

GREEN AUDIT REPORT



2023-24

GOVT. DIGVIJAY AUTONOMOUS PG COLLEGE

KILLAPARA , RAJNANDGAON

CHATTISHGARH – 491441 , INDIA

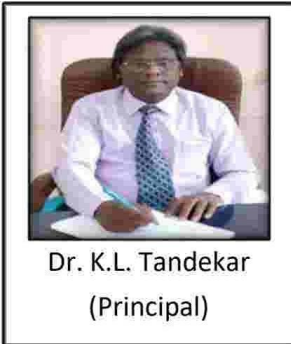


GOVT. DIGVIJAY AUTONOMOUS COLLEGE RAJNANDGAON

A Report on

Green Audit / Environmental Audit / Energy Audit

Principal's Desk



Education is the base for a thriving society, and the transfer of knowledge has been a top priority for civilizations since the very beginning. It stands for the onward march of the human race towards higher objectives. In this direction, higher education institutions play a very significant role as they provide students' access to the world class teaching methods, inclusive education and employment too. To achieve these goals the higher education institutions need clear cut vision, innovative leadership and good infrastructural services for integrated action which leads to the progress of a society.

Keeping these views in mind our college, one of the foremost institutions of higher learning in the state, strives to materialize the visionary zeal of its great founder, Raja Mahant Digvijay Das, to provide quality education to all sections of society irrespective of caste and creed and to inculcate in them human values like truth, mutual love and non-violence. Our motto is "Knowledge is the adornment of us all". Its exhortation is 'Where the mind is without fear and the head is held high, where knowledge is free, O God, let my country awake'. It not only promotes and reflects the vision of freedom and development but acts as a living organism to support and sustain it.

We are living in a world of cut throat competition. Drastic changes and developments are taking place in the field of education at every nanosecond. In order to keep pace with the modern developments we have to make our youth fully competent with their counterparts in any other part of the world. Our emphasis, as stakeholders of higher education institution, is on quality and to achieve this we have to introduce the most modern educational technology in teaching, learning and in developing students' creativity with originality. The mindset of the students, parents and the teachers have to be changed.

The college has been innovative, creative and entrepreneurial in its approach to the development of skill among students. To keep pace with the development in the spheres of human endeavor, the campus community is equipped to make the optimum use of ICT. The college has the potential to be an autonomous institution and a center of excellence. Our striving for excellence in all aspects will be the fulfillment of the noble dreams of our great founder.

Since our nation has an ancient culture, deep rooted traditions and values, our college too focuses on nourishing, developing and flourishing human values in our students. Value Education, CCA activities, etc are organized for all students to inculcate desirable and positive values among them. This helps the parents, teachers, leaders, professionals and the students to get their share of respect and recognition in the society. As our great President Dr. APJ Abdul Kalam observed "Education in its real sense is a pursuit of truth. It is an endless journey through knowledge and enlightenment". Such a journey opens up new vistas of development of humanism, where there is no scope, nor room for pettiness, disharmony, hatred or enmity. It transforms the human beings into a wholesome whole, a noble soul and an asset to the entire universe. This institution continues to excel in providing citizens of caliber to our country and respond to the call, to break the fetters of ignorance and illiteracy.

I request our wonderful student community to imbibe the tremendous spirit of moral values to strive hard, to make use of the best facilities and to achieve the excellence in academics as well as in sports, games and all other extra-curricular activities in order to become the real asset to the entire world.

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Introduction:

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. It aims to analyze environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere. Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric CO₂ from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

Objectives:

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems. The college has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

- To understand the awareness of employees and learners towards environmental conservation
- to recognize the initiative taken by organization towards environmental conservation
- to understand and recognize the effects of an organization on the environment and *viceversa*
- to ensure that the natural resources are utilized properly as per national policy of environment
- to study waste minimization and safe disposal of waste particularly hazardous wastes
- initiatives for water and energy conservation
- contribution and participation by various stakeholders in the environmental conservation and management
- to diagnose and find out solutions for the environmental problems
- to facilitate the stakeholders with different aspects of disaster management

Scope and Goal of Environmental Auditing

Government of India through its National Environment Policy in 2006 has made mandatory for every organization to conduct green audit / environmental audit in order to ensure a clean and healthy environment within and outside the organization. Further, it also helps in effective learning and provides a conducive learning environment. Efforts are taking place around the world in order to address various environmental issues. Green auditing or environmental auditing is one among them for educational institutions. Green auditing helps organization to understand various environmental issues of the organization and identify existing lacuna or gap towards meeting the objective of National Environmental Policy and thus, to plan accordingly.

Methodology:

The purpose of the green audit of GDACR is to ensure that the practices followed in the campus are in accordance with the Green Policy of the country. The Methodology includes: collection of data, observation and review of the Documentation and data analysis.

About The College:

Govt. Digvijay Autonomous PG College (GDACR) was founded on 13th July, 1957 as a private college established by Rajnandgaon Education Society donated by revered prince Mahant Raja Digvijay Das ji. The college was taken over by the state government on 27th August 1973 and has completed SIXTY years of its glorious existence in the year 2017. In 2007, we celebrated '**Golden Jubilee Year**' In year 2018, we have celebrated the '**Diamond Jubilee Year**' of our institution. The growth of the institution has been remarkable. The college which started with 73 students encompasses more than 5000 students today. The College stands like a colossus, proud of thousands of alumni that adorn positions of prominence in different walks of life, thanks to the education that they received in their alma mater. The college was conferred the autonomous status by UGC in 1992-93. Our institute, which has a historical legacy and prosperous heritage, is striving hard today to adapt the new advanced technological methods of teaching-learning to compete with the global needs of present scenario. The courses, as per the need of today's competitive IT world, have been started in the college and are running successfully. The institution got CPE (College with Potential for Excellence) status by the UGC. Commerce department of our institution was declared the Centre of Excellence in the year 2005-2006 by the state government. The **Pride of our college** is that three national/international level literary personalities; Gajanand Madhav Muktibodh, Dr. Padumlal Punnalal Bakshi and Dr. Baldeo Prasad Mishra; have given their contributions as faculty members in the growth of this institution. **The college is also ISO 9001-2015 And ISO 14001:2015 Certified.**

Academic Offerings

The institution is offering –
34 courses including 7 UG courses, 18 PG courses, 2 diploma courses, 2 PG diploma courses, 4 Add-on courses and 11 certificate courses.

Presently 4 departments; Hindi, Economics, Chemistry & Commerce; are recognized as research centers and these are conducting and promoting research work. Proposal for 5 other departments for research Centre has also been sent. At present the students' strength of the college is 5078.

Laboratories:

The institution has well equipped and effectively functional **17** laboratories and **1** central laboratory for all subjects including science laboratories viz. Physics, Chemistry, Botany, Zoology, Microbiology, Anthropology, Geology and Biotechnology & Arts labs viz. Geography and Home Science. Other than this we have three computer Labs (in Commerce, arts & science respectively), one Sanskrit Lab, one Commerce Lab, English Language Lab & Mathematics Lab.

Central Laboratory:

We have established a central laboratory for research purpose. The laboratory is equipped with instruments (RTPCR, AAS, UV Spectrophotometer, Flame Photometer, Gel Doc, Binocular Microscope) on Soil Analysis (Micro and Macro nutrients), Water Analysis (Chemical and Physical parameters), Food Adulteration Analysis, Industrial Pollutant Analysis, Heavy Metal Analysis (like Arsenic, Mercury, Molybdenum, Zinc, Iron etc.), Plant Extraction Analysis, DNA test, Sickle Cell test, Diagnosis of Genetic Disease, Genetic Counselling, Screening of Genetic Disease, Diagnosis of Inherited Disease.

Three NCC units- NCC Boys, NCC Girls and NCC Naval are functioning in our institution. Since last 16 years two or three cadets are participating in the RD parade every year and YEP. Near about 700 students have been selected for Armed Services till date.

The **NSS** unit is also active in organising various social activities. Some of these activities are: Leprosy Awareness Programmes, Cleanliness Programmes, Plantation, Environment Conservation, Water Conservation, Blood Donation, Gender Sensitization, etc.

In addition to NCC and NSS, we also have Youth Red Cross unit in our institution, which is actively involved in the activities like Blood donation, free medical check-

up, Distribution of warm clothes to the poor and needy, plantation of saplings, cleanliness awareness, etc.

Distant Learning Centres:

Our institution has Distant Learning study centres of Indira Gandhi National Open University and Sundarlal Sharma Open University. A course of BA in Journalism and Mass Communication is also being run in the campus affiliated to Kushabhau Thakre University.

Triveni Literary Museum:

Established in the Historical palace donated by Mahant Raja Digvijay Das of Rajnandgaon Estate and surrounded by water bodies from three sides, Govt. Digvijay PG Autonomous College, Rajnandgaon is famous for the renowned literary personalities like Shri Gajanan Madhav Muktibodh, Shri Padumlal Punnalal Bakshi and Shri Baldeo Prasad Mishra who have contributed their immortal works to the world of literature during their life time. “Triveni Literary Museum” constructed on the bank of the pond to commemorate these three famous personalities reminds us of their literary contributions.

VISION

To provide quality education to the students of rural and tribal belt of the surrounding areas and to develop skills in students by keeping balance between the traditional human values and the new global challenges.

The motto of the college “*Vidya Sarvasya Bhushanam*” (*Knowledge as the ornament for all*) has been the guiding force, the philosophical firmament and constant source of inspiration of the college ever since its inception. The institution aims to provide higher education to as many deprived and unprivileged youth as possible. The college community has always been dedicated to live up to the spirit of the core values of the college inspired by its motto – *Distribution of knowledge to all without any discrimination.*

MISSION

To empower the students from diversified background of this region by providing them holistic education with scientific temper and logical thinking and to make them socially committed and compassionate individuals.

- To achieve integrity through excellence in teaching, learning and research.
- To involve students in community service and promote responsible leadership qualities in them.
- To promote environmental consciousness, cultural heritage, social, spiritual and human values.
- To improve employability and professional skills among the students

CORE VALUES

- Quality Education
- Holistic Development
- Professional Ethics
- Leadership Qualities
- Human Values

AUDIT OBJECTIVES

Green Audit was initiated in the beginning of 1970's, with the motive of inspecting the work executed within an organization, whose exercises could cause risk to the health of inhabitants and the environment. It exposes the genuineness of the proclamation made by the organization with the concern on health issues. As a consequence of their

operations with respect to environmental pollution it is the duty of the organization to carry out the green audit of the ongoing processes for various reasons, such as,

- To make sure whether one is performing in accordance with the relevant rules and regulations,
- To improve the procedures and aptness of material in use,
- To analyse the potential duties and to determine a way which can lower the cost and to the revenue.

Through green audit one gets adoration as to how to improve the condition of the environment. There are various factors that were forced upon and determine the growth of/or conduct of green audit. Incidents like,

- Decade's old Bhopal gas tragedy that has left its residual effect which still haunts us.
- Our buildings catching fire due to various reasons,
- Industries blowing off taking valuable human lives etc.
- People going sick, feeling tired, after long hours of operations in the organization, increased demand of generators due to inconsistent power supply, which has resulted or lead into recent floods and droughts, are some of the situation to ponder about.

To address various issues in context with human health, green audit is assigned to "Criteria 7" of NAAC (National assessment and accreditation council) Accreditation. NAAC is a self-governing organization in India that declares the institutions as Grade "A", Grade "A+", Grade "A++"..., according to the scores assigned at the time of accreditation.

The other intention of organizing green audit is to update the environment conditions in and around the institutions i.e., within the compound and outside the compound. It is carried out with the aid of performing certain tasks like waste management, energy consumed, diesel burnt it performing the objective of the organization. Lastly to self-assess the net carbon footprint of the conduct of process in the organization.

Benefits of the Green Auditing

- Empower the organizations to frame a better environmental performance
- More efficient resource management
- Benchmarking for environmental protection initiatives
- To provide basis for improved sustainability
- To create a green campus
- To enable waste management through reduction of waste generation, solid-waste and water recycling
- To create plastic free campus and evolve health consciousness among the stakeholders
- Recognize the cost saving methods through waste minimizing and managing
- Point out the prevailing and forthcoming complications
- Authenticate conformity with the implemented laws
- Enhance the alertness for environmental guidelines and duties
- Impart environmental education through systematic environmental management approach and improving environmental standards.
- Financial savings through a reduction in resource use
- Development of ownership, personal and social responsibility for the College and its environment
- Enhancement of college profile
- Developing an environmental ethic and value systems in youngsters.
- Green auditing should become a valuable tool in the management and monitoring of environmental and sustainable development programs of the college.

Role of Management in Green Management

- The part played by the college management in bringing the campus to a green one is adorable.
- The following were the initiatives by the college authorities in green management:
- The management developed separate teams for implementing green policy in the campus.
- Regular evaluation system has been established with monitoring cells for green activities in the campus.
- The management has allotted budget for implementing green policies in the campus.
- The green monitoring cell evaluates developmental and functional activities and makes recommendations for improvement of the green aspects.
- These recommendations are implemented without delay and fail.
- Clubs that are related to green activities are encouraged to conduct programs in and around the campus.
- The management is keen on the social commitments and tries to reach out to the general public through teachers and students.
- The management is keen in conducting awareness programs based on its green policies.
- The support and part played by management is vital in the green campus related activities.

Audit Report

Land Use System

Government Digvijay Autonomous PG College, Rajnandgaon, is located in between two large Ponds- Rani Sagar and Budha Sagar., Killapara, Rajnandgaon, Chattisgarh-491441, India The institution is expanded in about 10.5 acres of land in its first part and the second part of 5 acres is under construction. The college has 49 well ventilated classrooms, 16 labs including English, Mathematics, Central Lab & Sanskrit Labs, multi-purpose Auditorium, Boys/Girls Hostel and Outdoor Track & field. The up-gradation of the infrastructure continues with changing classrooms in to smart class and up gradation of traditional blackboards into green boards. All PG departments have Projectors; we have four smart classes and one e-classroom with equipment's having modern and latest technology. We have a zoology museum, botanical garden, green house, a well-established and computerized rich library, a fully AC meeting room & one conference hall, e-library, fully AC Reading Room having special sitting arrangement for research scholars & specially-abled students, Gymnasium and Canteen.

Scaled image of college campus is shown in Photo 1. Green color in Map is representing green area. The Google aerial views of College Campus have been showing different college buildings, sports stadium, hostels and residential areas.

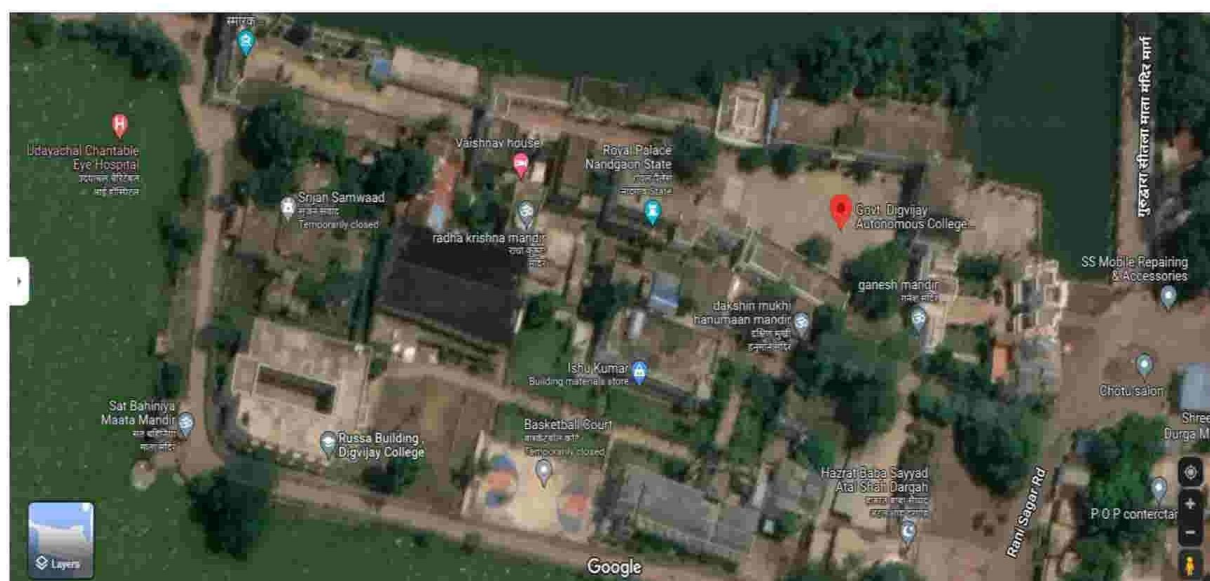
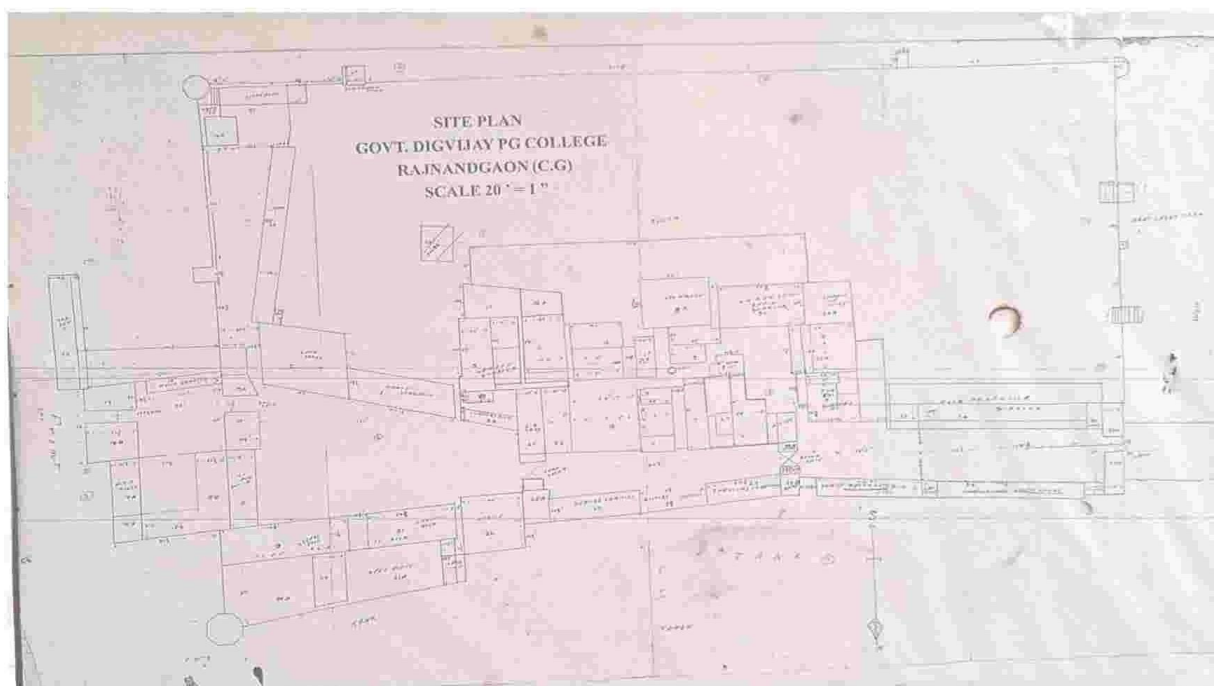


Photo: Aerial View of College Campus (Source: Google-Earth)

The college has sufficient infrastructure and learning resources for academic and extra-curricular activities. The royal building of the institute is spread over 10.5 acres. The Campus has an ideal educational ambience having 44 classrooms, 7 conventional science labs, 1 Mathematics lab, 1 English Language lab, 1 Sanskrit Lab, 1 Commerce Lab, 1 Geography lab, 1 Geology lab, 1 Central Instrumentation Lab, two seminar halls, one auditorium, 1 computer Science lab, a well-equipped central digital library having approx. 95000 books and eBooks, one spacious fully Ac reading room, 1 e-classroom, 4 smart class-rooms, one gymnasium, indoor sports facility for badminton, Table Tennis, Chess, basketball, kabaddi, 1 ATM (SBI), water coolers with RO purifiers, campus with Wi-Fi connectivity. Audio-visual teaching aids like, interactive boards, overhead projector, slide projector, laptop, handy cam, headphones etc. are available for use. We also have our own collection of musical instruments like harmonium, tabla, and home theatres to support the students in cultural activities.

College have **Words Worth software** in the English Language Lab. College libraries (central library and departmental libraries) have a rich collection of books, newspapers, magazines, journals and periodicals. It has internet facility for its users. A huge and well-kept AC reading room in the main library is available to serve students, research scholars & staff. The institution has well equipped laboratories with different types of apparatus, chemicals, instruments, manuals and all modern amenities for conducting experiments. Uninterrupted electricity supply is ensured with solar power unit installed inside the college campus.



Fig; Site Plan govt. Digvijay PG College Rajnandgaon (C.G.)



Photo: Front Gate



Photo: College Premises





Photo: Russa Building & Sports Dept.

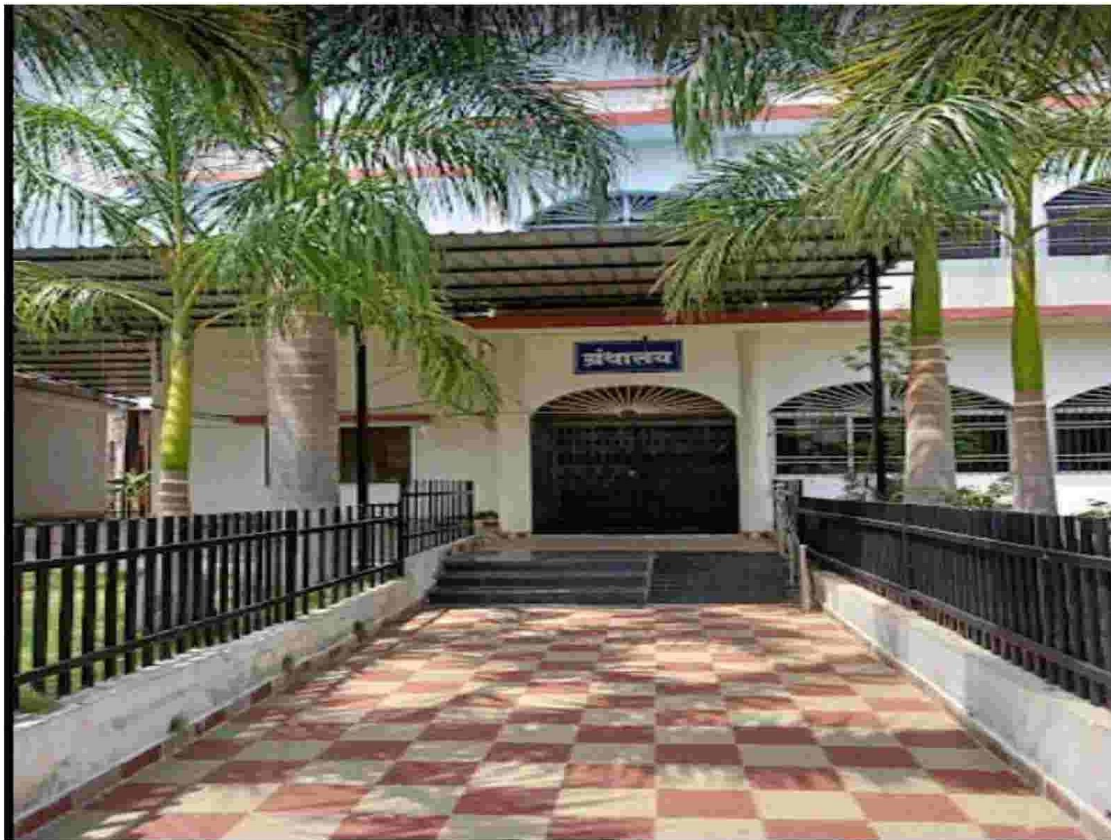


Photo: Library



Photo: Autonomous Cell

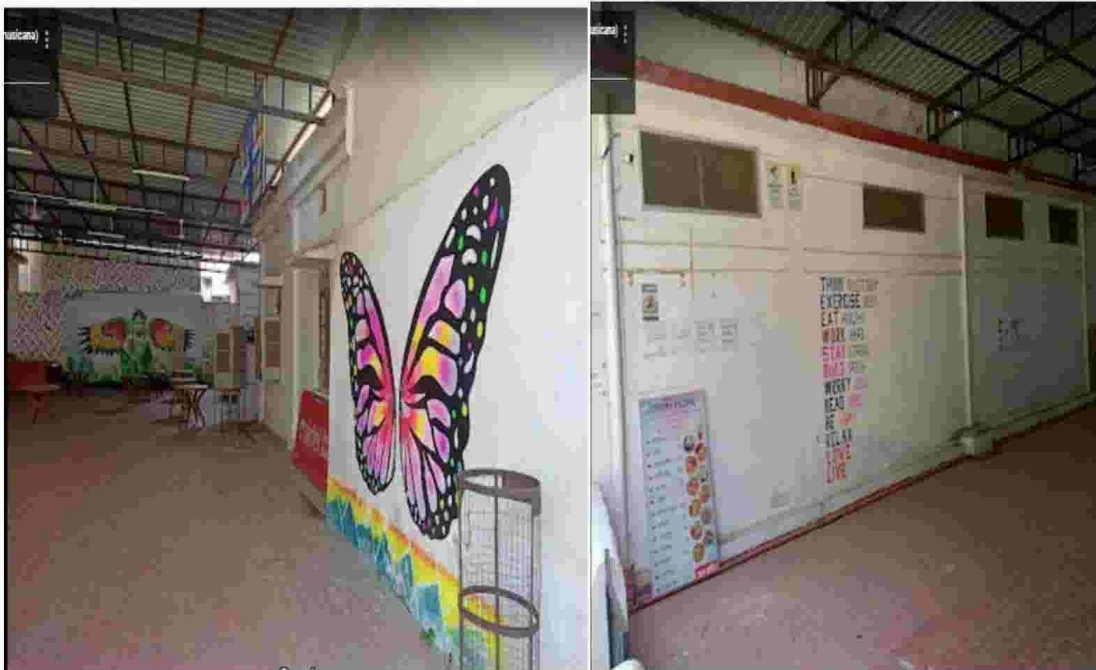


Photo: College Canteen

There are four smart classes and one e-classroom with modern and latest technology. We have a Zoological Museum, Botanical Garden, a well-established digital library, e-library, fully AC Reading Room having special sitting arrangement for research scholars & specially-abled students, Gymnasium, Canteen. Three NCC units- NCC Boys, NCC Girls and NCC Naval are functioning in our institution and separate rooms are provided to these different

bodies being functioned inside the campus for smooth functioning.

The NSS unit of our institution is being functioned from a separate block, which gives them ample space for the planning and execution of various activities. We have Youth Red Cross unit in our institution, which is actively involved in social activities “Triveni Literary Museum” is constructed to commemorate three famous personalities, Muktibodh, Bakshijee and Baldeo Prasad Mishra for their literary contributions.

100 seated Boys and Girls Hostels are under construction. Boys Hostel is being constructed in the new campus and Girls hostel is being constructed in the old campus. Total cost sanctioned by the government for the purpose is 272.81 lakh for each hostel. Total sanctioned amount is 525 lakh. 7 Staff Quarters have been allotted to staff of the college inside the campus.



Photo: Department & Class Room





Photo: Prachintam Hanuman Mandir

Diversity

Climate And Diversity

A High Temperature + High Rainfall + High Humidity = Hot & Humid Climate → Highly Diversified Flora & Fauna.

B Low Temperature + Low Rainfall + Low Humidity = Cold & Dry Climate → Lowly Diversified Flora & Fauna.

C High Temperature + Low Rainfall + Low Humidity = Hot & Dry Climate → Highly Diversified Flora & Fauna.

Altitude And Diversity

High Elevation + Low Temperature + High Snowfall = Cold Climate → Lowly Diversified Flora & Fauna.

Low Elevation + High Temperature + High Rainfall = Hot & Humid Climate → Highly Diversified Flora & Fauna.

Biodiversity Status

The GDACR is sandwiched between two most important ponds Ranisagar and Budasagar hence the GDACR is natural host of different kinds of flora and fauna. Apart from this institutionally developed gardens are also the site of biodiversity.

Botanical Garden

The institution has a rich Botanical Garden with rare medicinal plants.

| |
|-----------------------|
| Vitex Negundo Sps, |
| Euphorbia Sps., |
| Santalum Album, |
| Cycus Revoluta Sps., |
| Bauhinia Verigata, |
| Moringa Sps., |
| Withania Somnifera, |
| Rauwolfia Serpentina, |
| Athotoda Vasica. |

The botanical garden of GDACR is approximately 50x80 feet area with Medicinal, ornamental, commercial and some rare plant varieties (Plate XII). The plant sample uses in the experiments of botany, biotechnology and microbiology is fulfill by the botanical garden. It is maintained by both teaching and no teaching staff. The Principal work as a Patron and Professors/Asst. Professors from Botany and Biotechnology work as officers bearers of the garden maintenance committee and a full day non-teaching staff work to enrich the garden. Apart from this students of NCC and NSS contribute to clean and plantation of garden.

Few common plants available in the botanical garden are:

| |
|-------------|
| Neem, |
| Karanj, |
| Nigur, |
| Alove Vera, |

| |
|----------------|
| Hadjod, |
| Jangali Haldi, |
| Brahmi, |
| Chitrak, |
| Kev Kanda, |
| Satavri, |
| Brayophilum, |

Departmental Garden

Many individual departments also maintaining departmental garden with the aid of pots and other methods. These department includes Botany, Biotechnology, ComputerScience, Geography etc.

Other Gardens and Green Zone

Apart from the botanical and departmental garden many other gardens and green zone are also available in the GDACR (**Plate XII**). Plants of rest of garden mainly include lawn and ornamental plants. Staff colony, front of administrative building, front side of chemistry

Department, behind of new hall, cycle stand and botanical garden are green zone covered with tree plants. The complete vegetation area estimates 1/3 of the total.

Bhoolan Bag

The old Rajnandgaon fort and the current GDACR was also the place of a garden which contain plant that has characteristics to loss the memory of individual who feet upon the plant. That's way the garden was named as "Bhoolan Bag" which means the garden of forgetting. Later on the plant was characterized as *Tylophora rotundifolia*. The Bhoolan Bag is not in the existence from few decades, but now the GDACR and Municipality wants to reestablish it.

As the GDACR is sandwiched between two large ponds Ranisagar and Budasagar hence the premises is rich in the aquatic and other faunal diversity. The botanical garden is habitat of birds and butterfly (Plate XIV). The table 2 showing diversity of animals seen in the campus of GDACR.



Fig 1: botanical garden



Fig2: Green zone college Gate

Animal Museum

As earlier noted the present campus of GDACR was the fort of old Rajnandgaon state. As per the Kings civilization Raja Digvijay Das mahant poaches Tiger and Crocodile from the forest of Churria. The GDACR is conserving the animal hunted by King in a small museum. The animals were chemically stuffed with traditional methods

Table 2: Animal biodiversity of GDACR

| S. No. | Animal Group | Animal Surveyed |
|--------|--------------|-------------------------|
| 1 | Arthropods | Mosquito |
| | | Spider |
| | | Scorpion |
| 2 | Worms | Earthworms |
| | | Leech |
| 3 | Fishes | Oreochromis Mossambicus |
| | | Oxygaster bacaila |
| | | Puntius sarana |
| 4 | Amphibians | Frog |
| | | Tod |
| | | Tree frog |
| 5 | Reptiles | Lizard |
| | | Snak |
| 6 | Birds | Crow |
| | | Hock |
| | | Carmorant |
| | | Sparrow |
| | | Pigeon |
| | | Heron |
| 7 | Mammals | Cat |
| | | Bat |
| | | Dog |
| | | Rat |
| | | Monkey |
| 8 | Butterfly | Yellow butterfly |
| | | Papilionoidea |



Fig: Green Zone



Plastic free campus

The campus is declared and maintained as Plastic Free zone.



Green landscaping with trees and plants



Waste Disposal and Management:

Wastes are generated from various departments/sections of the collage.

The principal waste includes paper, grasses, electronic wastes, canteen waste and other solid wastes. Since, collage operates on ODL mode therefore number of students visiting the campus are comparatively less compared to regular collages.

Therefore, the waste generated through

Classroom activity and student's activities is negligible. Solid waste Disposal of College are Shown in figure of B and other one dustbin for the waste collection.

PLATE XI



A
Dustbin for Solid waste Collection



B
Solid Waste Disposal site of College

(D)Waste Management

- **Solid waste management**
- **Liquid waste management**
- **E-waste management Response:**

Solid Waste Management:

1. The used answer books from the Examination Cell and written-off books from the library are sold to the Scrap Dealers time to time. Fund is also generated through this way.
2. The institution with the aid of Municipal Corporation has installed big dust bins in the college campus at various places. Dust bins are also kept inside all the classrooms and in each department. On daily basis the garbage is collected from all the departments, classrooms and common places. They are dumped at one place and collected by the Municipal Corporation. The Corporation further recycles the reusable items and rest is safely disposed.
3. The institution believes in preservation of natural resources. Thus, the damaged furniture is not disposed but is reused through repair. In this way, the institution tries to save and preserve the resources for future generation.

Liquid Waste Management:

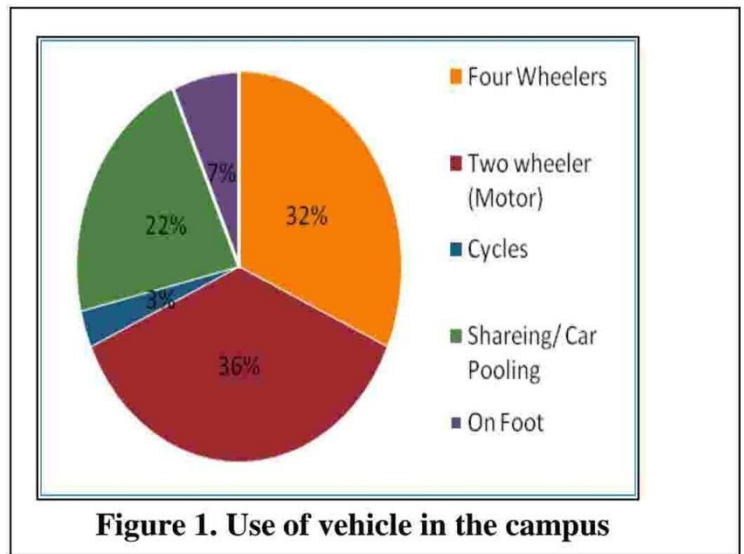
1. As the institution also offers Science courses, various science laboratories are located and are functional in the campus. A Soak Pit is attached to each laboratory. The liquid waste of the laboratories is directed to those soak pits.
2. The liquid waste of the department is a part of Municipal Corporation Sewage System.
3. The outlets of all the water taps/resources are linked to the nearby gardens. It gives continuous and effortless supply to the gardens of the institution.

E-waste management:

Besides the above wastes there are another category of waste is E-waste which includes computers, laptops, pen drives, printers, hard discs, CD's and other solid waste, electrical & electronics equipment's generated through different department/sections is disposed and managed by the ICT, maintenance and store department of the university and the details are properly maintain in the stocks register. Thereafter in every five year the concerned departments categorize the useless items in to the wastes and disposed through auction and buyback from the authorized buyers as per the Chhattisgarh Government Rules.

Pollution

Sources of air pollution: It was observed and revealed from data that the only possible sources of pollution in the college use of diesel / petrol vehicles, air-conditioners, power generator, kitchen waste and other biodegradable waste from canteen, use of electronic appliances and other. Wheelers and 05 cycles are being used by the employees of the organization. There are also people who are using environment friendly vehicle i.e., cycle, but the percentage is very low nearly 7%. Further, people commuting through walking are also only 3%. There is



Green auditing is the corporate responsibility to bring out the truth about the statements made by the government and companies with regard to the effects of environment pollution. It reviews the measures taken to minimize and overcome pollution. The green audit is study of the effects of a company's activities and performance on the environment. It is widely known as Environment Audit. The green audit includes inspection of water, Energy, Solid Waste Management, Health and biodiversity. Water auditing includes its utilization, waste water treatment and conservation. The energy utilization within

institution is also very important. Conservation of energy is focused to the energy auditing. Every institution generates solid waste little or more. The management and recycling of solid waste is monitored during green auditing. Similarly activities of some institution also affect the health of workers. Monitoring of such activity and also the health checkup of peoples is considered of not is answered while auditing the institution. Another major aspect is biodiversity. .Therefore monitoring of biodiversity within organization also considered. Very low chances of air pollution from outside as there are no commercial as well as the industrial actives are running near the campus, as the campus is rich in greenery.

Sources of noise pollution: It was observed that there is no industrial as well as the sound generating activities near the College campus and it was revealed from that due to limited number of vehicles the chances of noise pollution seems to be quite below of standard limit. Moreover the two generators of the college are also sound proof. There is no other source of noise pollution in the campus.

Water Audit

Water audit is a part of green or environmental audit which are identified with the inspection of work directed inside the organizations whose movement can make risk to the health of inhabitants and environment. The National assessment and accreditation council (NAAC) take a genuine note of this angle while reviewing the educational institute. Along these lines, water audit is performed in the college with various aspects of water such as sources, supply, utilization, disposal etc. On location perception and talk with the related staff was taken up to got the information. Bore wells satisfy the all necessities of institute while prerequisite of staff colonies is fulfill by municipality supply.

(a) Water resource

The GDACR has own resource of water to supply the whole institution except staff colony. The water requirement of staff colony is fulfill by Municipal

Corporation of Rajnandgaon city. The institution resource includes two bore well and two hand pumps.

(b) Drinking water facility

GDACR is facilitated with water coolers with reverse osmosis (RO) and ultra violet (UV) treatment for drinking water. Detail of drinking water facilities is listed in the **TABLE 1 and Plate III**. The GDACR organizes different examination which includes its own autonomous exams (semester and yearly), university examinations, Vyavsayik pariksha mandal (VYAPM), Public service commission (PSC), Pt. Sunderlal Sharma open university, Indira Gandhi national open university (IGNOU) etc. During summer it is really a difficult task to fulfill the drinking water need to examinee. Soils made vessels were generally used and peons can supply the water to examinee at their exam table.

Table 1: Drinking Water facility in GDACR

| S. No. | Location | Facility | GPS Position |
|--------|------------------------|-----------|---------------------------|
| 1 | Administration Office | UV and RO | 81°5.481'N to 81°1.844' E |
| 2 | IQAC | UV and RO | 81°5.494'N to 81°1.806' E |
| 3 | Chemistry department | UV and RO | 81°5.485'N to 81°1.818' E |
| 4 | Mathematics department | UV and RO | 81°5.465'N to 81°1.795' E |
| 5 | Botany department | UV and RO | 81°5.509'N to 81°1.771' E |
| 6 | Botanical garden | UV and RO | 81°5.513'N to 81°1.813' E |

Institutional water is devoured by the

Laboratories (30-35%)

Gardens (20-25%)

Bathrooms (15-20%)

Boys hostel (15-20%)

Drinking water (10-15%)

Sports ground and other (5-10%)

The seepage in the old construction, reutilization of water and unavailability of

rain water harvesting are the destinations of change in institute. Concluded that, institute has own and necessity based source and supply of water then again locales of improvement was likewise observed

Rain water harvesting structures and utilization in the campus

The institution is located in between two large ponds- Rani Sagar and Budha Sagar. Its unique location helps us in managing the rain water. The rain water collected on the roofs of the building located on the bank of the pond is directly attached to the pond, further improving the water level. The outlets of all water dispensers are directed to the nearby garden in the campus. Eight Rain Water Harvesting Systems have been installed near:

1. Chemistry Department
2. Behind English Department
3. Besides Library Building
4. In front of IQAC Cell
5. New Wing Garden
6. RUSA Building
7. Mathematics Block
8. New Science Building



Fig: The installation of Rain water Harvesting System is adding more to the already sufficient ground water level.

Green Practices • Students, staff using

- a) Bicycles
- b) Public Transport
- c) Pedestrian friendly roads

- Plastic-free campus
- Paperless office
- Green landscaping with trees and plants

Response: Students, staff using

1. Bicycles: As the college is located in the mid of the town, the students from nearby areas and villages use bicycle as the medium to commute.

2. Public Transport: Some students also come from distant places. They prefer public transports like trains and buses. The institution also provides them bus concession forms. The staff of the college also commutes by carpooling.

1. Pedestrian Friendly Roads: No student vehicle is allowed inside the campus. Thus the ground and the passages of the institution are pedestrian friendly. Plastic free campus: The campus is declared and maintained as Plastic Free zone. Green landscaping with trees and plants:

1. The institution has been developed into a lush green campus.
2. Green House has been established.
3. The Botanical Garden is a treasure having rare and medicinal plants.
4. Mushroom cultivation is being done by the students of microbiology department.
5. Rain water harvesting systems have been installed at various places.

Govt. Digvijay Autonomous PG College

Students, staff using Bicycles



Pedestrian Friendly Campus



GREEN INITIATIVES

Digvijay College is located in between two large ponds- Rani Sagar and Budha Sagar. It covers an area of about 10.5 acres. The major portion is covered with vegetation. The university aims to protect and conserve its biodiversity, fresh and clean ambiance through many initiatives. The university has taken the following green initiatives to protect and conserve nature.

Plantation and Nurturing Programme

Many plantation drives are taken by the college on its campus. Every Year on 5th June i.e. World Environment Day, the college takes Plantation activity. Government. Digvijay College has taken many plantation drives. The Horticulture Section looks after tree plantation activities. The trees are watered by students of various Departments. They nurture these trees throughout the year. Students of various departments and students make the plantation and nurturing program successful. A Many plant saplings of different species (fruit and medicinal plant, etc.) were planted in various sites of the College campus during this year's environment day program.



दिग्विजय महाविद्यालय के सृजन संवाद स्थित वाटिका में भूगोल विभाग द्वारा वृक्षारोपण

राजनांदगांव (नांदगांव टाइम्स)।
शासकीय दिग्विजय स्वशासी
स्नातकोत्तर महाविद्यालय राजनांदगाँव
(छ.ग.) के प्राचार्य डॉ. के एल.
टांडेकर के निर्देशानुसार विभागीय
गतिविधि के अंतर्गत महाविद्यालय



परिषर को हरा-भरा रखने के लिए वृक्षारोपण हेतु
सृजन संवाद के पास स्थित वाटिका में सभी विभागों
को अलग-अलग स्थान आवंटित किया गया। भूगोल
विभाग को आवंटित स्थल पर वृक्षारोपण का कार्य

विभागाध्यक्ष डॉ. कृष्ण नंदन प्रसाद
के नेतृत्व में रबर का पौधा के साथ
तुलसी, पारिजात, गुड़हल जैसे
औषधीय पौधे लगाये गये।
वृक्षारोपण हेतु एम.ए.(भूगोल)
स्नातकोत्तर परिषद् के प्रथम व

तृतीय सेमेस्टर के विद्यार्थियों ने समर्पण भाव से इस
लघु, परन्तु अति महत्वपूर्ण कार्य को बहुत ही उत्साह
से पूरा किया तथा इन पौधों की नियमित देख-रेख
करने का संकल्प लिया।

नवभारत
सतीसगढ़ • जोडिशा

Rajnandgaon - 23 Oct 2023 - rajn3
epaper.navabharat.news

नवभारत

**my
city**

दिग्विजय महाविद्यालय के वाटिका में पौधरोपण

राजनांदगाँव. शासकीय दिग्विजय स्वशासी स्नातकोत्तर महाविद्यालय
राजनांदगाँव द्वारा परिषर को हरा-भरा रखने के लिए वृक्षारोपण हेतु
सृजन संवाद के पास स्थित वाटिका में सभी विभागों को अलग-अलग
स्थान आवंटित किया गया. भूगोल विभाग को आवंटित स्थल पर
वृक्षारोपण का कार्य विभागाध्यक्ष डॉ. कृष्ण नंदन प्रसाद के नेतृत्व में
रबर का पौधा के साथ तुलसी, पारिजात, गुड़हल जैसे औषधीय पौधे
लगाये गये. वृक्षारोपण हेतु एम.ए.(भूगोल) स्नातकोत्तर परिषद् के प्रथम
व तृतीय सेमेस्टर के विद्यार्थियों ने इन पौधों की नियमित देख-रेख
करने का संकल्प लिया. इस अवसर पर विभाग के दोनों अतिथि
व्याख्याता डॉ. श्रद्धा साहू एवं हेमराज दाउरा भी उपस्थित रहे.



Energy

Availability of power has a crucial role in economic development of the country. In today's world energy is very precious India ranks fifth in the world in total energy. India installed capacity of electric power generating stations under various electrical utilities was 185.5 GW. India's industrial demand accounted for 35% of electrical power requirement, domestic household use accounted for 28%, agriculture 21%, commercial 9%, public lighting and other miscellaneous applications accounted for the rest (Singh et al., 2012). Energy audit is a testing and analysis of how the enterprises and other organizations use energy. It is an inspection, survey and analysis of energy flow for energy conservation in an institution, process to reduce the amount of energy input into the system without negatively affecting the output.

Survey Sites and Study

All the areas of college have been covered during the survey where electricity is consuming which includes classrooms, laboratories, hostel, administrative building, library, auditorium etc. The energy consuming items were surveyed, conservational strategies were analyzed and further fuel based energy utilization was also taken into consideration.

Audit Report

(1) Source and Utilization of Electricity

The GDACR receives electricity from Chhattisgarh state power distribution company limited, Raipur. The GDACR has own transformer which distribute electricity to every building. The college is lightening by yellow street lamp. The major energy consuming items are tube lights and fans. Apart from this air condition, laboratory instruments, refrigerators, air coolers, bore well

Submersible and water cooler and ICT devices are other power consuming items. Collage is using star rated Electrical & Electronics equipment which saves energy. LED Bulbs/ Tube-light, 4-5 star Rated Air Conditioners.

| Total Lighting requirements | Percentage Lighting through LED bulbs | Percentage Lighting through other sources |
|-----------------------------|---------------------------------------|---|
| 22000 | 50% | 50% |

PLATE VI



A
Star rating AC



B
Star Rating Refrigerator

Fig: Star rated equipment.



Green computing practice

Being an academic institution, papers are used for various purposes like exam answer sheets, circulars, notices, office work, document printing, and Xeroxing. Since the trees are cut for paper manufacturing, the sequestration of carbon is reduced increasing

carbon footprint. To cut down the carbon footprint, the university administration and various departments follow paperless methods of communication by using emails, online forms submission, etc. The paperless work was helpful in reducing tons of CO₂. The tons of biomass are saved by this green computing practice.

Solar Electricity Generation

The University has installed a 50KWp capacity Solar Power Plant for electricity generation which produces electricity and sends it to the local grid which is helpful for an electricity bill reduction. Most of the buildings are constructed considering the need for Light and ventilation which reduces the use of electricity. The air conditioners are used only in essential conditions in the laboratories and offices to reduce electricity consumption.

Solar system installed in the campus:

Solar Power Generation system costing Rs.56 lakh has been installed in the college premises. The system generates approximately 50 kW on-grid and 10 kW off-grid electricity every month.



Fig: Grid connected Solar PV Plant at Computer Lab



Fig: Grid connected Solar PV Plant



Fig: Grid connected Solar PV Plant



Fig: Grid connected Solar PV Plant at Office building

Percentage of annual power requirement of the Institution met by the renewable energy sources

Response: 63.21

Annual power requirement met by renewable energy sources (in KWH)

Response: 83348

Total annual power requirement (in KWH)

Response: 131852

Percentage of annual lighting power requirements met through LED bulbs

Response: 50

Annual lighting power requirement met through LED bulbs (in KWH)

Response: 11000

Annual lighting power requirement (in KWH) Response: 22000

Total Capacity of Solar- 50 Kwp

APR 2023

विद्यार्थी संख्या - 2023, विद्या-संज्ञा-संगठन अंतर्गत स्थापित होर संघों की वार्षिक जांचकर्ता,

सेवाकर्ता इकाई का नाम - नवीन सुमर ट्रेडर

गोठ नं० 6267363009

| क्र | स्थापना खत का नाम | स्थापनाकर्ता इकाई | संस्था संख्या (विश्व बैंक) | संघ स्थापना दिनांक | वीर विधि | | एनटी खत | निरीक्षण दिनांक | संघ की अवस्था | | टिप्पणी |
|-----|---------------------|-------------------|----------------------------|--------------------|-----------|-------------|---------|-----------------|---------------|---------------|---------|
| | | | | | पिछला पाठ | वर्तमान पाठ | | | कार्यशील | अकार्यशील | |
| 1 | श्री मेडिकल भवन भाई | Fist Sahar | 2000 | 20/8/12 | 12838 | 12858 | 15 | 25/5/23 | कार्यशील | | |
| 2 | श्री मेडिकल भवन भाई | Fist Sahar | 2000 | 21/8/12 | 10403 | 10420 | 07 | 25/5/23 | कार्यशील | | |
| 3 | श्री मेडिकल भवन भाई | Green Sahar | 2000 | 25/1/15 | 6043 | 6048 | 75 | 25/5/23 | कार्यशील | | |
| 4 | PHC सोमनी | Prabhat Sahar | 2000 | 12/5/2012 | 6491 | 6583 | 92 | 25/5/23 | कार्यशील | | |
| 5 | श्री मेडिकल भवन भाई | Agri | 10000 | 1/10/2008 | 75 | 88 | 13 | 19/5/23 | कार्यशील | | |
| 6 | श्री मेडिकल भवन भाई | Agri | 10000 | 1/10/2008 | | | | | कार्यशील | अंतर का शक्ति | |
| 7 | श्री मेडिकल भवन भाई | Nagri Tech | 20000 | 20/6/2020 | 249 | 273 | 30 | 23/5/23 | कार्यशील | | |
| 8 | श्री मेडिकल भवन भाई | ZITHBP | 3000 | 11/1/2010 | 8949 | 8985 | 16 | 11/5/23 | कार्यशील | | |
| 9 | श्री मेडिकल भवन भाई | Agri | 5000 | 1/11/2010 | 75 | 90 | 15 | 10/5/23 | कार्यशील | | |
| 10 | श्री मेडिकल भवन भाई | Suryadhan | 8000 | 8/12/2013 | 44526 | 44534 | 04 | 10/5/23 | कार्यशील | | |
| 11 | श्री मेडिकल भवन भाई | Fist Sahar | 5000 | 4/08/2013 | 36446 | 36547 | 101 | 10/5/23 | कार्यशील | | |
| 12 | श्री मेडिकल भवन भाई | RBP | 10000 | 1/1/2015 | 19369 | 19467 | 338 | 23/5/23 | कार्यशील | | |
| 13 | श्री मेडिकल भवन भाई | Bloodmali | 10000 | 10/9/2012 | 5477 | 6242 | 765 | 23/5/23 | कार्यशील | | |
| 14 | श्री मेडिकल भवन भाई | Prabhat Sahar | 5000 | 9/1/2013 | 18598 | 18730 | 132 | 24/5/23 | कार्यशील | | |
| 15 | श्री मेडिकल भवन भाई | Prabhat Sahar | 1000 | 28/3/2016 | 2861 | 2930 | 69 | 24/5/23 | कार्यशील | | |

Abhayan

सोलर पॉवर प्लांट निरीक्षण प्रतिवेदन

जून 2023

| नाम / स्थल का नाम | क. क्र. | बैटरी नं. | प्रैविटी | बैटरी वोल्टेज | |
|--|---------|-----------|----------|---------------|--------------|
| | | | | चार्जिंग | डिस्चार्जिंग |
| निरीक्षण का दिनांक 8/6/23 -- समय 11:30 AM | 1 | | 1230 | 2.0 | 2.0 |
| विकासखंड राजो --- सोलर पॉवर प्लांट की क्षमता 3.0 kw | 2 | | 1230 | 2.0 | 2.0 |
| जिला - राजो --- कुल पैनल की संख्या .. 35 .. | 3 | | 1220 | 2.0 | 2.0 |
| एरे जंक्शन बाक्स | 4 | | 1230 | 2.0 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें सही / गलत | 5 | | 1220 | 2.0 | 2.0 |
| | 6 | | 1230 | 2.0 | 2.0 |
| | 7 | | 1220 | 2.0 | 2.0 |
| | 8 | | 1280 | 2.0 | 2.8 |
| | 9 | | 1210 | 2.0 | 2.0 |
| | 10 | | 1220 | 2.0 | 2.0 |
| | 11 | | 1230 | 2.0 | 2.0 |
| | 12 | | 1220 | 2.0 | 2.0 |
| | 13 | | 1230 | 2.0 | 2.0 |
| एजीबी-1 154.3 40.5A एजीबी-2 v A | 14 | | 1220 | 2.0 | 2.0 |
| एरे -1 154.6v 6.1 A एरे -1 v A | 15 | | 1230 | 2.0 | 2.0 |
| एरे -2 154.3v 6.4 A एरे -2 v A | 16 | | 1240 | 2.0 | 2.0 |
| एरे -3 154.4 6.3 A एरे -3 v A | 17 | | 1220 | 2.0 | 2.0 |
| एरे -4 154.5v 6.2 A एरे -4 v A | 18 | | 1220 | 2.0 | 2.0 |
| एरे -5 154.3v 6.4 A एरे -5 v A | 19 | | 1220 | 2.0 | 2.0 |
| एरे -6 154.4 v 6.3 A एरे -6 v A | 20 | | 1230 | 2.0 | 2.0 |
| मुख्य जंक्शन बाक्स | 21 | | 1220 | 2.0 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें सही / गलत | 22 | | 1210 | 2.0 | 2.1 |
| कोई लूज कनेक्शन है / नहीं यदि है तो टाईट करें | 23 | | 1230 | 2.0 | 2.0 |
| डी.सी. डिस्ट्रीब्यूशन बाक्स | 24 | | 1220 | 2.0 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें सही / गलत | 25 | | 1230 | 2.0 | 2.0 |
| कोई लूज कनेक्शन है / नहीं यदि है तो टाईट करें | 26 | | 1240 | 2.0 | 2.0 |
| इंडिकेटर एवं मोटर की जांच करें - वोल्ट 154.4V करंट 40.3A | 27 | | 1230 | 2.0 | 2.0 |
| एम.सी.बी. की जांच करें 06 190.3 | 28 | | 1240 | 2.0 | 2.0 |
| ए.सी. डिस्ट्रीब्यूशन बाक्स | 29 | | 1230 | 2.0 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें सही / गलत | 30 | | 1220 | 2.0 | 2.0 |
| कोई लूज कनेक्शन है / नहीं यदि है तो टाईट करें | 31 | | 1230 | 2.0 | 2.0 |
| इंडिकेटर एवं मोटर की जांच करें - वोल्ट 154.4V करंट 40.3A | 32 | | 1230 | 2.0 | 2.0 |
| एम.सी.बी. की जांच करें 06 190.3 | 33 | | 1210 | 2.0 | 2.0 |
| बैटरी प्रोटेक्शन पैनल | 34 | | 1220 | 2.0 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें सही / गलत | 35 | | 1240 | 2.0 | 2.0 |
| कोई लूज कनेक्शन है / नहीं यदि है तो टाईट करें | 36 | | 1240 | 2.0 | 2.0 |
| पॉवर कंडिशनिंग युनिट (पी.सी.यू.) इन्वर्टर एवं चार्ज कंट्रोलर | 37 | | 1230 | 2.0 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें सही / गलत | 38 | | 1240 | 2.0 | 2.0 |
| कोई लूज कनेक्शन है / नहीं यदि है तो टाईट करें | 39 | | 1230 | 2.0 | 2.0 |
| इंडिकेटर एवं मोटर की जांच करें - वोल्ट 231.4V करंट 14.1A | 40 | | 1230 | 2.0 | 2.0 |
| एम.सी.बी. की जांच करें 06 | 41 | | 1230 | 2.0 | 2.0 |
| मिस्टम कार्याशील / अकार्याशील है | 42 | | 1240 | 2.0 | 2.0 |
| एनर्जी मोटर रीडिंग 6602 kWh | 43 | | 1240 | 2.0 | 2.0 |
| अह मोटर रीडिंग चार्ज ए एच 20.5H डिस्चार्ज Ah 29.2 | 44 | | 1230 | 2.0 | 2.0 |
| माह में संबंध 30 दिन कार्याशील एवं 00 दिन अकार्याशील रहा है। | 45 | | 1240 | 2.0 | 2.0 |
| | 46 | | 1250 | 2.0 | 2.0 |
| | 47 | | 1230 | 2.0 | 2.0 |
| | 48 | | 1220 | 2.0 | 2.0 |
| | 49 | | 1280 | 2.0 | 2.0 |
| | 50 | | 1230 | 2.0 | 2.0 |
| | 51 | | 1240 | 2.0 | 2.0 |
| | 52 | | 1230 | 2.0 | 2.0 |
| | 53 | | 1240 | 2.0 | 2.0 |
| | 54 | | 1240 | 2.0 | 2.0 |
| | 55 | | 1230 | 2.0 | 2.0 |
| | 56 | | 1240 | 2.0 | 2.0 |
| | 57 | | 1230 | 2.0 | 2.0 |
| | 58 | | 1240 | 2.0 | 2.0 |
| | 59 | | 1240 | 2.0 | 2.0 |
| | 60 | | 1230 | 2.0 | 2.0 |

123-8

संयंत्र संबंधित जानकारियां

| क्र. | | | क्र. | |
|------|-----------------------------|----------------|------|--------------------|
| 1. | संयंत्र मेक | | 10. | बैटरी की संख्या 60 |
| 2. | संयंत्र क्षमता | 30kw | 11. | पैनल की संख्या 35 |
| 3. | पैनल मेक | TATA Solar | | |
| 4. | पैनल क्षमता | 320w | | |
| 5. | इन्वर्टर मेक S.No. | STATCON ENERGY | | |
| 6. | इन्वर्टर क्षमता | 30kw | | |
| 7. | बैटरी मेक | HI-Power | | |
| 8. | बैटरी क्षमता V/Ah | 2V/600AH | | |
| 9. | अन्य अतिरिक्त जानकारियां | | | |

ग्रामीण विद्युतीकरण योजनान्तर्गत स्थापित सौर संयंत्रों का कार्यशीलता प्रमाण - पत्र

प्रमाणित किया जाता है कि ग्राम/पंचायत वि.खं. जिला

विधानसभा में सौर ऊर्जा से ग्राम विद्युतीकरण परियोजना अंतर्गत स्थापित सोलर पॉवर प्लांट क्षमता

माह वर्ष में दिनों में से दिन कार्यशील रहा। माह में सौर पॉवर प्लांट से विद्युत खपत यूनिट रही।

| दिनांक | कार्यशीलता | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|-------------------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 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 |
| कार्यशील को | <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| अकार्यशील को | <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

हस्ताक्षर एवं सील
सरपंच/उपसरपंच/सचिव

हॉस्टल/आश्रम पी.एच.सी./सी.एच.सी., पुलिस थाना, कलेक्ट्रेट एवं अन्य भवनों में स्थापित सोलर पॉवर प्लांट की कार्यशीलता प्रमाण पत्र

प्रमाणित किया जाता है कि कार्यालय वि.खं. जिला में सौर ऊर्जा से ग्राम विद्युतीकरण परियोजना अंतर्गत स्थापित सोलर पॉवर प्लांट क्षमता माह वर्ष में दिनों में से दिन कार्यशील रहा। माह में सौर पॉवर प्लांट से विद्युत खपत यूनिट रही।

| दिनांक | कार्यशीलता | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|-------------------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 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 |
| कार्यशील को | <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| अकार्यशील को | <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

हस्ताक्षर एवं सील
कार्यालय प्रमुख

कलस्टर टेक्नोलॉजिक्स
कलस्टर सुपरवाइजर
उप अभियंता
क्रेडा क्षे.का. राजनांदगांव
सहायक अभियंता (O&M)
क्रेडा क्षे.का.

जुलाई 2023

सोलर पॉवर प्लांट निरीक्षण प्रतिवेदन

| नाम / स्थल का नाम | क्र. | बैटरी नं. | ग्रेविटी | बैटरी वोल्टेज | |
|--|------|-----------|----------|---------------|--------------|
| | | | | चाजिंग | डिस्चार्जिंग |
| नाम / स्थल का नाम <u>श्री गुरु प्रियंका कोल्ड</u> | 1 | | 1230 | 2.1 | 2.0 |
| निरीक्षण का दिनांक <u>12/7/23</u> --- समय <u>2 PM</u> | 2 | | 1220 | 2.1 | 2.0 |
| विकासखंड <u>राज</u> ----- सोलर पॉवर प्लांट की क्षमता <u>50 kw</u> | 3 | | 1220 | 2.1 | 2.0 |
| जिला <u>राज</u> ----- कुल पैनल की संख्या <u>35</u> | 4 | | 1230 | 2.1 | 2.0 |
| मुख्य कनेक्शन वाक्स | 5 | | 1230 | 2.1 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें <u>सही/गलत</u> | 6 | | 1230 | 2.1 | 2.0 |
| | 7 | | 1220 | 2.1 | 2.0 |
| | 8 | | 1220 | 2.1 | 2.0 |
| | 9 | | 1240 | 2.2 | 2.0 |
| | 10 | | 1240 | 2.2 | 2.0 |
| | 11 | | 1220 | 2.1 | 2.0 |
| | 12 | | 1230 | 2.1 | 2.0 |
| एजीबो-1 <u>174.3</u> <u>15.4A</u> एजीबो-2 <u>V</u> <u>A</u> | 13 | | 1220 | 2.1 | 2.0 |
| खं -1 <u>174.6</u> <u>2.4A</u> खं -1 <u>V</u> <u>A</u> | 14 | | 1220 | 2.1 | 2.0 |
| खं -2 <u>174.9</u> <u>2.5A</u> खं -2 <u>V</u> <u>A</u> | 15 | | 1220 | 2.1 | 2.0 |
| खं -3 <u>174.7</u> <u>2.3A</u> खं -3 <u>V</u> <u>A</u> | 16 | | 1220 | 2.1 | 2.0 |
| खं -4 <u>174.3</u> <u>2.7A</u> खं -4 <u>V</u> <u>A</u> | 17 | | 1230 | 2.1 | 2.0 |
| खं -5 <u>174.5</u> <u>2.5A</u> खं -5 <u>V</u> <u>A</u> | 18 | | 1230 | 2.1 | 2.0 |
| खं -6 <u>174.4</u> <u>2.6A</u> खं -6 <u>V</u> <u>A</u> | 19 | | 1240 | 2.1 | 2.0 |
| <u>2.2</u> <u>174.6</u> <u>2.4</u> | 20 | | 1240 | 2.1 | 2.0 |
| मुख्य कनेक्शन वाक्स | 21 | | 1230 | 2.1 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें <u>सही/गलत</u> | 22 | | 1240 | 2.1 | 2.0 |
| कोई लूज कनेक्शन है / नहीं <u>नहीं</u> यदि है तो टाइट करें | 23 | | 1230 | 2.1 | 2.0 |
| डी.सी. डिस्ट्रीब्यूशन वाक्स | 24 | | 1220 | 2.1 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें <u>सही/गलत</u> | 25 | | 1230 | 2.1 | 2.0 |
| कोई लूज कनेक्शन है / नहीं <u>नहीं</u> यदि है तो टाइट करें | 26 | | 1230 | 2.1 | 2.0 |
| इंडिकेटर एवं मीटर की जांच करें - वोल्ट <u>174.3</u> V करंट <u>15.4</u> A | 27 | | 1220 | 2.1 | 2.0 |
| एम.सी.बी. की जांच करें <u>OK</u> <u>2023</u> | 28 | | 1220 | 2.1 | 2.0 |
| ए.सी. डिस्ट्रीब्यूशन वाक्स | 29 | | 1220 | 2.1 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें <u>सही/गलत</u> | 30 | | 1230 | 2.1 | 2.0 |
| कोई लूज कनेक्शन है / नहीं <u>नहीं</u> यदि है तो टाइट करें | 31 | | 1220 | 2.1 | 2.0 |
| इंडिकेटर एवं मीटर की जांच करें - वोल्ट <u>230</u> V करंट <u>14.6</u> A | 32 | | 1220 | 2.1 | 2.0 |
| एम.सी.बी. की जांच करें <u>OK</u> | 33 | | 1220 | 2.1 | 2.0 |
| बैटरी प्रोटेक्शन पैनल | 34 | | 1210 | 2.1 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें <u>सही/गलत</u> | 35 | | 1220 | 2.1 | 2.0 |
| कोई लूज कनेक्शन है / नहीं <u>नहीं</u> यदि है तो टाइट करें | 36 | | 1230 | 2.1 | 2.0 |
| पॉवर कंडिशनिंग युनिट (पी.सी.यू) इन्वर्टर एवं चार्ज कंट्रोलर | 37 | | 1230 | 2.1 | 2.0 |
| भौतिक एवं विद्युत कनेक्शन की जांच करें <u>सही/गलत</u> | 38 | | 1220 | 2.1 | 2.0 |
| कोई लूज कनेक्शन है / नहीं <u>नहीं</u> यदि है तो टाइट करें | 39 | | 1220 | 2.1 | 2.0 |
| इंडिकेटर मीटर एवं एम.सी.बी. की जांच करें | 40 | | 1220 | 2.1 | 2.0 |
| मिस्टम कार्याशील / अकार्याशील है | 41 | | 1230 | 2.1 | 2.0 |
| एकजी मीटर रीडिंग <u>7047.6</u> | 42 | | 1210 | 2.1 | 2.0 |
| Ah मीटर रीडिंग <u>14.7</u> डिस्चार्ज Ah <u>20.2</u> | 43 | | 1220 | 2.1 | 2.0 |
| माह में संबंधित दिनों का कार्यशील एवं <u>00</u> दिनों अकार्याशील रहा है। | 44 | | 1220 | 2.1 | 2.0 |
| | 45 | | 1220 | 2.1 | 2.0 |
| | 46 | | 1220 | 2.1 | 2.0 |
| | 47 | | 1220 | 2.1 | 2.0 |
| | 48 | | 1220 | 2.1 | 2.0 |
| | 49 | | 1230 | 2.1 | 2.0 |
| | 50 | | 1220 | 2.1 | 2.0 |
| | 51 | | 1220 | 2.1 | 2.0 |
| | 52 | | 1230 | 2.1 | 2.0 |
| | 53 | | 1230 | 2.1 | 2.0 |
| | 54 | | 1220 | 2.1 | 2.0 |
| | 55 | | 1230 | 2.1 | 2.0 |
| | 56 | | 1220 | 2.1 | 2.0 |
| | 57 | | 1220 | 2.1 | 2.0 |
| | 58 | | 1220 | 2.1 | 2.0 |
| | 59 | | 1220 | 2.1 | 2.0 |
| | 60 | | 1220 | 2.1 | 2.0 |

संयंत्र संबंधित जानकारीयां

| क्र. | | क्र. | |
|------|-----------------------------------|------|--------------------|
| 1. | संयंत्र मेक | 10. | बैटरी की संख्या 60 |
| 2. | संयंत्र क्षमता 10kw | 11. | पैनल की संख्या 35 |
| 3. | पैनल मेक TATA Power Solar | | |
| 4. | पैनल क्षमता 220w | | |
| 5. | इन्वर्टर मेक S.No. BTATCON ENERGY | | |
| 6. | इन्वर्टर क्षमता 10kw | | |
| 7. | बैटरी मेक HI-Power | | |
| 8. | बैटरी क्षमता V/Ah 2V(600 AH) | | |
| 9. | अन्य अतिरिक्त जानकारीयां | | |

ग्रामीण विद्युतीकरण योजनान्तर्गत स्थापित सौर संयंत्रों का कार्यशीलता प्रमाण - पत्र

प्रमाणित किया जाता है कि ग्राम / पंचायत वि.खं. जिला में सौर ऊर्जा से ग्राम विद्युतीकरण परियोजना अंतर्गत स्थापित सोलर पॉवर प्लांट क्षमता माह वर्ष में दिनों में से दिन कार्यशील रहा। माह में सौर पॉवर प्लांट से विद्युत खपत यूनिट रही।

कार्यशील को अकार्यशील करें

| दिनांक | 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 |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| स/अकार्यशील | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

हस्ताक्षर एवं सील

सरपंच / उपसरपंच / सचिव

हॉटेल/आश्रम पी.एच.सी./सी.एच.सी., पुलिस थाना, कलेक्ट्रेट एवं अन्य भवनों में स्थापित सोलर पॉवर प्लांट की कार्यशीलता प्रमाण पत्र

प्रमाणित किया जाता है कि कार्यालय वि.खं. म.सौर ऊर्जा से ग्राम विद्युतीकरण परियोजना अंतर्गत स्थापित सोलर पॉवर प्लांट क्षमता 10kw माह जुलाई वर्ष 2023 में 31 दिनों में से 31 दिन कार्यशील रहा। माह में सौर पॉवर प्लांट से विद्युत खपत 445 यूनिट रही।

कार्यशील को अकार्यशील करें

| दिनांक | 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 |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| स/अकार्यशील | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(Signature)

कालस्टर ट.पनागवन

कालस्टर सुपरवाइजर



हस्ताक्षर एवं सील

कार्यालय प्रमुख

उप अभियंता

क्रेडा क्षे.का. राजनांदगांव

अभियंता (O&M)

CONCLUSIONS

Green Audit is one of the important tools to check the balance of natural resources and their judicious use. Green auditing is the process of identifying and determining whether institutional practices are eco-friendly and sustainable. It is a process of regular identification, quantification, documenting, reporting and monitoring of environmentally important components in a specified area. The main objective to carry out a green audit is to check the green practices followed by the college and to conduct a well-defined audit report to understand whether the institution is on the track of sustainable development. After completing the audit procedure of the institution for Green Practices, there are the following conclusions, recommendations, and Environmental Management Plan (EMP) which can be followed by the institution in the future for keeping campus environment friendly.

- College takes efforts to dispose of majority of waste by proper methods. Green computing i.e. online payment systems, online circulars, and examination procedures are helpful for reducing the use of papers and ultimately reducing carbon footprint.
- Reducing the use of one-time use plastic bottles, cups, folders, pens, bouquets, decorative items will be useful to solve the problem of plastic pollution to some extent.
- Biodegradable waste is used efficiently for composting and vermicomposting.
- Use of LED lamps and Tube Lights is to be encouraged.

- Toilets and bathrooms are consuming more water in the departments. The replacement of old taps can be beneficial for solving this issue
- The overall ambient air quality on the campus is good while some air quality issues that may arise due to developmental activities on the campus should be addressed. The sound levels on the campus are good.
- Science departments are following the principles of Green Chemistry to reduce chemical waste.

Key Recommendations & Environment Management Plan (EMP)

Following are some of the key recommendations for improving the campus environment and to be considered as Environment Management Plan (EMP)

- An environmental policy document has to be prepared with all the recommendations and current practices carried by the institution.
- A frequent visit should be conducted to ensure that the generated waste is measured, monitored, and recorded regularly and information should be made available to the administration.
- The College should develop internal procedures to ensure its compliance with environmental legislation and responsibility should be fixed to carry out it in practice.
- The solid waste should be reused or recycled at maximum possible places.
- Installation of sensor-based electrification items like fans, lights, etc. can save electricity
- Regular checkups and maintenance of pipes, overhead tanks, and plumbing systems should be done by the engineering section to reduce overflow, leakages, and corrosions.
- Science laboratories large amount of water goes waste during the process of making distilled water; the system should develop to reuse this water for other purposes.
- The said College is in continuous efforts to spread the environmental awareness programs among staff and students.
- It was also observed that the said institution is keeping the environmental quality at priority in every developmental stage.

Certificate of Registration

This is to Certify that
Quality Management System of

**GOVT. DIGVIJAY AUTONOMOUS PG COLLEGE,
RAJNANDGAON**

GOVERNMENT DIGVIJAY AUTONOMOUS PG COLLEGE, KILLAPARA,
RAJNANDGAON - 491441, CHATTISGARH, INDIA

has been assessed and found to conform to the requirements of
ISO 9001:2015
for the following scope :

PROVISION FOR QUALITY ASSURANCE SOLUTIONS IN HIGHER EDUCATION, ARTS,
SCIENCE, COMMERCE, COMPUTER SCIENCE, YOGA & BAJMC.

| | | | |
|---------------------------|--------------|----------------|--------------|
| Certificate No | : 22EQJJ31 | Issuance Date | : 06/12/2022 |
| Initial Registration Date | : 06/12/2022 | | |
| Date of Expiry | : 05/12/2025 | | |
| 1st Surve. Due | : 06/11/2023 | 2nd Surve. Due | : 06/11/2024 |



Demu..
Director

Magnitude Management Services Pvt. Ltd.

B-55, Lower Ground Floor, Sector 02, Noida-201301, U.P, India

e-mail: info@mmscertification.com, website: www.mmscertification.com

* Subject to Successful Surveillance Audit and case surveillance audit is not allowed to be conducted, this certificate shall be suspended/withdrawal.

Certificate Verification: Please Re-check the validity of certificate at <http://www.mmscertification.com> or <https://mmscertification.com/clients.aspx> or www.mmscertification.com at Active Client.
Certificate is the property of Magnitude Management Services Pvt. Ltd. and shall be voided immediately when demanded.

Fig: ISO 9001:2015 CERTIFIED COLLEGE



← Post

#स्वच्छता_ही_सवा आभ.क अतगत @nssdmvrjn क स्वयंसेवियों द्वारा महावि. परिसर,रानी सागर,त्रिवेणी परिसर मे श्रमदान किया गया और गर्वशील भारत का निर्माण का सन्देश दिये गया।

#SHS2023 #GarbageFreeIndia
#SwachhBharat #SwachhBharatGov
@_NSSIndia

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सराहनीय



1



Post your reply





दिग्विजय महाविद्यालय में अतिथि व्याख्यान

राजनांदगांव, शासकीय दिग्विजय स्नातकोत्तर महाविद्यालय राजनांदगांव के प्राणी विज्ञान विभाग द्वारा 28 जुलाई को विश्व प्रकृति संरक्षण दिवस के अवसर पर अतिथि व्याख्यान का आयोजन डॉ. के.एल. टांडेकर प्राचार्य के मार्गदर्शन में किया गया। इस अवसर पर डॉ. कन्नौजे विशेष अतिथि व्याख्याता के रूप में उपस्थित थे। टांडेकर ने बताया कि प्रकृति संरक्षण हम सबकी जिम्मेदारी है तेजी से घटते वन चिंता का विषय है दरकते पहाड़ हो या डूबते शहर है यह सब प्रकृति के साथ खिलवाड़ का ही नतीजा है। भारत ही नहीं वैश्विक स्तर पर भी अतिवृष्टि के चलते कहीं जल प्रलय की स्थिति है तो कहीं पर सुखा है हमें प्रकृति को कुछ लौटाना भी है।

होगी

वृक्षों को राखी बांधकर रक्षाबंधन मनाया गया

राजनांदगांव (दावा)। शासकीय दिग्विजय महाविद्यालय राजनांदगांव में संचालित राष्ट्रीय सेवा योजना इकाई द्वारा रक्षाबंधन के अवसर पर एक रक्षा सूत्र हम सबके प्राण दाता के



लिए इस सोच को लेकर महाविद्यालय में रासेयो गार्डन एवं अन्य विभागीय गार्डन में रक्षा सूत्र के रूप में वृक्षा सूत्र राखी बांधकर रक्षाबंधन मनाया गया। जिसमें राष्ट्रीय सेवा योजना कार्यक्रम अधिकारी प्रो. संजय सप्तर्षि एवं करुणा रावते के साथ साथ सीनियर स्वयंसेवक विनोद टेम्बुकर, स्वयंसेवक राहुल एवं सीनियर स्वयंसेविका भुनेश्वरी, स्वयंसेविका मुस्कान, शालिनी, टिकेश्वरी, प्रतिज्ञा डॉली एवं अन्य स्वयंसेवी उपस्थित रहे।

EXHIBIT GREEN HABITS:

The college administration, should engage its resources in exhibiting Green Habits as discussed.

— Best Ways —
to Reduce Your
CARBON FOOTPRINT

Plant a tree, they help you. While it's great advice, it's not always the most practical. But you can follow these easy tips to reduce your carbon footprint a little more every day.

- 1 GO FOR A STROLL..**
Walking, biking, and using public transit are all great alternatives to driving. They'll save the environment and your wallet from a little extra stress.
- 2 KEEP IT CLEAN**
Erasing your vehicle from the heavy pile of junk in the trunk is one of the best ways to lighten it up. That weight loss will help your vehicle drive a little longer between fuel stops.
- 3 POOL IT TOGETHER**
Depending on one of the best ways to save your carbon budget, so make a new friend and stick a little together.
- 4 MAINTAIN TO SUSTAIN**
Keeping your vehicle in top-the shape is the best way to reduce your carbon footprint. It helps your car run a little smoother and a little greener.
- 5 SLOW YOUR ROLL**
Driving a little slower and a little more carefully isn't only safer for you and other drivers on the road, it also considerably increases fuel efficiency in your vehicle. So slow it down, people.

With some extra care, you'll help the air stay a little cleaner, and you'll be able to think of a hundred more ways to go green today. Reducing your carbon footprint is easy when you think green thoughts.

- 1 LITTER FREE LUNCH BOXES**
Having little plastic bags and wrappers in your lunch box is as possible.
- 2 REDUCE**
Think, do you really need more toys or items that will one day end up as landfill?
- 3 PLANT MORE TREES**
If you can, plant new trees in your garden.
- 4 MAKE EVERY DROP COUNT**
Turn off the tap when brushing your teeth or washing your hands and have quick showers.
- 5 RECYCLE**
Make sure you put any products that can be recycled in the recycling bin.
- 6 REDUCE ENERGY USE**
Turn off all electrical appliances when you are not using them.
- 7 REUSE OR REPAIR**
Can you reuse something again or in a different way? If it is broken, see if it can be fixed before throwing it away and buying a new one.
- 8 CHANGE YOUR TRANSPORTATION**
Ride your bike or walk instead of taking the car.

WAYS TO REDUCE YOUR CARBON FOOTPRINT

Govt. Digvijay Autonomous PG College, Rajnandgaon College Is Already Having Iso-9001:2015 And Iso 14001:2015 Certified, It Is Positive Status, That They Have Team Of Experienced Staff And Teachers, Who Can Implements And Maintain Energy Management System In The College Easily, During Virtual Audit It Was Observed, Staff Needs More Orientation For Enms For Proper Inducting It In Integration With Other Management Systems. Enms Team Should Spread The Message Of Energy Conservation In The College Staff And Students.

We Are Glad To Declare That Govt. Digvijay Autonomous Pg College, Is An Environment-Friendly College Along With Many Green Development Processes That Are Fairly Practiced By The Instution.

| | |
|--------------------------|---|
| Session: 2023-24 | Program: B.A./B.Sc./B.Com./B.C.A. |
| Semester: II/IV | Subject: Environmental Studies (Project Based) |
| Course type: AECC | Course Code: |
| Credit: 02 | Lecture: 30 |
| MM: 50(40+10) | Minimum Passing Percentage: 40% |

Marking Scheme :

| | |
|--------------|-----------------|
| Project | 30 Marks |
| Internal | 10 Marks |
| Viva | 10 Marks |
| Total | 50 Marks |

NOTE : Questions will be asked from all the units in the internal evaluation exam.

टीप : आंतरिक मुल्यांकन में सभी इकाइयों से प्रश्न पूछे जायेंगे

Environmental Studies (Project Based)

Compulsory course on Environmental Studies at UG level (AECCII)

Course Learning Outcomes

The course will empower the undergraduate students by helping them to:

- Gain in-depth knowledge on natural processes and resources that sustain life and govern economy.
- Understand the consequences of human actions on the web of life, global economy, and quality of human life.
- Develop critical thinking for shaping strategies (scientific, social, economic, administrative, and legal) for environmental protection, conservation of biodiversity, environmental equity, and sustainable development.
- Acquire values and attitudes towards understanding complex environmental economic- social challenges, and active participation in solving current environmental problems and preventing the future ones.
- Adopt sustainability as a practice in life, society, and industry.

Environmental Studies

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Environmental Studies (Project Based)

Unit 1

Introduction to Environmental Studies

- Multidisciplinary nature of environmental studies. components of environment: atmosphere, hydrosphere, lithosphere, and biosphere

(पर्यावरण अध्ययन की बहुविषयक प्रकृति; पर्यावरण के घटक: वायुमंडल, जलमंडल, स्थलमंडल और जीवमंडल)

Ecosystems

- Definition and concept of Ecosystem

(पारिस्थितिकी तंत्र की परिभाषा और अवधारणा)

Unit 2

Natural Resources

- Land resources: Minerals, soil, Land cover, land use change, land degradation, soil erosion, and desertification; (भूमि संसाधन: खनिज, मिट्टी, भूमि आवरण, भूमि उपयोग परिवर्तन, भूमि क्षरण, मृदा अपरदन और मरुस्थलीकरण)

Water resources: Natural and man-made sources; Uses of water; Over exploitation of surface and ground water resources; Floods and drought (जल संसाधन: प्राकृतिक और मानव निर्मित स्रोत; पानी का उपयोग; सतही और भूजल संसाधनों का अत्यधिक दोहन; बाढ़, सूखा।)

Biodiversity and Conservation

- Definition of Biodiversity; Levels of biological diversity: genetic, species and ecosystem diversity.

(जैव विविधता की परिभाषा; जैविक विविधता के स्तर: आनुवंशिक, प्रजाति और पारिस्थितिकी तंत्र विविधता)

- Endemic and endangered species of India; IUCN Red list criteria and categories.

(भारत की स्थानिक और लुप्तप्राय प्रजातियाँ; IUCN लाल सूची मानदंड और श्रेणियाँ)

Unit 3

Environmental Pollution

- Environmental pollution (Air, water, soil, thermal, and noise): causes, effects, and controls; Primary and secondary air pollutants; Air and water quality standards

(पर्यावरण प्रदूषण (वायु, पानी, मिट्टी, थर्मल और शोर): कारण, प्रभाव और नियंत्रण; प्राथमिक और माध्यमिक वायु प्रदूषक; वायु और जल गुणवत्ता मानक)

Unit 4

Global Environmental Issues and Policies

- Causes of Climate change, Global warming, Ozone layer depletion, and Acid rain; Impacts on human communities.

(जलवायु परिवर्तन के कारण, ग्लोबल वार्मिंग, ओजोन परत का ह्रास और अम्लीय वर्षा; मानव समुदायों पर प्रभाव।)

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DEPARTMENT OF CHEMISTRY
GOVT. DIGVIJAY PG AUTONOMOUS COLLEGE, RAJNANDGAON
M.Sc. CHEMISTRY

Semester IV

2023-24

Paper - II

ENVIRONMENTAL CHEMISTRY

Max. Marks : 80

Min. Marks : 16

Unit - I A. Environment

Introduction, composition of atmosphere, vertical temperature budget of the earth atmosphere system, vertical stability atmosphere. Biogeochemical cycles of C.N.P.S. and biodistribution of elements.

Unit - II Hydrosphere

Chemical composition of water bodies, Hydrological cycle. Aquatic pollution inorganic organic pesticide, agricultural, industrial & sewage, detergent, oil spill and oil pollutants, water quantity parameter dissolved oxygen, biochemical oxygen demand, solid metal, content of chloride, sulphate, nitrate and microorganism, water quality standards. Analytical method for measuring BOD, DO, COD, residual chloride and chloride demand. Purification and treatment of water.

Solids

Composition, micro, and macro nutrient, pollutants waste treatment.

Unit - III Atmosphere

chemical composition of atmosphere, chemical and photochemical reaction in atmosphere, smog formation, oxides of Nox and their effect, pollution by chemicals, VOC'S chloroflouro hydro carbons. Green house effect, acid rain, air pollution controls

Unit - IV Industrial pollution

Cement, distillery, paper and pulp, thermal power, plants, nuclear power plants.

Environmental Toxicology

Chemical solution to environmental problems, biodegradability, principles of decomposition, better industrial processes, Bhopal gas tragedy.

Wife
By
Reserve
SB
SA
MCSH
Carl

LIST OF REFERENCE BOOKS

1. Environmental chemistry, A. K. De, New Age International
2. Environmental Chemistry: Green chemistry and pollutants and ecosystem, Eric Licthouse
3. Environmental Chemistry, Sameer K. Bainergi
4. Environmental Chemistry, P. S. Sindhu, New Age International
5. A text Book of Environmental Chemistry, Subramanyan
6. A text Book of Environmental Chemistry and pollution control, S. S. Dara, S Chand
7. Environmental Chemistry, B. K. Sharma, Krishna Publication

| | | Departmental members | |
|---|--------|----------------------|--|
| Chairperson /H.O.D | | | |
| Subject Expert | 1..... | 8..... | |
| (University Nominee) | 2..... | 9..... | |
| Subject Expert ^{RSSR} Dr. Rakesh K. Sahu ^{Algo} | 3..... | 10..... | |
| Representative | 4..... | 11..... | |
| (Industry) | 5..... | 12..... | |
| Representative ^{Wich} (Alumni) | 6..... | 13..... | |
| Representative | 7..... | 14..... | |
| (Professor Science Faculty Other Dept.) | | | |

वृक्षारोपण कार्यक्रम

(38)

गण. वि. मण. में समान शाक के विधान
विद्या द्वारा महाविद्यालय परिसर में
वृक्षारोपण किया गया। उक्त कार्यक्रम
मुख्य विद्यालय के प्राचार्य डॉ. के. एल.
होडकर के मार्गदर्शन में किया गया।
पर्यावरण संरक्षण जागरूकता के लिए
विद्यार्थियों ने महाविद्यालय परिसर में
आम, नीम, जामुन, काबला, लेल, अशोक
आदि वृक्षों का रोपण किया एवं
जलबूझ वृक्षारोपण व संरक्षण हेतु
अपनी प्रतिबद्धता व्यक्त की।

उक्त कार्यक्रम समान शाक विभागाध्यक्ष
डॉ. के. एल. होडकर के निदेशान किया गया।
वृक्षारोपण कार्यक्रम में विभाग में व्यक्त
प्रमुख श्रेष्ठता लालता झाई की उपस्थिति
रही।

(श्रेष्ठता लालता झाई)

HEAD
DEPT. OF SOCIOLOGY
GOVT. DIGVIJAY COLLEGE
RAJNANDGAON (C.G.)
491441

Principal
Govt. Digvijay College
Rajnandgaon (C.G.)

| क्र. | विद्यार्थी का नाम | कक्षा | हस्ताक्षर | रिमांक |
|------|-------------------|----------|-----------------------|--------|
| 1 | पुष्पिका | III sem. | Pooming | |
| 2 | दिवक साहू | III sem | दीवान | |
| 3 | तुलेश्वर साहू | III sem. | Tulashwari | |
| 4 | पुष्पा चेलक | III sem. | pu | |
| 5 | आबिसा टोपो | III sem. | Atopo | |
| 6 | मेधा शास्त्र | IV sem. | my | |
| 7 | मधु साहू | III sem | Madhu | |
| 8 | मेधा सोनकर | III sem | मेधा | |
| 9 | पेमिन साहू | III sem | पेमिन | |
| 10 | नयिका कुंजाय | IV sem | नयिका | |
| 11 | रघुशंकर | III sem | ka | |
| 12 | पुष्पुमार | III sem. | पुष्पुमार | |
| 13 | दुर्गेश्वरकुमार | III sem | Durgeshwar | |
| 14 | धर्मेन्द्र कुमार | III sem | धर्म-5 3415 | |
| 15 | राहुल केव | III sem | Rahade | |
| 16 | हिरेश कुमार | III sem. | Hirlesh. Kumar | |
| 17 | पुलेश कुमार | III sem | Pulash | |
| 18 | किशन कुमार उडे | III sem | किशन | |

प्रसारण कार्यक्रम - 2023

Date: _____
Page: _____


आज दिनांक 02/09/23 को शासकीय शिक्षणव्यवस्था
स्वशास्त्री स्नाकोत्तर महाविद्यालय राजनांदगांव के
विद्यार्थियों के द्वारा शनिवार गातिविधि के अंतर्गत
महाविद्यालय परिसर में प्रसारण कार्यक्रम का
आयोजन किया गया।

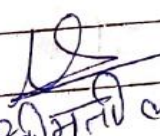
समाजशास्त्र विभागाध्यक्ष की
डॉ. ए. के. भंडारी द्वारा विद्यार्थियों को प्रसारण
हेतु उद्देश्य और उद्देश्यित किया गया। विद्यार्थियों
के द्वारा कार्यक्रम, जीपल, आवस्य, दालचीनी काई
पौधा का रोपण किया गया तथा विभाग-
ध्यक्ष के द्वारा कार्यक्रम का पौधा रोपण
किया गया।

इससे आतिरेकल विभागाध्यक्ष
ने विद्यार्थियों को पर्यावरण के प्रति जागरूक
रहने के लिये उद्देश्यित किया और ग्लोबल वार्मिंग
पर चर्चा की और पर्यावरण संरक्षण के लिये
पेड़ लगाना अत्यावश्यक है यह बताया।

इस कार्यक्रम में विभागाध्यक्ष
डॉ. ए. के. भंडारी, समान-उप विभागाध्यक्ष - प्रो. लाली
साहू उपस्थित रहे। प्राध्यापकों द्वारा विद्यार्थियों को
सुझावनाएँ दी गई और कार्यक्रम के लिये
धन्यवाद अर्पित कर कार्यक्रम का समापन
किया गया।


Principal
Digvijay College
Rajnandgaon (C.G.)


HEAD
DEPT. OF SOCIOLOGY
GOVT. DIGVIJAY COLLEGE
RAJNANDGAON (C.G.)
431441


(श्रीमती लालती साहू)

| | नाम | एतनाश्व |
|------|-----------------------|----------------------|
| (1) | दीराबती वर्मा | Meenabali Verma |
| 2. | ओमो समुन्ने | (3) ताखी |
| 3. | ताखी साहु | ताखी |
| 4. | नेहा साहु | नेहा साहु |
| 5. | चंचल सोनी | चंचल सोनी |
| 6. | पूजा साहु | पूजा |
| 7. | पूणिमा साहु | पूणिमा साहु |
| 8. | नेहा साहु / महेश साहु | नेहा |
| 9. | नीरा साहु | नीरा |
| 10. | लक्ष्मि | Laxmi |
| 11. | आमृति मिन्हा | Amriti |
| 12. | पुष्या चवक | पुष्या |
| 13. | तुलसी साहु | तुलसी |
| 14. | शालभा बेयो | Shalpa |
| 15. | महेशी वानकर | Laxmi |
| (16) | कविता डुप्याम | Kavita |
| (17) | पुमिन साहु | पुमिन |
| (18) | कैवळ साहु | कैवळ |
| (19) | कामिनी ठाकुव | कामिनी |
| 20. | मधु साहु | Madhu |
| (21) | विद्यानारती | Vidyanarati |
| (22) | प्रीती वर्मा | प्रीती वर्मा |
| 23) | पूणिमा साहु | पूणिमा |
| 24) | भारती साहु | भारती |
| 25) | उमेश | उमेश |
| 26) | डिलेश कुमार | (4) डिलेश |
| 27) | धर्मेश कुमार | धर्मेश कुमार |
| 28) | डिलेश कुमार | डिलेश कुमार |
| 29) | चक्रज कुमार साहु | Chakraj |
| 30) | रावकुमार | Raidure |

हस्तारोपण कार्यक्रम

आज दिनांक 11 अप्रैल 2023 को आसक्त 'दिविन' महाविद्यालय में समाजशास्त्र के विद्यार्थियों द्वारा महाविद्यालय परिसर में हस्तारोपण किया गया। उक्त कार्यक्रम महाविद्यालय के प्राचार्य डॉ. के. एस. गंडेकर के मार्गदर्शन में किया गया। पर्यवेक्षण संरक्षण निष्पत्तियों के तहत विद्यार्थियों ने महाविद्यालय परिसर में आम नाम जोड़ने की वला खेल अर्थात् भादि खेलों का आयोजन किया गया एवं अंतर हस्तारोपण व संरक्षण हेतु- काफी प्रविक्षित व्यक्तों की।

उक्त कार्यक्रम समाजशास्त्र विभाग के विभागाध्यक्ष डॉ. ए. के. गंडेकर के निदेशानुसार में किया गया। हस्तारोपण कार्यक्रम में विभाग में सहायक प्राध्यापक श्रीमती ललिता साहू की उपस्थिति रही।

| क्र. | विद्यार्थी का नाम | गणना | हस्ताक्षर |
|------|-------------------|-------------|-------------|
| 1 | निशा श्रीवांगरी | M.A sem- I | Nisha |
| 2 | दुर्गावती वर्मा | M.A. sem- I | Durgavati |
| 3 | इंद्र जांगरे | M.A. Sem I | Indu |
| 4 | जया साहू | M.A. SEM I | Jaya Sahu |
| 5 | मनपूजा वर्मा | M.A. SEM I | Manuja |
| 6 | तारिणी साहू | M.A. sem I | Tarini |
| 7 | नेहा साहू | M.A sem I | Neha |
| 8 | पूजा साहू | M.A sem I | Pooja |
| 9 | रोहन वर्मा | M.A sem I | Rohan |
| 10 | लक्ष्मी वर्मा | M.A. I sem | Lakshmi |
| 11 | योगमाया साहू | M.A. I sem | Yogmaya |
| 12 | दीपलती वर्मा | M.A. I sem | Deepalati |
| 13 | पूजा वर्मा | M.A. I sem | Pooja Verma |
| 14 | गजनी वर्मा | M.A. I sem | Gajani |
| 15 | चंचल सोनी | M.A. I sem | Chanchal |

Principal Rajnandgaon (C.G.)

| | | | |
|------|---------------|-----------------|------------------|
| (16) | प्रतिभा साहू | M.A. I Sem. | प्रतिभा साहू |
| (17) | नीमा साहू | M.A. I Sem. | Neema |
| (18) | डोमो रायगुप्त | M.A. I (Sociol) | Dom |
| (19) | कुलेस्वर सादत | M.A. I (sem.) | कुलेस्वर |
| (20) | शंभुनाथ | M.A. I sem | Shambhar |
| (21) | राकेश क | M.A. I Sem | Rakesh |
| (22) | राहुल खंड | M.A. I Sem. | Rahul Khan |
| (23) | आंचल पटेल | M.P. I Sem. | Aanchal |
| (24) | हिरण्य कुमार | M.A. I Sem | Hiranyam |
| (25) | नरहराज पटेल | M.A. I Sem | Narharaj |
| (26) | वदलकाशा साहू | M.A. I Sem. | Vadalkasa |
| (27) | गीतांजली साहू | M.A. I Sem | Gitanjali |
| (28) | शुभलशा टोपा | M.A. III Sem | Shubhla |
| (29) | दिव्या साहू | M.A. III Sem | Divyansha |
| (30) | नीमा साहू | M.A. III Sem | Neema Saah |
| (31) | लक्ष्मी सोनकर | M.A. III Sem | Laxmi |
| (32) | पेमिन साहू | M.A. III sem | Pemin |
| (33) | जाहति बिन्हा | M.A. III Sem | Jahati |
| (34) | पंकज साहू | M.A. III Sem | Pankaj |
| (35) | राहुल देव | M.A. III Sem | Rahuldev |
| (36) | भारती साहू | M.A. III Sem | Bharati |
| (37) | विद्या भारती | M.A. III Sem | Vidya Bharati |
| (38) | कामिनी ठाकुर | M.A. III Sem | Kamini |
| (39) | प्रतीक वर्मा | MA- III sem | Pratik Varma |
| (40) | पुष्पा चेलक | MA. III Sem | Pushpa |

Head

HEAD
DEPT. OF SOCIOLOGY
GOVT. DIGVIJAY COLLEGE
RAJNANDGAON (C.G.)
191201

Principal
Govt. Digvijay College
Rajnandgaon (C.G.)

World earth day by NCC Unit





38 CHHATTISGARH BATTALION NCC
GOVT. DIGVIJAY AUTO. PG COLLEGE RAJNANDGAON (C.G.)

NCC

Date 23/03/2024

EARTH HOUR AWARENESS PROGRAMME 2024

| Ser No | Date (DDMMYY) | Name of Activities | No of Cadets Participants | Location | Remarks |
|---------------|----------------------|--|----------------------------------|--|----------------|
| 1 | 23/03/24 | 1. Lecture on Earth Hour. 2. Awareness Raily on earth hour. | 47 | Govt. Digvijay college and shitla mandir area. | |

One tree one cadet Abhiyan day by NCC Unit





PLANTATION DAY CELEBRATION





Today on 10/07/2023 GOVT. Digvijay Late. Bath. A tree plantation program was organized under environmental protection in the Physics Department of Rajnandgaon College. In the inauguration of the program, the Head of the Department, Dr. P.B. Tank gave a special address on the importance of environmental protection and the need for tree plantation in the era of globalization, in which he said, "In the race to earn a few bucks, today's man is playing with the environment and nature by cutting trees and plants. Therefore, nowadays it has become very important to take appropriate steps towards the conservation of trees. After this, in the premises of the Physics Department, the Head of the Department, Dr. P.B. Tank and Assistant Professor Dr. S.K. Patel, L. P. Urvasha, and M.Sc. of Physics Department. Medicinal trees and fruit trees were planted by the students of first and third semester. On this occasion, an oath was taken for the protection and maintenance of trees and protection of the environment.

- Do not destroy trees and plants, it will cause difficulty in breathing.
- I just request nature to do this, don't cut trees again and again



Principal

Govt. Digvijay Auto. PG College,
Rajnandgaon