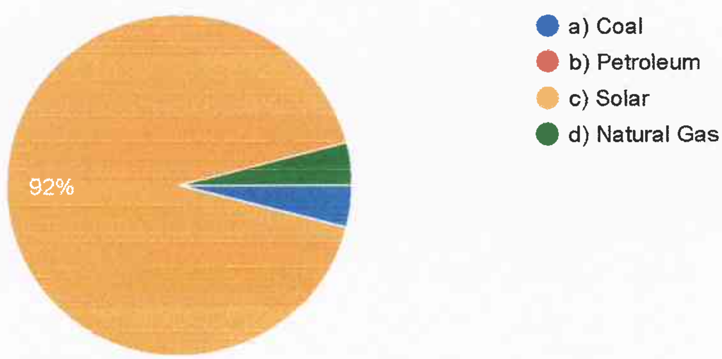

2. Solar energy is derived from:

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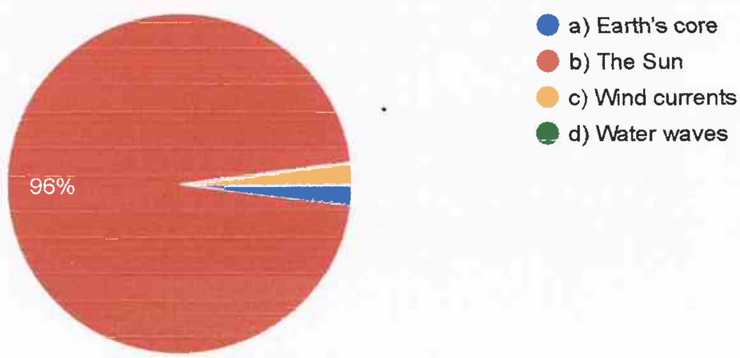

3. The unit of solar radiation is commonly measured in:

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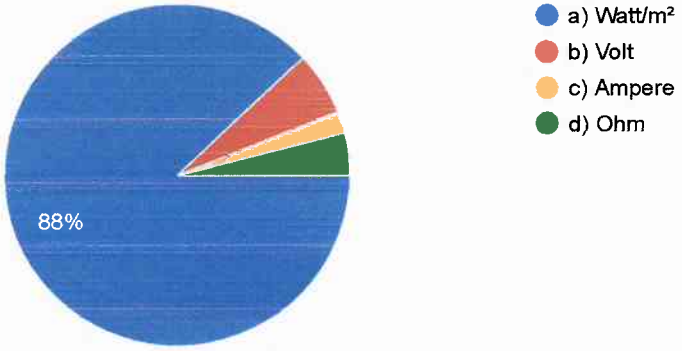

4. Solar PV system converts solar energy into:

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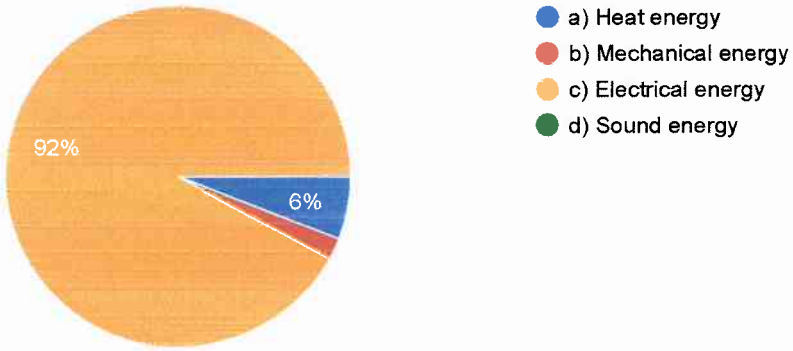

5. Solar thermal systems mainly produce:

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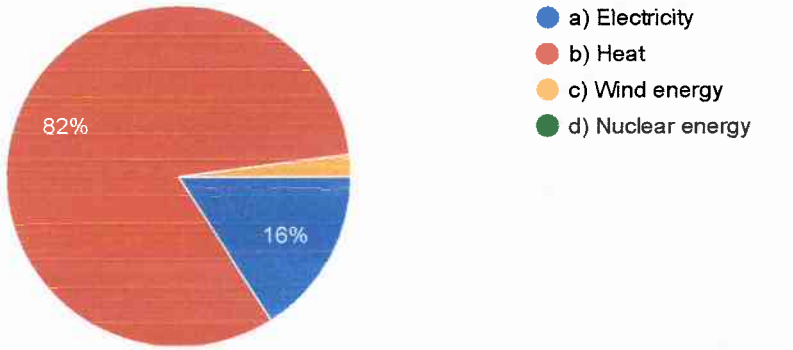

6. India has high solar potential because of

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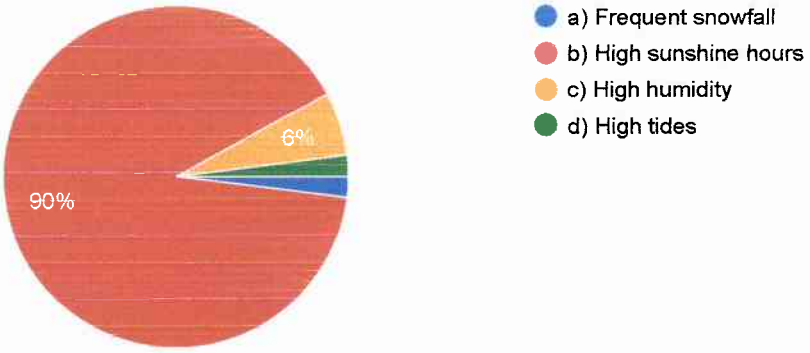

Module II: Solar Cell & PV Technology

7. Solar cell works on the principle of:

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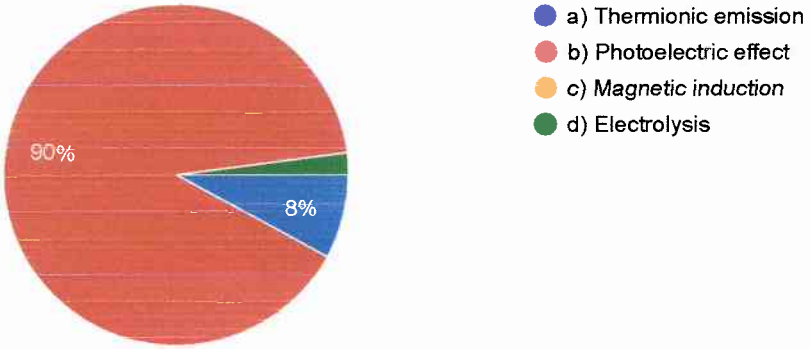

8. The curve representing current vs voltage of a solar cell is called:

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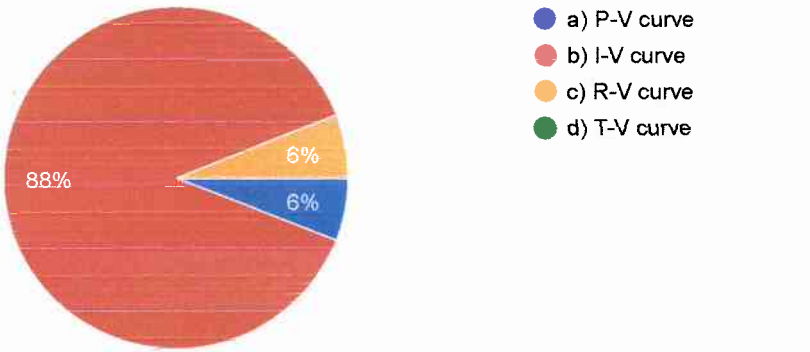

9. Fill Factor (FF) indicates:

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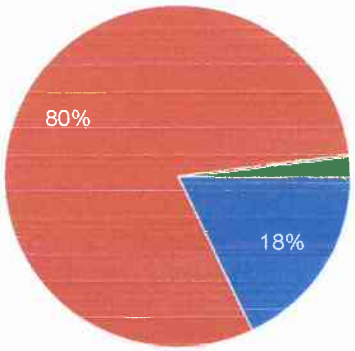

- a) Temperature variation
- b) Quality of solar cell
- c) Wire thickness
- d) Battery capacity

10. Efficiency of a solar cell is the ratio of:

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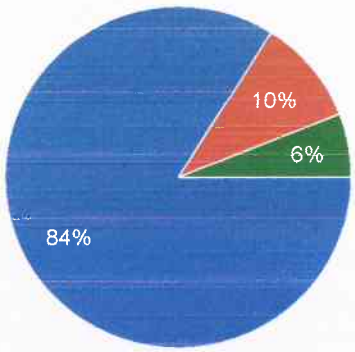
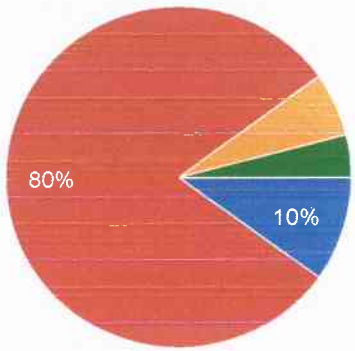


- a) Output power to input solar power
- b) Voltage to current
- c) Current to resistance
- d) Temperature to power

11. A group of solar cells connected together forms a:

Copy

50 responses



- a) Panel board
- b) Module
- c) Inverter
- d) Battery

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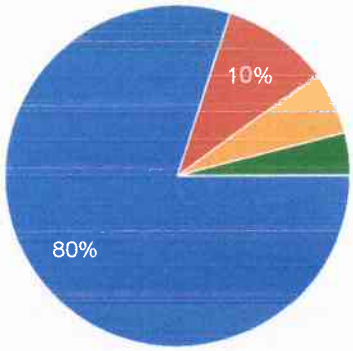
12. Multiple modules connected together form a:

50 responses



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13. Which factor affects PV module performance?

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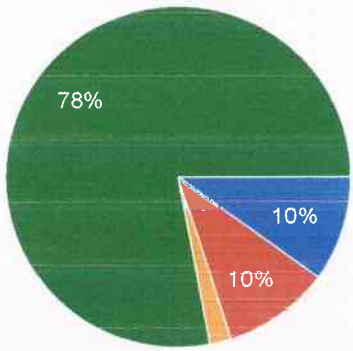

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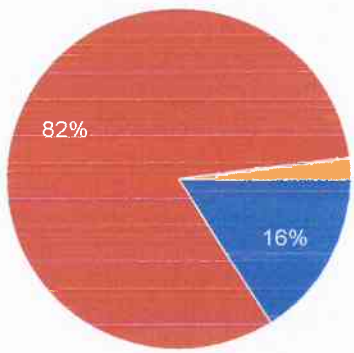
14. Monocrystalline modules are generally:

50 responses



Module III: Inverter and Battery Systems Untitled Section

15. The main function of an inverter is to convert:

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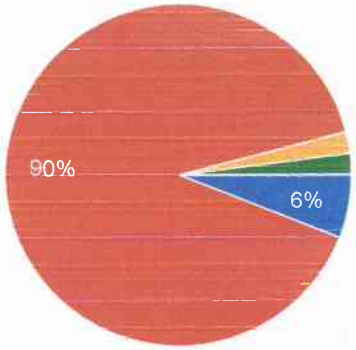

a) AC to DC
b) DC to AC
c) Heat to electricity
d) Light to heat

16. A commonly used battery in solar systems is:

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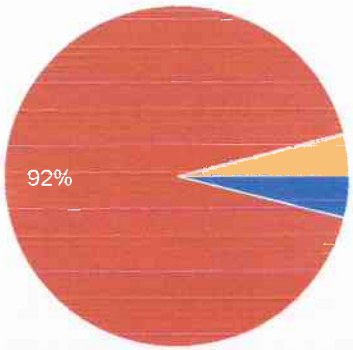

a) Dry cell
b) Lead-acid battery
c) Button cell
d) Fuel cell

17. During charging of a battery, energy is converted into:

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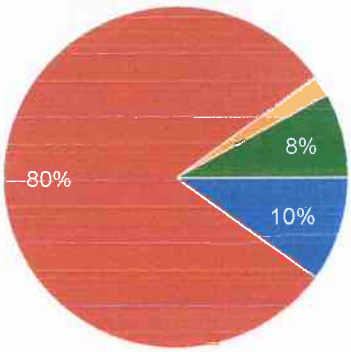
50 responses



a) Heat only
b) Chemical energy
c) Sound energy
d) Mechanical energy

18. PWM stands for:

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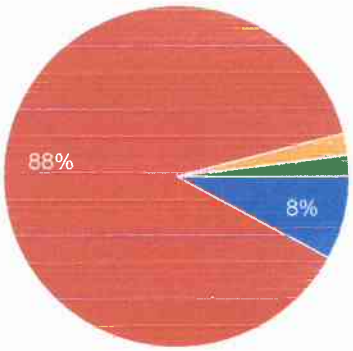
50 responses



- a) Power Watt Module
- b) Pulse Width Modulation
- c) Power Wire Mode
- d) Pulse Watt Meter

19. MPPT charge controller helps in:

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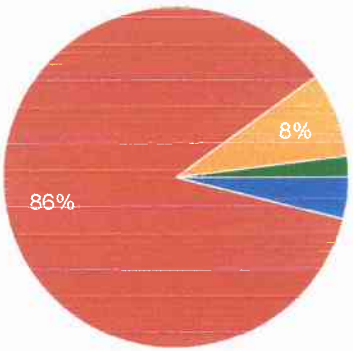

- a) Reducing voltage
- b) Maximizing power output
- c) Increasing resistance
- d) Cooling battery

20. Inverter selection depends on:

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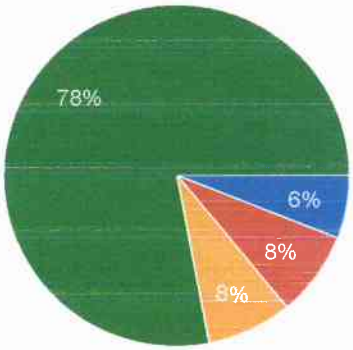

- a) Load requirement
- b) Battery voltage
- c) Power rating
- d) All of the above

21. Deep cycle batteries are used because they:

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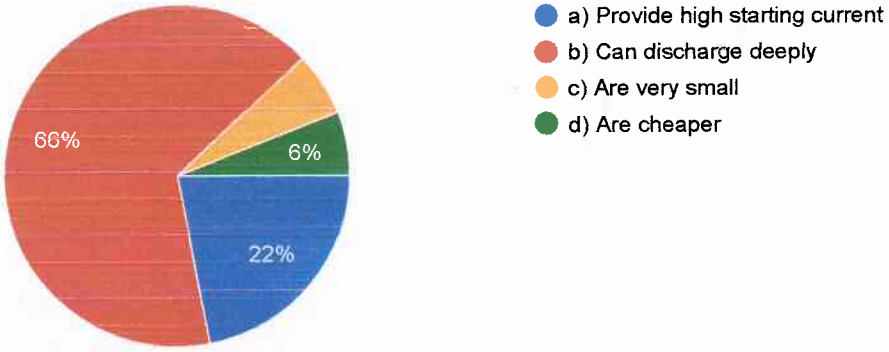

Module IV: Solar Plant Installation & Troubleshooting

22. Load estimation is important for:

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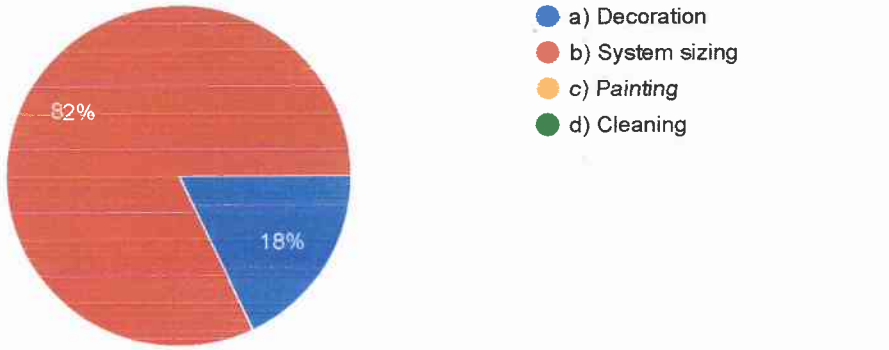

23. Shading on a PV module causes:

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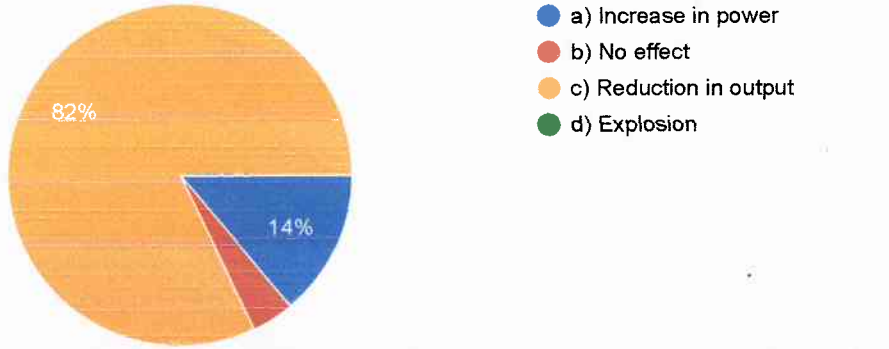

24. Proper tilt angle of module depends on:

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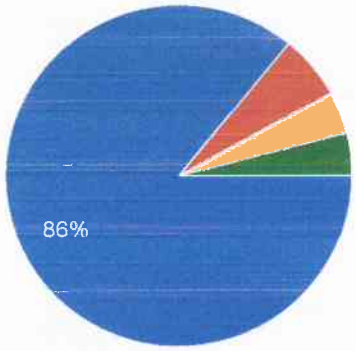

25. Earthing is necessary for:

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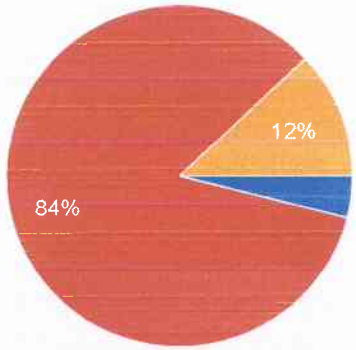

26. Mounting structure is used to:

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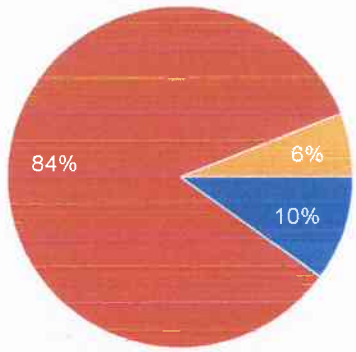

27. A hotspot in PV module is caused by:

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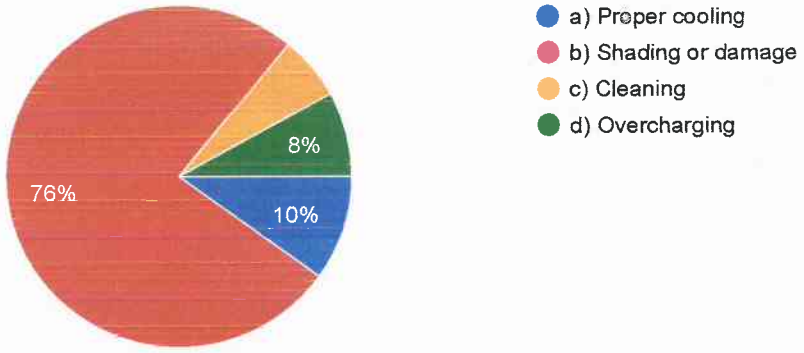

28. Multimeter is used to measure:

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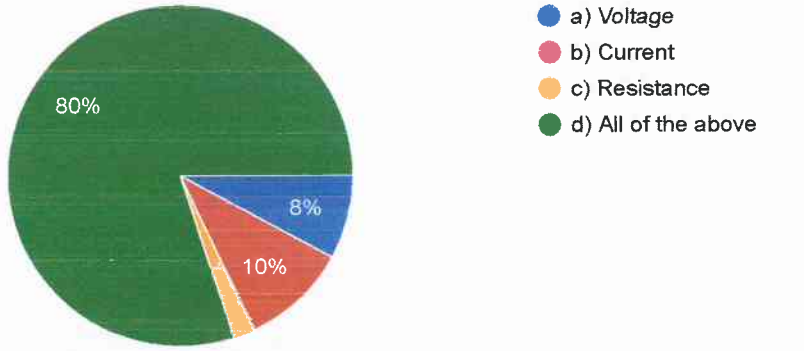

29. Loose connections may result in:

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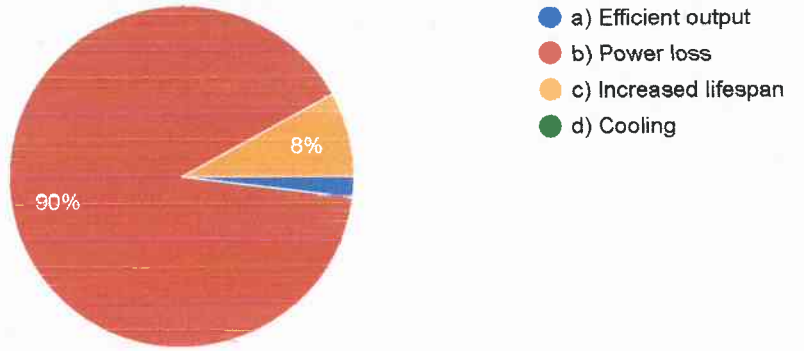

30. Safety gloves are used during installation to:

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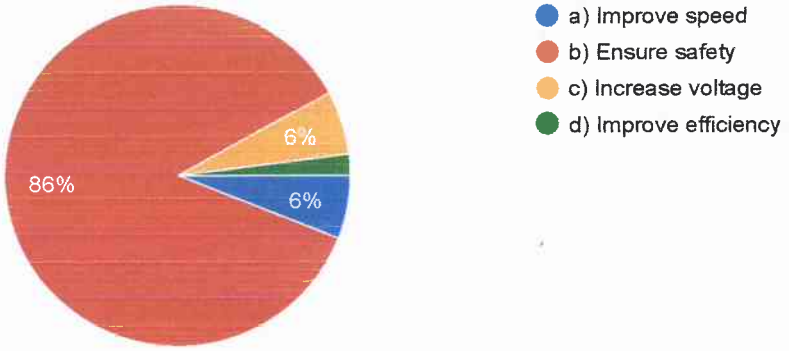

Module V: Case Study & Field Application

31. Grid-connected solar systems are connected to:

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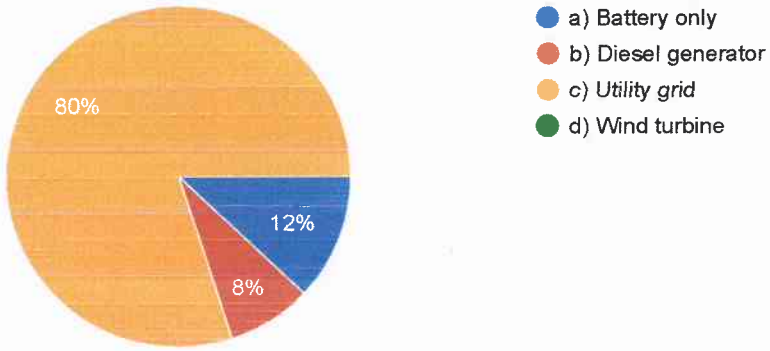

32. Net metering allows:

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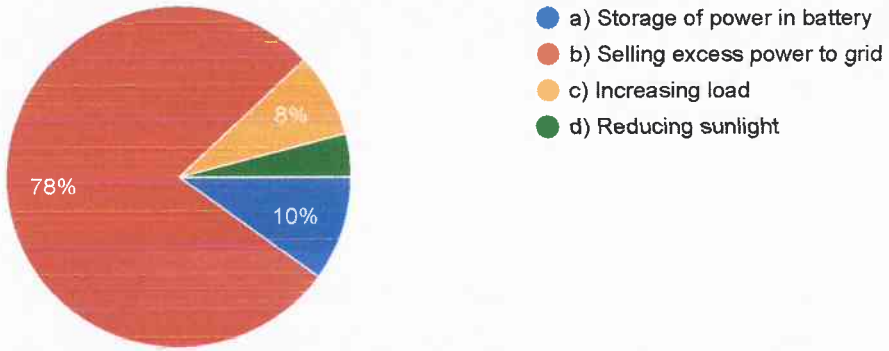

33. Performance of solar plant is evaluated using:

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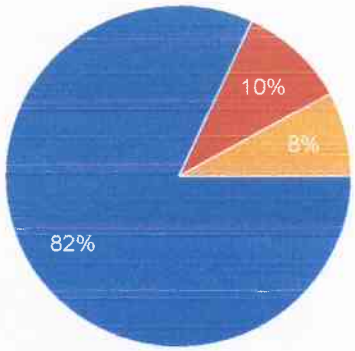

- a) Output power data
- b) Temperature only
- c) Color of module
- d) Brand name

34. Performance ratio indicates:

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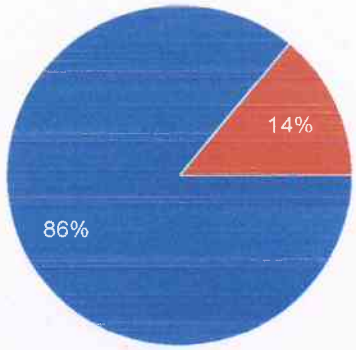

- a) Plant efficiency
- b) Cost
- c) Size
- d) Weight

35. In grid system, inverter used is:

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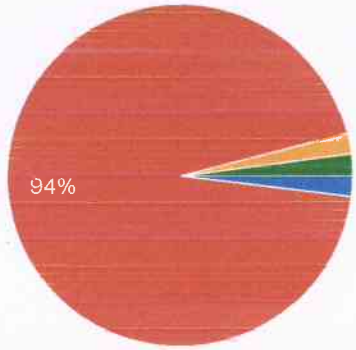

- a) Off-grid inverter
- b) Grid-tie inverter
- c) Diesel inverter
- d) Thermal inverter

36. Case study helps students to:

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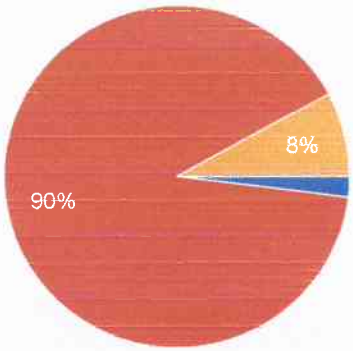

- a) Memorize theory only
- b) Understand practical application
- c) Avoid installation
- d) Reduce marks

37. Solar array output increases with:

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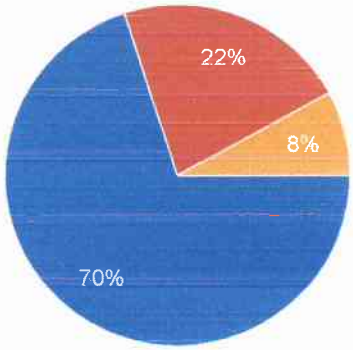

- a) Proper orientation
- b) Heavy shading
- c) Broken cells
- d) Dust

38. The standard test condition (STC) temperature is:

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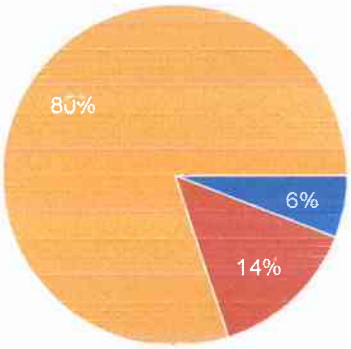

- a) 0°C
- b) 10°C
- c) 25°C
- d) 50°C

39. Which device protects against overcharging?

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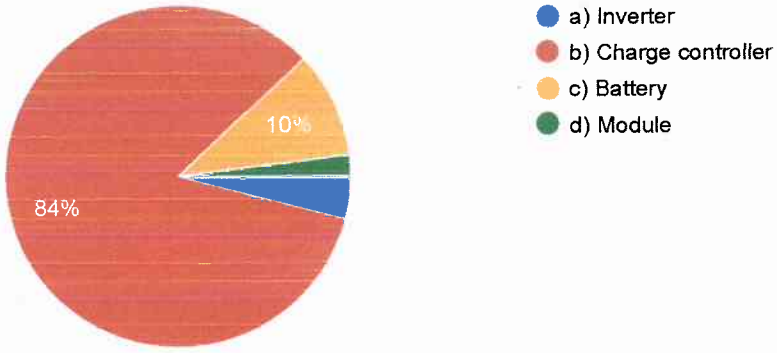

40. The first step before installation is:

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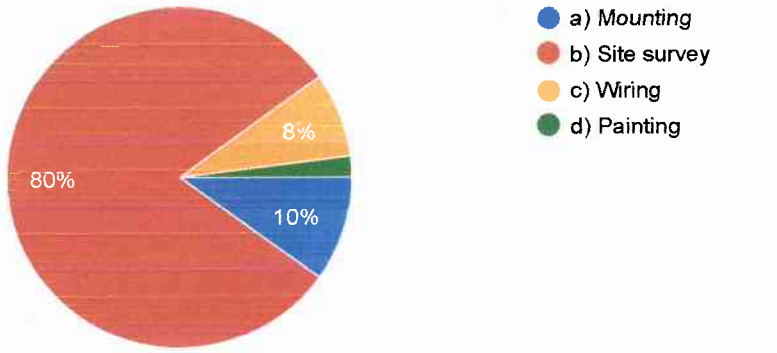

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Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.

Department of Physics

Certificate Course in Renewable Energy

01 August 2025 to 18 February 2026

Sr. No.	Name of Student	Internal Marks 20	Theory Marks 40	Practical Marks 40	Total Marks 100
1	Abhishek Dadarao Suste	20	39	39	98
2	Achal Anil Chikte	19	38	36	93
3	Anuja Anil Ingle	18	37	35	90
4	Anuja Gajanan Kulkarni	18	32	36	86
5	Devkanya R. Parihar	19	40	37	96
6	Divya Raju Mutthe	19	39	36	94
7	Gauri Dilip Gawate	18	38	35	91
8	Janhavi Vilas Jagtap	20	35	39	94
9	Jayesh Jadhao	18	37	36	91
10	Ketan Deshmukh	18	32	35	85
11	Kirti Ananta Deshmane	17	38	36	91
12	Laxmi Sanjay Chavan	19	34	39	92
13	Mohammad Kaif	16	21	35	72
14	Namrata Raju Ingle	17	38	35	90
15	Nikita Anil Raut	16	40	37	93
16	Ovi Pandurang Vasu	18	39	39	96
17	Pavan Rameshwar Kokate	19	31	39	89
18	Poonam Bhanudas Shewale	10	0	20	30
19	Prachi Sudhakar Deshmukh	16	26	35	77
20	Pratiksha R. Waghmare	17	40	35	92

21	Priyanka Vishvas Dhole	16	26	35	77
22	Rahid Rahim Shekh	20	26	39	85
23	Rayyan Ahmad Khan	30	24	39	93
24	Rina Shaikh Raees	16	38	35	89
25	Rohan Babalu Hiwrale	20	31	39	90
26	Sakshi Gajanan Maind	10	0	20	30
27	Sanika Dattatray Wayse	17	38	37	92
28	Saniya Parveen Sk. Israil	20	40	35	95
29	Sayali Baburao Chharrye	20	31	39	90
30	Shaikh Miran	16	40	35	91
31	Shaikh Rehan Sk. Nazakat	20	40	39	99
32	Shazmina Parvin M. Shafique	20	35	39	94
33	Shilpa Dhammpal Maghade	18	38	38	94
34	Shivani Pradip Bahekar	19	39	37	95
35	Shiza Asnal	20	31	39	90
36	Shruti Ravindra Jadhao	18	39	35	92
37	Sneha Mailind Paithane	19	38	38	95
38	Tushar Dnyaneshwar Kothale	20	36	39	95
39	Vedant Dnyaneshwar Upase	18	40	37	95
40	Zahed Khan Nisar Khan	16	16	36	68

Coordinator **HoD** **Principal**

Head of Physics Department
Shri Shivaji Science & Arts Coll
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Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.

Department of Physics

Certificate Course in Renewable Energy

01 August 2025 to 18 February 2026

Attendance Sheet

Month: August 2025

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
01	Abhishek Dadarao Suste	A	A		A	A	A	A	A	A		A	A	A			A		A	A	A	A	A	A		A	A		A	A		
02	Achal Anil Chikte		P		P	P	P	P	P	P		P	P	P	P		P		P	P	P	P	P				P		P	P	P	
03	Anuja Anil Ingle	A			A	A	A	A	A	A		A	A	A	A		A			A	A	A	A	A		A	A		A	A	A	
04	Anuja Gajanan Kulkarni	A	A		A	A	A	A	A	A			A	A	A	H	A		A	A	A	A	A					A	A		
05	Devkanya R. Parihar	P	P	S	P	P	P	P	P	P	S	P	P	P	P	N		S	P	P	P	P	P	P	S	P	P	G		P	P	S
06	Divya Raju Muttne	P	P	U	P	P	P	P		P	U	P	P	P	P	D		U	P	P	P	P	P	P	U	P	P	A	P	P	P	U
07	Gauri Dilip Gawate		P	N		P	P	P	P	P	N		P	P	P	E	P	N	P	P	P	P	P	P	N	P	P	N	P	P	P	N
08	Janhavi Vilas Jagtap	P	P	D		P	P	P	P	P	D	P	P	P	P	N	P	D	P	P	P	P	P	P	D	P	P	E	P	P	P	D
09	Jayesh Jadhao	P	P	A	P	P	P	P	P	P	A	P	P	P	P	D	P	A	P	P	P	P	P	P	A	P	P	S	P	P	P	A
10	Ketan Deshmukh	P	P	Y	P	P	P	P	P	P	Y	P	P	P	P	A	P	Y	P	P	P	P	P	P	Y	P	P	H	P	P	P	Y
11	Kirti Ananta Deshmane	P	P		P	P	P	P	P	P		P	P	P	P	N	P		P	P	P	P	P	P		P	P	A	P	P	P	
12	Laxmi Sanjay Chavan		P			P	P	P	P	P		P	P	P	P	C	P		P	P	P	P	P	P		P	P	T	P	P	P	
13	Mohammad Kaif	A	A		A	A	A	A	A	A		A	A	A	A	D	A		A	A	A	A	A	A			A	H			A	
14	Namrata Raju Ingle	P	P		P	P	P	P	P	P					P	A	P		P	P	P	P	P	P		P	P		P	P	P	
15	Nikita Anil Raut	P	P		P	P	P	P	P	P		P	P	P	P	Y	P			P	P	P	P	P		P	P		P	P	P	
16	Ovi Pandurang Vasu	P	P			P	P	P		P		P			P		P		P	P	P	P	P	P		P	P		P	P	P	
17	Pavan Rameshwar Kokate	P	P		P	P	P	P	P	P		P	P	P	P		P		P	P	P	P	P	P		P	P		P	P	P	
18	Poonam Bhanudas Shewale	P			P	P	P	P	P	P		P	P	P	P		P		P	P	P	P	P	P		P	P		P	P	P	
19	Prachi Sudhakar Deshmukh	P	P		P	P	P	P	P	P		P	P	P	P		P		P	P	P	P	P	P		P	P		P	P	P	
20	Pratiksha R. Waghmare	P	P		P	P	P	P	P	P		P	P	P	P		P		P	P	P	P	P	P		P	P		P	P	P	

③ ⑩ ⑮ ⑰ ㉔ ㉗ ㉛

No.	Name
21	Priyanka Vishvas Dhoie
22	Rahid Rahim Shekh
23	Rayyan Ahmad Khan
24	Rina Shaikh Raees
25	Rohan Babalu Hiwrale
26	Sakshi Gajanan Maind
27	Sarika Dattatray Wayse
28	Saniya Parveen Sk. Israil
29	Sayali Baburao Chharye
30	Shaikh Miran
31	Shaikh Rehan Shaikh Nazakat
32	Shazmina Parvin M. Shafique
33	Shilpa Dhammpal Maghade
34	Shivani Pradip Bahekar
35	Shiza Asnal
36	Shruti Ravindra Jadhao
37	Sneha Mailind Paithane
38	Tushar Dnyaneshwar Kothale
39	Vedant Dnyaneshwar Upase
40	Zahed Khan Nisar Khan

SUNDAY

INDEPENDENCE DAY

GANESH CHATURTHI

Shri Shivaji Education Society, Amravati.

Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.

Department of Physics

Certificate Course in Renewable Energy

01 August 2025 to 18 February 2026

Attendance Sheet

Month: September 2025

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
01	Abhishek Dadarao Suste		Asuk	Asuk	Asuk		Asuk		Asuk	Asuk	Asuk	Asuk	Asuk	Asuk		Asuk	Asuk	Asuk	Asuk	Asuk			Asuk	Asuk	Asuk	Asuk	Asuk			Asuk	Asuk	Asuk
02	Achal Anil Chikte		Achikte	Achikte	Achikte		Achikte		Achikte	Achikte	Achikte	Achikte	Achikte	Achikte		Achikte	Achikte	Achikte	Achikte	Achikte			Achikte	Achikte	Achikte	Achikte	Achikte	Achikte		Achikte	Achikte	Achikte
03	Anuja Anil Ingle		Aingle	Aingle	Aingle		Aingle			Aingle	Aingle	Aingle	Aingle	Aingle		Aingle	Aingle	Aingle	Aingle	Aingle			Aingle	Aingle	Aingle	Aingle	Aingle	Aingle		Aingle	Aingle	Aingle
04	Anuja Gajanan Kulkarni		Akul	Akul	Akul				Akul	Akul	Akul	Akul	Akul	Akul		Akul	Akul		Akul	Akul	S		Akul	Akul	Akul	Akul	Akul			Akul	Akul	Akul
05	Devkanya R. Parihar		Rparihar	Rparihar	Rparihar		Rparihar		Rparihar	Rparihar	Rparihar	Rparihar	Rparihar	Rparihar		Rparihar	Rparihar	Rparihar	Rparihar	Rparihar	A		Rparihar	Rparihar	Rparihar	Rparihar	Rparihar	Rparihar		Rparihar	Rparihar	Rparihar
06	Divya Raju Mutthe	S	Dmuthe	Dmuthe	Dmuthe	E	Dmuthe	S	Dmuthe	Dmuthe		Dmuthe	Dmuthe	Dmuthe	S	Dmuthe	Dmuthe	Dmuthe	Dmuthe	Dmuthe	R	S	Dmuthe	Dmuthe	Dmuthe	Dmuthe	Dmuthe		S	Dmuthe	Dmuthe	Dmuthe
07	Gauri Dilip Gawate	U	GDGawate	GDGawate	GDGawate	I		U	GDGawate	GDGawate	GDGawate	GDGawate	GDGawate	GDGawate	U	GDGawate	GDGawate	GDGawate	GDGawate	GDGawate	V A	U	GDGawate	GDGawate	GDGawate	GDGawate	GDGawate	GDGawate	U	GDGawate	GDGawate	GDGawate
08	Janhavi Vilas Jagtap	N	Jagtap	Jagtap	Jagtap	D	Jagtap	N	Jagtap	Jagtap	Jagtap	Jagtap		Jagtap	N	Jagtap	Jagtap	Jagtap	Jagtap	Jagtap	P	N	Jagtap	Jagtap	Jagtap	Jagtap	Jagtap	Jagtap	N	Jagtap	Jagtap	Jagtap
09	Jayesh Jadhao	D	Jadhao	Jadhao	Jadhao	E	Jadhao	D	Jadhao	Jadhao		Jadhao	Jadhao		D	Jadhao	Jadhao	Jadhao	Jadhao	Jadhao	I	D	Jadhao	Jadhao		Jadhao	Jadhao	Jadhao	D	Jadhao	Jadhao	Jadhao
10	Ketan Deshmukh	A	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	M	Dkdeshmukh	A	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	A	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	R	A	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh	A	Dkdeshmukh	Dkdeshmukh	Dkdeshmukh
11	Kirti Ananta Deshmane	Y	Deshmane	Deshmane	Deshmane	I		Y	Deshmane	Deshmane		Deshmane	Deshmane	Deshmane	Y	Deshmane		Deshmane	Deshmane	Deshmane	I	Y	Deshmane	Deshmane	Deshmane	Deshmane	Deshmane	Deshmane	Y	Deshmane	Deshmane	Deshmane
12	Laxmi Sanjay Chavan		Chavan	Chavan	Chavan	L	Chavan		Chavan	Chavan	Chavan	Chavan	Chavan	Chavan		Chavan	Chavan	Chavan	Chavan	Chavan	A		Chavan	Chavan	Chavan	Chavan	Chavan	Chavan		Chavan	Chavan	Chavan
13	Mohammad Kaif		Kaif	Kaif		A	Kaif		Kaif	Kaif	Kaif		Kaif	Kaif		Kaif	Kaif	Kaif		Kaif	M A		Kaif	Kaif	Kaif	Kaif	Kaif			Kaif	Kaif	Kaif
14	Namrata Raju Ingle		Ningle	Ningle	Ningle	D	Ningle		Ningle	Ningle	Ningle	Ningle	Ningle	Ningle		Ningle	Ningle	Ningle	Ningle	Ningle	V A		Ningle	Ningle	Ningle	Ningle	Ningle	Ningle		Ningle	Ningle	Ningle
15	Nikita Anil Raut			Nraut	Nraut		Nraut		Nraut	Nraut	Nraut	Nraut	Nraut	Nraut			Nraut	Nraut	Nraut	Nraut	S Y		Nraut	Nraut	Nraut		Nraut	Nraut		Nraut	Nraut	Nraut
16	Ovi Pandurang Vasu		ovi	ovi	ovi				ovi	ovi	ovi	ovi	ovi	ovi		ovi	ovi	ovi	ovi	ovi	A		ovi	ovi		ovi	ovi	ovi		ovi	ovi	ovi
17	Pavan Rameshwar Kokate		Rkokate	Rkokate	Rkokate		Rkokate		Rkokate	Rkokate	Rkokate	Rkokate	Rkokate			Rkokate	Rkokate	Rkokate		Rkokate			Rkokate	Rkokate		Rkokate	Rkokate	Rkokate			Rkokate	Rkokate
18	Poonam Bhanudas Shewale		Pshewale	Pshewale	Pshewale		Pshewale		Pshewale	Pshewale	Pshewale	Pshewale	Pshewale	Pshewale		Pshewale	Pshewale	Pshewale	Pshewale	Pshewale			Pshewale	Pshewale	Pshewale	Pshewale	Pshewale	Pshewale		Pshewale	Pshewale	Pshewale
19	Prachi Sudhakar Deshmukh		Pdeshmukh	Pdeshmukh	Pdeshmukh		Pdeshmukh		Pdeshmukh	Pdeshmukh	Pdeshmukh	Pdeshmukh	Pdeshmukh	Pdeshmukh		Pdeshmukh	Pdeshmukh	Pdeshmukh	Pdeshmukh				Pdeshmukh	Pdeshmukh	Pdeshmukh	Pdeshmukh	Pdeshmukh	Pdeshmukh			Pdeshmukh	Pdeshmukh
20	Pratiksha R. Waghmare		Rwagh	Rwagh	Rwagh		Rwagh		Rwagh	Rwagh	Rwagh	Rwagh	Rwagh	Rwagh		Rwagh	Rwagh	Rwagh	Rwagh	Rwagh			Rwagh	Rwagh	Rwagh	Rwagh	Rwagh			Rwagh	Rwagh	Rwagh

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
21	Priyanka Vishvas Dhole																															
22	Rahid Rahim Shekh																															
23	Rayyan Ahmad Khan																															
24	Rina Shaikh Raees																															
25	Rohan Babalu Hiwrale	S				E		3							S						SAURAPITRA	S							S			
26	Sakshi Gajanan Maind	U				I		U							U							U							U			
27	Sanika Dattatray Wayse	N				D		N							N							N							N			
28	Saniya Parveen Sk. Israil	D				E		D							D							D							D			
29	Sayali Baburao Chharrye	A				M		A							A							A							A			
30	Shaikh Miran	Y				I		Y							Y							Y							Y			
31	Shaikh Rehan Shaikh Nazakat					L																										
32	Shazmina Parvin M. Shafique					A																										
33	Shilpa Dhamrpal Maghade					D																										
34	Shivani Pradip Bahekar																															
35	Shiza Asnal																															
36	Shruti Ravindra Jadhao																															
37	Sneha Mailind Paithane																															
38	Tushar Dnyaneshwar Kothale																															
39	Vedant Dnyaneshwar Upase																															
40	Zahed Khan Nisar Khan																															

Shri Shivaji Education Society, Amravati.

Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.

Department of Physics

Certificate Course in Renewable Energy

01 August 2025 to 18 February 2026

Attendance Sheet

Month: October 2025

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
01	Abhishek Dadarao suste																															
02	Achal Anil chikte																															
03	Anuja Anil Ingle																															
04	Anuja Gajanan Kulkarni																															
05	Devkanya R. Parihar																															
06	Divya Raju Mutthe												S																			
07	Gauri Dilip Gawate		GANDHI JAYANTI			S							U																			
08	Janhavi vilas jagtap					U							N																			
09	Jayesh jadhao					N							D																			
10	Ketan deshmukh					A							A																			
11	Kirti Ananta Deshmane					Y							Y																			
12	Laxmi sanjay chavan																															
13	Mohammad Kaif																															
14	Namrata raju ingle																															
15	Nikita Anil Raut																															
16	Ovi Pandurang Vasu																															
17	Pavan Rameshwar kokate																															
18	Poonam Bhanudas Shewale																															
19	Prachi Suchakar Deshmukh																															
20	Pratiksha R. Waghmare																															

21	Priyanka Vishvas Dhole
22	RAHID RAHIM SHEKH
23	Rayyan Ahmad Khan
24	Rina Shaikh Raees
25	Rohan Babalu Hiwrale
26	Sakshi Gajanan Maind
27	Sanika Dattatray wayse
28	Saniya Parveen Sk. Israil
29	Sayali Baburao Chharrye
30	Shaikh Miran
31	Shaikh Rehan Shaikh Nazakat
32	Shazmina parvin M. shafique
33	Shilpa Dhammpal Maghade
34	Shivani Pradip Bahekar
35	Shiza Asnal
36	Shruti Ravindra Jadhao
37	Sneha mailind paithane
38	Tushar Dnyaneshwar kothale
39	Vedant Dnyaneshwar upase
40	Zahed Khan Nisar Khan

Shri Shivaji Education Society, Amravati.

Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.

Department of Physics

Certificate Course in Renewable Energy

01 August 2025 to 18 February 2026

Attendance Sheet

Month: January 2026

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
01	Abhishek Dadarao Suste	A	A	A		A		A	A	A	A		A	A	A	A	A	A		A	A	A	A	A	A			A	A	A	A	A
02	Achal Anil Chikte	A	A	A		A	A	A	A	A	A		A	A		A	A			A	A	A	A		A			A	A	A	A	A
03	Anuja Anil Ingle		A	A		A	A	A	A	A	A		A	A	A	A	A			A	A	A	A	A				A		A	A	A
04	Anuja Gajanan Kulkarni	A	A	A		A	A	A	A	A	A		A		A		A	A		A	A	A	A	/	A		R	A	A	A	A	A
05	Devkanya R. Parihar	P	P	P			P	P	P	P	P		P	P	P	P	P	P		P	P	P	P	P	P		E		P	P	P	P
06	Divya Raju Mutthe	P		P	S	P	P		P	P	P	S	P	P	P	P	P	P	S	P	P		P	P	P	S	P	U	P	P	P	P
07	Gauri Dilip Gawate	P	P	P	U		P	P	P	P	P	U	P	P	P	P	P	P	U	P	P		P	P		U	P	B	P	P	P	P
08	Janhavi Vilas Jagtap	P	P	P	N	P	P		P	P	P	N	P	P	P	P	P	P	N	P	P	P	P	P	P	N	P	L	P	P		
09	Jayesh Jadhao	P	P	P	D	P	P	P	P	P	P	D		P	P	P			D	P	P	P	P	P	P	D	C	P	P	P	P	P
10	Ketan Deshmukh	P	P	P	A	P		P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P		A		P	P	P	P	P
11	Kirti Ananta Deshmane	P		P	Y	P	P		P	P	P	Y	P		P	P	P	P	Y		P	P	P	P	P	Y		P	P	P	P	P
12	Laxmi Sanjay Chavan	P	P	P		P	P	P	P	P	P		P	P	P	P	P	P		P	P	P	P	P				P	P	P	P	P
13	Mohammad Kaif	P	P	P		P					P		P	P	P	P	P	P		P	P	P	P	P	P			P	P		P	P
14	Namrata Raju Ingle	P	P	P		P	P	P	P	P	P			P	P	P	P	P		P	P	P	P		P				P	P	P	P
15	Nikita Anil Raut	P	P	P			P	P	P		P		P	P	P	P	P	P		P	P	P	P	P	P			P	P	P	P	P
16	Ovi Pandurang Vasu	ovi	ovi	ovi		ovi	ovi	ovi	ovi	ovi	ovi		ovi	ovi	ovi	ovi	ovi	ovi							ovi			ovi	ovi	ovi	ovi	ovi
17	Pavan Rameshwar Kokate	P	P	P		P	P	P	P	P	P			P	P	P	P	P			P	P	P	P	P			P	P	P	P	P
18	Poonam Bhanudas Shewale	P	P	P		P	P	P	P	P	P		P	P	P	P	P	P		P	P	P	P	P	P			P	P	P	P	P
19	Prachi Sudhakar Deshmukh	P	P	P		P	P	P	P	P	P		P	P	P	P	P	P		P	P	P	P	P	P			P	P	P	P	P
20	Pratiksha R. Waghmare		P	P		P	P	P	P	P	P		P	P	P	P	P	P			P	P	P	P	P				P	P	P	P

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
21	Priyanka Vishvas Dhole																															
22	Rahid Rahim Shekh																															
23	Rayyan Ahmad Khan																															
24	Rina Shaikh Raees																															
25	Rohan Babalu Hiwrale																															
26	Sakshi Gajanan Maind																										R					
27	Sanika Dattatray Wayse				S							S							S							S	P					
28	Saniya Parveen Sk. Israil				U							U							U							U	U					
29	Sayali Baburao Chharrye				N							N							N							N	I					
30	Shaikh Miran				D							D							D							D	C					
31	Shaikh Rehan Shaikh Nazakat				A							A							A							A	A					
32	Shazmina Parvin M. Shafique				Y							Y							Y							Y	Y					
33	Shilpa Dhammpal Maghade																															
34	Shivani Pradip Bahekar																															
35	Shiza Asnal																															
36	Shruti Ravindra Jadhao																															
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Shri Shivaji Education Society, Amravati.
Shri Shivaji Science & Arts College, Chikhli, Dist. Buldhana.
Department of Physics
Certificate Course in Renewable Energy
01 August 2025 to 18 February 2026

Attendance Sheet

Month: February 2026

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
01	Abhishek Dadarao Suste																															
02	Achal Anil Chikte																															
03	Anuja Anil Ingle																															
04	Anuja Gajanan Kulkarni																															
05	Devkanya R. Parihar																															
06	Divya Raju Mutthe	S							S							S				S H			S								
07	Gauri Dilip Gawate	U							U							U				I V			U								
08	Janhavi Vilas Jagtap	N							N							N				J			N								
09	Jayesh Jadhao	D							D							D				A			D								
10	Ketan Deshmukh	A							A							A				Y A			A								
11	Kirti Ananta Deshmane	Y							Y							Y				N			Y								
12	Laxmi Sanjay Chavan																			T I											
13	Mohammad Kaif																															
14	Namrata Raju Ingle																															
15	Nikita Anil Raut																															
16	Ovi Pandurang Vasu																															
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20	Pratiksha R. Waghmare																															

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
21	Priyanka Vishvas Dhole																															
22	Rahid Rahim Shekh																															
23	Rayyan Ahmad Khan																															
24	Rina Shaikh Raees																															
25	Rohan Babalu Hiwrale																															
26	Sakshi Gajanan Maind															S				SHIVJAYNTI			S									
27	Sanika Dattatray Wayse	S							S							U							U								
28	Saniya Parveen Sk. Israil	U							U							N							N								
29	Sayali Baburao Chharrye	N							N							D							D								
30	Shaikh Miran	D							D							A							A								
31	Shaikh Rehan Shaikh Nazakat	A							A							Y							Y								
32	Shazmina Parvin M. Shafique	Y							Y																							
33	Shilpa Dhammpal Maghade																															
34	Shivani Pradip Bahekar																															
35	Shiza Asnal																															
36	Shruti Ravindra Jadhao																															
37	Sneha Mailind Paithane																															
38	Tushar Dnyaneshwar Kothale																															
39	Vedant Dnyaneshwar Upase																															
40	Zahed Khan Nisar Khan																															

॥ ज्ञानम् परम् ध्येयम् ॥

Shri Shivaji Education Society, Amravati's

Shri Shivaji Science and Arts College, Chikhli Dist. Buldana (MS), India- 444302

पीएम-उषा PM-USHA

Certificate Course on

Renewable Energy

Certificate

This is to certify that ***Shazmina Parveen Mohammad Shafique*** of Shivaji Science and Arts College, Chikhli, Dist. Buldana, Class B. Sc. - I has successfully completed **Certificate course on Renewable Energy Sources** organized by Department of Physics, Shri Shivaji Science and Arts College, Chikhli, Dist. Buldana sponsored by **PM-USHA Grant Component 3.0 (Strengthen College)** from **01 August 2025** to **18 February 2026**.

Dr. S. I. Jukkalkar	**Dr. P. P. Padghan**	**Dr. P. B. Nalle**	**Dr. V. U. Pochhi**	**Prof. Dr. P. R. Padole**
PM-USHA Coordinato	Coordinator	Head, Dept. of Physics	IQAC Coordinator	Principal

Shri Shivaji Education Society, Amravati's

Shri Shivaji Science and Arts College, Chikhli Dist. Buldana (MS), India- 444302

Certificate Course on

Renewable Energy

Certificate

This is to certify that ***Namrata Raju Ingle*** of Shivaji Science and Arts College, Chikhli, Dist. Buldana Class B. Sc. - I has successfully completed **Certificate course on Renewable Energy Sources** organized by Department of Physics, Shri Shivaji Science and Arts College, Chikhli, Dist. Buldana sponsored by **PM-USHA Grant Component 3.0 (Strengthen College)** from **01 August 2025** to **18 February 2026.**

Dr. S. I. Jukkalkar	**Dr. P. P. Padghan**	**Dr. P. B. Nalle**	**Dr. V. U. Pochhi**	**Prof. Dr. P. R. Padole**
PM-USHA Coordinato	Coordinator	Head, Dept. of Physics	IQAC Coordinator	Principal

ESTD.

॥ ज्ञानम् परम् ध्येयम् ॥

Shri Shivaji Education Society, Amravati's

Shri Shivaji Science and Arts College, Chikhli Dist. Buldana (MS), India- 444302

पीएम-उषा PM-USHA

Certificate Course on

Renewable Energy

Certificate

This is to certify that ***Abhishek Dadarao Suste*** of Shivaji Science and Arts College, Chikhli, Dist. Buldana Class B. Sc. - I has successfully completed **Certificate course on Renewable Energy Sources** organized by Department of Physics, Shri Shivaji Science and Arts College, Chikhli, Dist. Buldana sponsored by **PM-USHA Grant Component 3.0 (Strengthen College)** from **01 August 2025** to **18 February 2026.**

Dr. S. I. Jukkalkar	**Dr. R. P. Padghan**	**Dr. P. B. Nalle**	**Dr. V. U. Pochhi**	**Prof. Dr. P. R. Padole**
PM-USHA Coordinato	Coordinator	Head, Dept. of Physics	IQAC Coordinator	Principal

Shri Shivaji Education Society, Amravati's

Shri Shivaji Science and Arts College, Chikhli Dist. Buldana (MS), India- 444302

Certificate Course on

Renewable Energy

Certificate

This is to certify that ***Rayyan Ahmad Khan*** of Shivaji Science and Arts College, Chikhli, Dist. Buldana, Class B. Sc. - I has successfully completed **Certificate course on Renewable Energy Sources** organized by Department of Physics, Shri Shivaji Science and Arts College, Chikhli, Dist. Buldana sponsored by **PM-USHA Grant Component 3.0 (Strengthen College)** from **01 August 2025** to **18 February 2026.**

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