

GOVERNANCE, LEADERSHIP AND MANAGEMENT

**TRIDENT ACADEMY OF TECHNOLOGY (TAT),
BHUBANESWAR
CRITERIA – 6**



6.5.2 *Quality assurance initiatives of the institution*



**TRIDENT ACADEMY OF TECHNOLOGY (TAT),
BHUBANESWAR-751024**



BIJU PATNAIK UNIVERSITY OF TECHNOLOGY, ODISHA, ROURKELA

(An Affiliating State University of Govt. of Odisha)

NOTICE

No.BPUT/ Aff./ 0254

Date: 10/01/2020

ACADEMIC AUDIT OF AFFILIATED COLLEGES

Pursuant to provisions of clause 3 of Statute 49 of the BPUT Statutes, 2006, the Principals/Directors of all the affiliated colleges of the University are requested to furnish the Academic Audit Report of their respective institutions to the University for academic year 2017-18 & 2018-19 by 31st January, 2020. Those who have submitted with the affiliation documents need not submit again.

The Academic Audit may be carried out at the college level by at least two experts from Research & Development institutes or Professors from Government Academic Institutions / Universities. The year wise Academic Audit Report is to be submitted after due inspection by the experts and as per the proforma attached herewith.

Memo No. 0255 Date: 10.01.2020
Copy to the OSD to VC for kind information of Hon'ble Vice Chancellor

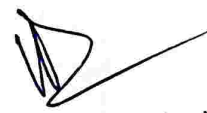

10-1-2020
REGISTRAR

Memo No. 0256 Date: 10.01.2020
Copy to the Information Officer for circulation among all concerned and record.


10-1-2020
REGISTRAR

- DOWNLOAD ACADEMIC AUDIT PROFORMA FOR THE YEAR 2017-18
- DOWNLOAD ACADEMIC AUDIT PROFORMA FOR THE YEAR 2018-19

ATTESTED


Principal
Trident Academy of Technology
Bhubaneswar-751024

BIJUPATNAIK UNIVERSITY OF TECHNOLOGY, ODISHA
ROURKELA

(FOR UNIVERSITY USE)

FORMAT FOR ACADEMIC AUDIT TO BE FILLED BY AUDITORS WITH THEIR
OBSERVATION

- | | | |
|---|--------------------------------------|---|
| 1. Name of the College/Institution | Trident Academy of Tech, Bhubaneswar | |
| 2. Date of visit by the Auditors | 29/01/2020 | |
| 3. Courses of study | B.Tech, M.Tech, MCA, MBA | 7 |
| 4. Time table for each courses | Enclosed (Annexure-1) | 7 |
| 5. Faculty details with their teachers registration, photographs & CV | Enclosed (Annexure-2) | 7 |
| 6. Attendance Sheet | Enclosed (Salary statement) | 6 |
| 7. Fee collected course -wise for the year 2018-19 | Attached (Annexure-3) | 7 |
| 8. Fee structure of the college | Enclosed (Annexure-5) | 7 |
| 9. Fee structure of Fee Structure Committee | Enclosed (Annexure-6) | 7 |
| 10. Financial Audited Statements for the year 2018-19: | Enclosed (Annexure-7) | 7 |


In case of score between 0-3 and 8-10 the score should be supported by detail justification.

Observation of the Auditor

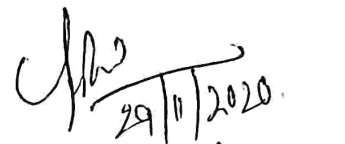
All the courses are running smoothly as per BPUT guidelines.

ATTESTED

Principal
Trident Academy of Technology
Bhubaneswar-751024


29/01/2020

Dr. Saroj Kumar Pradhan
(Signature of the Auditor with name)
Asso. Prof. Mech.
Egg. Dept, CET
BBSR.


29/01/2020
Dr. Pramod Kumar Parida
Associate Prof.
CET, BBSR



147

BIJU PATNAIK UNIVERSITY OF TECHNOLOGY, ODISHA, ROURKELA
(An Affiliating State University of Govt. of Odisha)

No. BPUT/XXIII/CDC/55/2022/ 5117

Date: 06/09/2022

NOTICE

As per Statute 49(3) of BPUT First Statutes – 2006, an institution / college conducting courses under affiliation of the University, shall furnish an academic report, comprising number of lectures, laboratory classes etc. conducted for each subject of a course in each semester, which is mandatory for grant of affiliation.

In view of the above all the Principal / Directors of the affiliated colleges are hereby requested to conduct the academic audit for the year 2021-22 performed by two eminent outside experts preferably in the rank of Professor and submit the report to the University in the prescribed format within seven days for completion of affiliation process 2022-23

This is MOST URGENT .

By Order of Vice Chancellor


Registrar

Memo. No. 5117... Date : 06/09/2022

Copy to :

1. All the Principals / Directors of Affiliated Colleges for information and necessary action.
2. The Joint Secretary to Government, SD&TE Department, Government of Odisha for kind information.
3. OSD to Vice Chancellor for kind information of the Hon'ble Vice Chancellor.


Registrar
FEB

ATTESTED



Principal
Trident Academy of Technology
Bhubaneswar-751024

BIJUPATNAIK UNIVERSITY OF TECHNOLOGY, ODISHA
ROURKELA

(FOR UNIVERSITY USE)

FORMAT FOR ACADEMIC AUDIT TO BE FILLED BY AUDITORS WITH THEIR
OBSERVATION

1. Name of the College/Institution *Trident Academy of Technology, Bhubaneswar*
2. Date of visit by the Auditors *10/09/2022.*
3. Courses of study *B. Tech, M. Tech, MCA & MBA* [7]
4. Time table for each courses *Enclosed (Annexure-a)* [7]
5. Faculty details with their teachers registration, photographs & CV *Attached (Annexure-b)* [6]
6. Attendance Sheet *Attached (Salary statement) (Annexure-c)* [7]
7. Fee collected course-wise for the year 2021-22 *Enclosed (Annexure-d)* [7]
8. Fee structure of the college *Attached (Annexure-e)* [7]
9. Fee structure of Fee Structure Committee *Enclosed (Annexure-f)* [7]
10. Financial Audited Statements for the year 2021-22: *Audited Balance sheet of 2020-21 is attached and Audit for the financial year 2021-22 is under process and will be completed before 30th September 2022 (Annexure-g)* [6]

In case of score between 0-3 and 8-10 the score should be supported by detail justification.

Observation of the Auditor

All the courses are running smoothly as per BPUT Norms & guidelines.

ATTESTED

Principal
Trident Academy of Technology
Bhubaneswar-751024

[Signature]
Prof. (Dr.) RN Sathya
Prof. CSE
10/09/22

[Signature]
10/9/22
Dr. C.K. Panigrahi
Prof. Aekmal
EWS

(Signature of the Auditor with name)
Sri Sri University K.I.T. University



National Institutional Ranking Framework
Ministry of Education
Government of India



India Rankings 2023: Participated Institutes Engineering

Institution list in alphabetical order

Back

Show 100 entries

Search: Trident

Name	City	State
Trident Academy of Technology (TAT)	Bhubaneswar	Odisha

Showing 1 to 1 of 1 entries (filtered from 1,314 total entries)

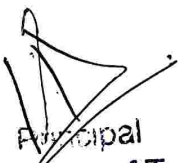
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ATTESTED


Principal
Trident Academy of Technology
Bhubaneswar-751024



TRIDENT ACADEMY OF TECHNOLOGY

Letter No: 25/IQAC/TAT/2024

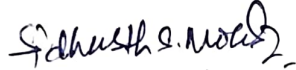
Date: 08/01/2024

NOTICE

A meeting of the IQAC will be held to discuss the following agenda in the Board Room at 04:00PM on 12/01/2024. All members are requested to make it convenient to attend the meeting.

Agenda:

1. Review of the minutes of the last IQAC meeting
2. NIRF Ranking position analysis
3. Application for NAAC Accreditation
4. Application for NBA accreditation
5. Construction of new Academic Building
6. Celebration of Annual spring Festival (TRIFEST 2024)
7. MOU with IMD
8. Internal & External Academic Audit
9. Conducting FDPs/Training
10. Any other matter with the permission of the Chair.


Coordinator (IQAC)

Copy to:

1. Prof. Dr D N Pattnayak (Chairman)
2. Prof. Dr B K Nanda, Member
3. Prof. Dr A Baral, Member
4. Prof. Chandan Kumar Das, Member
5. Prof. Mohini Prasad Mishra, Member
6. Prof. Madhusmita Mohanty, Member
7. Prof. Prasant Kumar Rout, Member
8. Mr. Biswa Ranjan Nanda, Member
9. Mr. Ajay Pattanaik, Member
10. Mr. Subhadarshi Mishra, Member
11. Mr. Suprit Swain, Member
12. Mr. Prasanna Paramanik, Member
13. Ms. Tiyasa Mohanty, Member
14. Mr. S. C. Mishra, Member
15. Dr. Sidharth S Mohapatra (Convener)

**TRIDENT ACADEMY OF TECHNOLOGY
BHUBANESWAR**

A meeting of IQAC was held in the Board Room at 04.00 pm on 12 January 2024 and the following items were discussed.

Minutes of the Meeting (IQAC)

Members Present: As per the attendance sheet attached.

Chairman: Prof. (Dr) D N Patnayak (Principal)

Welcome note by the Chairman.

Sl No.	Agenda	Responsibility/ Action
1	Review of the minutes of the last IQAC meeting:	The minutes of the previous meeting was approved
2	NIRF Ranking:	A decision was taken regarding the participation of the institution in the NIRF ranking. Mr. Bimal Mohapatra was given the responsibility of looking after the same.
3	Application for NAAC Accreditation	The chairman emphasized on the necessity of the second cycle NAAC accreditation of the institute which was immediately accepted by all the members. Prof. (Dr) A Baral was given the responsibility of the preparation and coordination of all the activities related to this.
4	Application for NBA accreditation	Prof B K Nanda gave a proposal of going for an accreditation process of NBA for MCA, Mechanical Engineering and Electrical and Electronics Engineering. Prof Dr Sakuntala Mohapatra , Dean SOE will be coordinating the process.
5	Construction of new Academic Building	The principal highlighted the requirement of more number of class rooms and facility centers for the students and all the members agreed on the construction of a new academic block.
6	Celebration of Annual spring Festival (TRIFEST 2024)	It was decided that the Annual Spring Festival would be celebrated on 22 nd , 23 rd and 24 th of February and the Coordinator of the Cultural committee would look after the events.
7	MOU with IMD	A proposal was given by Dr Chandan kumar Das of creating a link to connect with IMD in order to get an access to facility of their special HPC and Supercomputing platform.
8	Faculty Development Programs/ Training	It was decided to conduct at least two FDPs by the end of February 2024



Co-coordinator (IQAC)



Chairman (IQAC)

PRINCIPAL
TRIDENT ACADEMY OF TECHNOLOGY
BHUBANESWAR-751024

**TRIDENT ACADEMY OF TECHNOLOGY
BHUBANESWAR**

Action taken report of the IQAC meeting conducted on 12/01/2024

1. With reference to Agenda- Application for NAAC Accreditation

A core committee was constituted under the coordinatorship of Dr. A Baral, Dean,(Science & Humanities) to look after and establish effective coordination among all the departments of the institution in order to facilitate the process of NAAC process.

All the heads of department, included in the committee with a requested to extend their whole-hearted support to the accreditation process in general and to Dr. A Baral in Particular.

2. With reference to the agenda- Application for NBA Accreditation

Dr. Shakuntala Mahapatra was made the head of NBA accreditation committee and was entrusted with all the necessary supports to spearhead the accreditation process for the programs like MCA and 4-years B.Tech programs in Mechanical Engineering and Electrical and Electronics Engineering.

All the department heads of concerned programs are made the de-facto members of the committee and the committee was duly advised to meet intermittently to monitor and guide the process and progress of NBA accreditation for the above mentioned programs.

3. With reference to Agenda: Internal and External Academic Audit

An internal academic audit committee was constituted, comprising of following senior faculty members of the different departments under the headship of Prof. (Dr.) B K Nanda.

Dr Chandan kumar Das

Dr. Manas Chaudhury

Dr. Sidharth S Mohapatra

The committee conducted the internal academic audit with due diligence and submitted their report to Principal, TAT

4. With reference to Agenda- Celebration of Annual spring Festival (TRIFEST 2024)

A centralized committee was constituted to monitor and organize the Annual Cultural Fest TriFest-2K24, under the leadership of Dr. Sidharth Sankar Mohapatra, (Associate Professor, Department of English) Selected members from each department, as members of the Core -committee, were entrusted responsibilities for the smooth conduct of the function. The student committee members were also included in the committee. The committee successfully organized TriFest-2K24.

5. With reference to Agenda- FDPs/Training

A 5-days FDP program, commencing from 15th January, 2024, was organized by the institution for imparting hands-on session on SAP. The training session was delivered by the faculty member of IMI, Bhubaneswar, an authorized training institution of SAP, and a total of 24 faculty members get trained during the FDP session.

A 3-days training session, commencing from 22nd, January, 2024 was delivered by Mr. Neeladri Mukharjee of Hexagon, imparting hands-on session on Application of Erdas Imagine in processing satellite images. Around 4 faculty members and 11 students get benefitted from this training session.

2-days training session was organized for faculty members on SAP Analytics. The technical knowhow was delivered by authorized SAP training institution IMI, Bhubaneswar.

6. With reference to Agenda- MOU with IMD

An MoU was signed with India Meteorological Department (IMD), Govt. of India on dated. 29th, February, 2024, to foster collaborative research and project development in the field of remote sensing, satellite imagery and machine learning. Both faculty members and students were advised to take the maximum benefit from the expertise from IMD and make use of High Performance Computing facilities available in the campus to its fullest potential.


Chairman (IQAC)

PRINCIPAL
TRIDENT ACADEMY OF TECHNOLOGY
BHUBANESWAR-751024



TRIDENT ACADEMY OF TECHNOLOGY

INTERNAL QUALITY ASSURANCE CELL

LetterNo:IQAC/TAT/2023/

Date:10.01.2023

NOTICE

A meeting of the IQAC will be held on to discuss the following agenda in the Board Room at 04:30 PM on 12 January 2023. All members are requested to attend the meeting.

Agenda

1. Review of the minutes of the last IQAC meeting.
2. To put in place SACRED dept.
3. To discuss the conduction of Blood donation camps.
4. Preparation of NBA peer team visit.
5. To discuss the smooth conduct of semester examinations
6. To discuss any other matter with the permission of the chair.

Coordinator (IQAC)

Copyto:

1. Prof. Dr D N Pattanayak, Chairman
2. Prof. Dr B K Nanda, Member
3. Prof. Dr A Baral, Member
4. Prof. Chandan Kumar Das, Member
5. Prof. Mohini Prasad Mishra, Member
6. Prof. Madhusmita Mohanty, Member
7. Prof. Prasant Kumar Rout, Member
8. Mr. Biswa Ranjan Nanda, Member
9. Mr. Ajay Pattanaik, Member
10. Mr. Subhadarshi Mishra, Member
11. Mr. Suprit Swain, Member
12. Mr. Prasanna Paramanik, Member
13. Ms. Tiyasa Mohanty, Member
14. Mr. S. C. Mishra, Member
15. Dr. Sidharth S Mohapatra (Convenor)

Coordinator (IQAC)

Chairman (IQAC)

Principal
Trident Academy of Technology
Bhubaneswar-751024

INTERNAL QUALITY ASSURANCE CELL

Minutes of the Meeting (IQAC)

Date: 12.01.2023

Time: 4.30 PM

Venue: Board Room

Members Present: As per the attendance sheet attached.

Welcome note by the Chairman.

Agenda 1. Review of the minutes of the last IQAC meeting.

Minutes of the last meeting was read out with a discussion with all IQAC members. The minutes of the meeting was approved by the IQAC members.

Agenda 2. To put in place 'SACRED' Department.

With the current climate crisis that the world is facing, the institution felt the urgent need to contribute to mitigate the issue in its capacity, in whatever possible way. So the Chairman addressed the issue and proposed to form a Sustainability and Climate Research Economic Department. The members agreed and seconded the proposal.

Agenda 3. To discuss the conduction of Blood donation camps.

With the decision to continue the social outreach programs dedicatedly, Prof. (Dr.) A. Baral, proposed to conduct a blood donation camp. The proposal was seconded by Prof. (Dr.) B K Nanda.

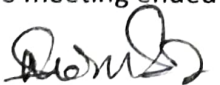
Agenda 4. Preparation of NBA peer team visit.


Since the NBA team visit was round the corner, the Principal proposed to form a committee to look after the preparation pf the team's visit. After discussion, it was decided that a committee shall be formed for the purpose which shall be headed by the IQAC coordinator.

Agenda 4. To discuss the smooth conduct of semester examinations.

Discussing the smooth conduct of the semester examination, Examination In- Charge, Prof. A. Baral was asked to fix the dates for both the internal examinations keeping in mind the time between the two tests ideally suits the teachers to cover the course accordingly. It was also discussed that two number of attendants should be appointed in every floor during the semesters instead of one, for the smooth run of the examinations.

The meeting ended with a vote of thanks by the Chair.


Coordinator (IQAC)


Chairman (IQAC)

Principal
Trident Academy of Technology
Bhubaneswar-751024

Action Taken Report of the IQAC Meeting held on 12.01.2023

With reference to Agenda 2: To put in place 'SACRED' Department.

Sustainability and Climate Research Economic Department SACRED, was formed. Dr. Diptimayee Sahoo was appointed as the head of the department. The members of the department were chosen from various departments across B.Tech and MBA to research and contribute to solutions to climate issues.

Agenda 3. To discuss the conduction of Blood donation camps.

A blood donation Camp was organized by the Kartavya club and NSS in collaboration with Ama Odisha, and 519 units of blood were collected. This camp was a huge success as almost the students and staff those who were present in the campus that day contributed to the camp.

Agenda 4. Preparation of NBA peer team visit.

As the NBA peer team visit was in the offing, the preparation for the same was looked after by the IQAC coordinator. As desired by the Principal, Dr. Sidharth Mohapatra formed a dummy NBA committee which visited every department to assess the preparation of the department for the NBA visit and help them in the process. Dr Sakuntala Mohapatra was requested to coordinate the inspection activity at institute level.

Agenda 4. To discuss the smooth conduct of semester examinations.

As decided in the meeting, two attendants were appointed in every floor where examination was to be conducted.



Coordinator IQAC



Chairman IQAC

Principal

Trident Academy of Technology
Bhubaneswar-751024



TRIDENT ACADEMY OF TECHNOLOGY

INTERNAL QUALITY ASSURANCE CELL

LetterNo:/IQAC/TAT/2022/05

Date: July 2022.

NOTICE

A meeting of the IQAC will be held to discuss the following agenda in the Board Room at 04:00 PM on 10 July 2022. All members are requested to attend the meeting.


AGENDA


1. Review of the minutes of the last IQAC meeting.
2. Introduction of soft skills training to the 4th semester students.
3. To discuss the social outreach programs.
4. To discuss regarding initiating the Mentor-mentee program for the current year.
5. Formation of Institution level Technical and Cultural Clubs
6. To discuss any other matter with the permission of the chair.

Coordinator (IQAC)

Copy to:

1. Prof. Dr D N Pattanayak, (Chairman)
2. Prof Dr B K Nanda, Member
3. Prof. Dr A Baral, Member
4. Prof. Chandan Kumar Das, Member
5. Prof Mohini Prasad Mishra, Member
6. Prof. Madhusmita Mohanty, Member
7. Prof. Prasant Kumar Rout, Member
8. Mr. Biswa Ranjan Nanda, Member
9. Mr. Ajay Pattanaik, Member
10. Mr. Subhadarshi Mishra, Member
11. Mr. Suprit Swain, Member
12. Mr. Prasanna Paramanik, Member
13. Ms. Tiyasa Mohanty, Member
14. Mr. S. C. Mishra, Member
15. Dr. Sidharth S Mohapatra (Coordinator)


COORDINATOR (IQAC)


CHAIRMAN (IQAC)



TRIDENT ACADEMY OF TECHNOLOGY

Minutes of the Meeting (IQAC)

Date: 10 July 2022

Time: 4.00 PM

Venue: Board Room

Members Present: As per the attendance sheet attached.

Welcome note by the Chairman.

Agenda 1. Review of the minutes of the last IQAC meeting.

Minutes of the last meeting was read out with a discussion with all IQAC members. The minutes of the meeting was approved by the IQAC members.

Agenda 2. Introduction of soft skills training to the 4th semester students.

Since it was felt that to enhance the employability skills of the students was highly necessary so as to make them industry ready, it was proposed by the IQAC head to introduce the same in the 4th semester. This was seconded by Prof (Dr.) A. Bara. The English department was assigned to take the soft skill classes. The HOD of the English department was given the charge to carry out the soft skill program.

Agenda 3. To discuss the social outreach programs.

As an educational institution, it is imperative to inculcate in the students a sense of responsibility towards the society. Principal therefore, proposed to carry out the social outreach programs which was seconded by Dr. Chandan Kumar Das, HOD Physics. All the members agreed to the proposal.

Agenda 4. To discuss regarding initiating the Mentor-mentee program for the current year.

It was discussed and decided that the mentor mentee program for the current year will start a little early so that the mentors have sufficient time to identify the academically weak students much before the class tests so that they can be taken care of.

Agenda 5. Formation of Institution level Technical clubs

The date for the cultural fest and tech fest was decided after some discussion. It was decided that the cultural fest will be held in the month of February and the cultural head, Dr, Sidharth Mohapatra was asked to take care of the smooth conduct of the program.

The meeting ended with a vote of thanks to the chair.

COORDINATOR (IQAC)

CHAIRMAN (IQAC)



TRIDENT ACADEMY OF TECHNOLOGY

Action Taken Report of the IQAC meeting held on 10 July 2022

With reference to Agenda: Introduction of soft skills training to the 4th semester students.

Action taken: Two periods per week per group was included in the time table of the 4th semester for all disciplines as decided by the head of the English department. The teachers of the department carried on with the classes accordingly.

With reference to Agenda: To discuss the social outreach programs.

Action taken: Students enthusiastically organised various social welfare programs like Blood donation camps, Aids Awareness Programmes, Relief and rescue operations during natural calamities, arrangement of Jaal Chhatras (Water Kiosks) during summer, Health Check-up camps, Educating on Safe drinking water practices in slum areas, Plantation Drives to create environmental awareness.

With reference to Agenda . To discuss regarding initiating the Mentor-mentee program for the current year.

Action taken: The mentors were decided and they were asked to give the report on their mentees as regards their academics. The proctors identified the academically weak students under them and gave a report to the IQAC requesting for remedial classes for such students.

Action taken: The mentors were decided and they were asked to give the report on their mentees as regards their academics. The proctors identified the academically weak students under them and gave a report to the IQAC requesting for remedial classes for such students.

With reference to Agenda: To conduct Techfest and Trifest.

Action taken: The Cultural head held meetings with the members of the cultural committee and chalked out plans for the conduct of the tech fest and the cultural fest.

Coordinator (IQAC)

Chairman (IQAC)

Principal
Trident Academy of Technology
Bhubaneswar-751024



TRIDENT ACADEMY OF TECHNOLOGY

INTERNAL QUALITY ASSURANCE CELL

Greetings of the day!

We hope this mail will find you and members of your esteemed family in good health.

Due to the COVID situation, the Internal Quality Assurance Cell is organising a meeting on virtual mode to discuss the quality initiatives for the year 2021-22

We cordially invite you to attend the meeting, scheduled to be held on June 26, 2020, at 3:00 PM in virtual mode.

The agenda for the meeting is attached for your kind perusal.

Your kind confirmation to join virtually will be highly appreciated.

The following Zoom link is hereby given for your kind joining in the meeting.

Join Zoom Meeting

<https://us06web.zoom.us/j/83232287644?pwd=RjE3ZmpTOTJqellGU2xWaC8zSmtUQT09>

Meeting ID: 83232287644

Passcode: 0872176

Warm regards

Dr. Sidharth Sankar Mohapatra

Coordinator. (IQAC)

Trident Academy of Technology



TRIDENT ACADEMY OF TECHNOLOGY

No. TAT/IQAC/2020/ 08

Date: June 26, 2020

MINUTES OF THE MEETING

The following members were present in the meeting.

1. Prof. Dr D N Pattnaik Chairman
2. Prof. Dr B K Nanda, Member
3. Prof. Dr A Baral, Member
4. Prof. Chandan Kumar Das, Member
5. Prof Mohini Prasad Mishra, Member
6. Mr. Biswa Ranjan Nanda, Member
7. Mr. Ajay Pattanaik, Member
8. Mr. Subhadarshi Mishra, Member
9. Mr. Sarthak Mishra, Member
10. Mr. Prasanna Paramanik, Member
11. Ms. Arpita Pany, Member
12. Mr. S. C. Mishra, Member
13. Dr. Sidharth S Mohapatra (Convenor)

However, the following members could not attend the meeting due to their preoccupation.

1. Prof. Madhusmita Mohanty, Member
2. Prof. Prasant Kumar Rout, Member

Dr. Sidharth Sankar Mohapatra began by extending a warm greeting to all of the honourable members.

The Chairman addressed all the members. The minutes from the most recent meeting, were read out by Dr. Sidharth S Mohapatra. All honourable members of the IQAC committee approved the action taken report.

Prof. (Dr.) A Baral praised the precautionary measures taken by the institute to keep all the stake holders safe during the Pandemic situation.

Prof. (Dr.) B K Nanda expressed his concern, how to conduct classes during Covid 19

Mr Ajay Pattnaik suggested creating a better platform for online teaching as students are finding Google Meet not that suitable.

Mr Mohini Prasad Mishra suggested to encourage faculty members to attend seminars and Workshops online for upgrading their knowledge.

The meeting ended with a vote of thanks to the chair.

Coordinator (IQAC)

Chairman (IQAC)



TRIDENT ACADEMY OF TECHNOLOGY

Action taken report of the IQAC meeting organised on June 26, 2020

All the administrative and support staff were asked to maintain social distancing and take adequate measures for sanitization. It was advised to all the staff members not to go for biometric attendance as there was a great chance of spreading the virus.

Mr Sumanta Sahoo managed to create a Microsoft Team platform which provides a much better platform for the teaching learning during the Pandemic situation

Coordinator (IQAC)

Chairman (IQAC)



TRIDENT ACADEMY OF TECHNOLOGY

INTERNAL QUALITY ASSURANCE CELL

No: IQAC/TAT/2019/03

Date: 25.09.2019

NOTICE

A Meeting will be held to discuss the following agenda in the Board Room at 3.00 PM on 28.9.2019. All the esteemed members of IQAC are requested to attend the meeting.

AGENDA

1. Review of minutes of Last IQAC Meeting
2. To take review of existing E-Governance system
3. To continue the Industry-Institute Interaction
4. To conduct the Annual Techfest and Trifest.
5. To focus on Improving Teaching learning skills of the faculty members.+
6. Any other points come out during the discussion.

Copy to:

1. Prof. Dr D N Pattanayak, Chairman
2. Prof.(Dr) B K Nanda, Member
3. Prof. Dr A Baral, Member
4. Prof. Chandan Kumar Das, Member
5. Prof Mohini Prasad Mishra, Member
6. Prof. Madhusmita Mohanty, Member
7. Prof. Prasant Kumar Rout, Member
8. Mr. Biswa Ranjan Nanda, Member
9. Mr. Ajay Pattanaik, Member
10. Mr. Subhadarshi Mishra, Member
11. Mr. Sarthak Mishra, Member
12. Mr. Madan Mohan Swain
13. Ms. Arpita Pany, Member
14. Mr. S. C. Mishra, Member
15. Dr. Sidharth S Mohapatra (Convener)

Convener (IQAC)

Chairman (IQAC)

Principal

Trident Academy of Technology
Bhubaneswar-751024



TRIDENT ACADEMY OF TECHNOLOGY

Minutes of the meeting (IQAC)

1. Approval of the Previous meeting:

The minutes of the previous meeting was approved.

2. To take review of existing E Governance system

After taking rigorous review of existing E-Governance Module, all HOD's expressed need to go for Institute level designed E-governance Module as all institute requirements are not met with existing governance. So, it is proposed self- designed-governance Module for integrating all academic and administrative activities. IQAC Committee members supported for the same.

3. To continue the industry-Institute Interaction through Membership & MoU's

Prof. Amarendra Baral emphasized on the enhancement of the Industry-Institute Interactions by increasing memberships and MoUs. This will be useful for students as well as for Institutional overall growth. It is decided to plan activities to be initiated for Industry Interaction.

4. To conduct the Annual Technical Event

Annual Technical Event "UDDAYAN" is conducted every year in the month of December and the Annual Spring Fest TRIFEST is conducted in February. It was decided that both the events will be conducted in the same month preferably in December

5. To focus on Improving Teaching learning skills of the faculties

The Coordinator of IQAC, Dr S S Mohapatra raised the point about strengthening the activities related to teaching learning enhancement. All the HOD's agreed to conduct various Faculty and Staff Development Programs.

Coordinator (IQAC)

Chairman (IQAC)

Principal

Trident Academy of Technology
Bhubaneswar-751024



Certificate of Registration

This is to certify that the
Occupational Health and Safety Management System
of

TRIDENT ACADEMY OF TECHNOLOGY

at

PLOT NO. F2/A, CHANDAKA INDUSTRIAL ESTATE, CHANDRASEKHARPUR,
BHUBANESWAR, 751024, ODISHA, INDIA

has been independently assessed and is
compliant with the requirements of:

ISO 45001:2018

For the following scope of activities:

ALL ELECTRICAL TESTING ACTIVITIES (INCLUDING CONDUCTORS & CONDUCTING MATERIALS, ELECTRICAL INDICATING & RECORDING INSTRUMENTS, ENERGY EFFICIENCY OF COMMERCIAL / INDUSTRIAL APPLIANCES, ENERGY EFFICIENCY OF DOMESTIC ELECTRICAL APPLIANCES, ENVIRONMENTAL TEST FACILITY, SAFETY TESTING FACILITY, SWITCHGEAR & PROTECTIVE EQUIPMENT), **ALL MECHANICAL TESTING ACTIVITIES** (INCLUDING HEATING VENTILATING AND AIR CONDITIONING (HVAC), SOLAR PANEL), **ALL ELECTRONICS TESTING ACTIVITIES** (INCLUDING EMC TEST FACILITY, ENERGY EFFICIENCY OF DOMESTIC ELECTRONIC APPLIANCES, ENVIRONMENTAL TEST FACILITY, SAFETY TESTING FACILITY, TELECOMMUNICATION EQUIPMENT), **ALL CHEMICAL TESTING ACTIVITIES** (INCLUDING AYUSH PRODUCTS, BIO-STIMULANT, BUILDING MATERIAL, FERTILISER, FIRE FIGHTING EQUIPMENTS & ACCESSORIES, FOOD & AGRICULTURAL PRODUCTS, AIR QUALITY MONITORING INCLUDING GASES, INDUSTRIAL & FINE CHEMICALS, NUTRACEUTICALS & FUNCTIONAL FOODS, NUTRITIONAL SUPPLEMENTS, ORES & MINERALS, PESTICIDE FORMULATIONS, PLASTIC & RESINS, POLLUTION & ENVIRONMENT, RESIDUES IN WATER, SOIL, SOIL AND ROCK, WATER, **ALL BIOLOGICAL TESTING ACTIVITIES**. (INCLUDING ANTIMICROBIAL ACTIVITY PRODUCTS, AYUSH PRODUCTS, BIOLOGICAL MONITORING, BIOLOGICAL TESTS ON OTHER MISCELLANEOUS TEST ITEMS, BIOPESTICIDES AND BIOFERTILIZERS, ENVIRONMENT AND POLLUTION, NUTRITIONAL SUPPLEMENTS, RESIDUE ANALYSIS, WATER QUALITY PHYSICAL, BIOLOGICAL AND CHEMICAL PROPERTIES AND POLLUTANT ORGANIC AND INORGANIC MATERIALS)

Certificate Number: UQ-2018082819

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Date of Certification	26th August 2019
1 st Surveillance Audit Due	25th August 2020
2 nd Surveillance Audit Due	25th August 2021
Certificate Expiry	25th August 2022

Daniel..

Authorised Signatory



ATTESTED

[Signature]

Principal
Trident Academy of Technology
Bhubaneswar-751024

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Company No. 11847851



Certificate of Registration

This is to certify that

TRIDENT ACADEMY OF TECHNOLOGY

PLOT NO. F2/A, CHANDAKA INDUSTRIAL ESTATE,
CHANDRASEKHARPUR, BHUBANESWAR, 751024, ODISHA, INDIA

has been independently assessed by QRO
and is compliant with the requirement of:

ISO 9001:2015

Quality Management System

For the following scope of activities:

ELECTRICAL AND ELECTRONICS ENGINEERING, ELECTRONICS AND TELECOMMUNICATIONS ENGINEERING, COMPUTER SCIENCE AND ENGINEERING, MBA, MECHANICAL ENGINEERING, MASTERS IN COMPUTER APPLICATIONS, ELECTRICAL ENGINEERING, ELECTRONICS AND TELECOMMUNICATIONS ENGINEERING, COMPUTER SCIENCE AND ENGINEERING, CIVIL ENGINEERING, BIOTECHNOLOGY, COMPUTER SCIENCE TECHNOLOGY, COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING), COMPUTER SCIENCE AND INFORMATION TECHNOLOGY, INFORMATION TECHNOLOGY

Date of Certification: 12th March 2020

2nd Surveillance Audit Due: 11th March 2022

1st Surveillance Audit Due: 11th March 2021

Certificate Expiry: 11th March 2023

Certificate Number: 3020180219842Q



Head of Certification

Validity of this certificate is subject to annual surveillance audits to be done successfully on or before 365 days from date of the audit.
(In case surveillance audit is not allowed to be conducted; this certificate shall be suspended / withdrawn).

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Bhubaneswar-751024

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Certificate of Compliance

This is to certify that the
General requirements for the competence of testing and calibration laboratories
of

TRIDENT ACADEMY OF TECHNOLOGY

at

PLOT NO. F2/A, CHANDAKA INDUSTRIAL ESTATE, CHANDRASEKHARPUR,
BHUBANESWAR, 751024, ODISHA, INDIA

has been independently assessed and is
compliant with the requirements of:

ISO/IEC 17025:2017

For the following scope of activities:

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Certificate Number: UQ-2018084828

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Date of Certification	26th August 2019
1 st Surveillance Audit Due	25th August 2020
2 nd Surveillance Audit Due	25th August 2021
Certificate Expiry	25th August 2022

Daniel ..

Authorised Signatory



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Company No. 11847851

Principal

Trident Academy of Technology

Bhubaneswar-751024

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National Institutional Ranking Framework
Ministry of Education
Government of India



India Rankings 2022: Participated Institutes Engineering

Institution list in alphabetical order

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Name	City	State
Trident Academy of Technology (TAT)	Bhubaneswar	Odisha

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Bhubaneswar-751024



TRIDENT
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TECHNOLOGY



TRIDENT ACADEMY OF
TECHNOLOGY

ENERGY AUDIT REPORT

2022-2023

PREPARED BY
EHS ALLIANCE SERVICES

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CERTIFICATE



CERTIFICATE

PRESENTED TO

TRIDENT ACADEMY OF TECHNOLOGY

F-2, Chandaka Industrial Estate In front of Infocity, Infocity
Chandrasekharpur, Bhubaneswar Odisha - 751024

That has been assessed by EHS Alliance Services for the comprehensive study of Energy Audit on institutional working framework to fulfill the requirement of

ENERGY AUDIT

ACADEMIC YEAR 2022-23

The energy-saving initiatives carried out by the institution have been verified in the report submitted and were found to be satisfactory.

The efforts taken by management and faculty towards all types of energy used in the institution and sustainability are highly appreciable and noteworthy.

SIGNATURE



11.05.2023
DATE OF AUDIT

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
WWW.EHSALL.IN | BUSINESS@EHSALL.IN | EHSALLIANCE@GMAIL.COM

ATTESTED

Principal
Trident Academy of Technology
Bhubaneswar-751024

ACKNOWLEDGEMENT

EHS Alliance Services Audit Team thanks the administration of Trident Academy Of Technology Bhubaneswar, Odisha for assigning this important work of Energy Audit of the College. We appreciate the co-operation to our team for the completion of the study.

Last but not the least; we would like to thank **Dr. Deba Narayan Pattanayak - Principal**, Trident Academy Of Technology for giving us an opportunity to energy audit of the campus.

We would also like to thank **Prof. Dr. Amarendra Baral -Dean, Science and Humanities, Audit Coordinator**, for his continuous support and guidance, without which the completion of the project would not have been possible. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.



DISCLAIMER

EHS Alliance Services Audit Team has prepared this report for Trident Academy Of Technology, Bhubaneswar, Odisha based on input data submitted by the representatives of the College complemented with the best judgment capacity of the expert team.

While all sensible care has been taken in its preparation, details contained in this report have been compiled in good faith based on the information gathered.

It is further informed that the conclusions arrive following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

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Vijay Singh
Lead Auditor EMS & Energy



Dr. Uday Pratap
Co-Auditor EMS & Energy

ABBREVIATION

A	Amps
AC	Air Conditioner
AC	Alternating Current
AMET	Academy of Maritime Education and Training
CFL	Compact fluorescent lamp
CIP	Comprehensive Inspection Program
DC	Direct Current
HSD	High-Speed Diesel
Hz	Hertz
kg	Kilogram
kVA	kilo-volt-ampere
kW	kilo Watts
kWh	kilowatt hour
kWp	Kilowatt peak
LED	Light Emitting Diode
LPG	Liquefied Petroleum Gas
MMS	Module mounting structure
MPPT	Maximum Power Point Tracker
NAAC	The National Assessment and Accreditation Council
SEC	Specific Energy Consumption
SPV	Solar Photovoltaic
STC	Standard Test Condition
TV	Television
V	Volts
W	Watts
W/m²	watt per square metre

INTRODUCTION OF COLLEGE

Trident Academy of Technology, a name that has become a brand in the field of technical education, is today synonymous with excellence. Trident is where Education meets Enthusiasm. Within just a few years of its establishment, Trident group of institutions has built an image amongst the aspiring masses which is worth the quality of education it imparts.



Trident is passionate about grooming leaders who are not only thorough professionals but also are good human beings with values and “sanskars”. Emphasis is given not only on making the students academically brilliant, but grooming them as true leaders and team players, thus preparing them for real life corporate world. The college has been ranked at No.25 in recently concluded DATAQUEST CMR RANKINGS.

In the recently concluded local rankings for BTech, MCA, MBA colleges (Under Biju Patnaik University of Technology, Odisha) and BCA and BBA institutions (Under Utkal University, Odisha), the Trident colleges have got the following ranks.

- No.1 MCA institution status for Trident Academy of Creative Technology, Bhubaneswar.
- No.1 Biotechnology college of Utkal University for the School of Biotech Sciences, Trident Academy of Creative Technology, Bhubaneswar.
- No.2 BCA /BBA college status under Utkal University for the School of undergraduate studies, Trident Academy of Creative Technology, Bhubaneswar.
- No.4 Private Engineering College status under Biju Patnaik University of Technology, Odisha for Trident Academy of Technology, Bhubaneswar.

VISION

Undisputed leadership in sustained development of skilled human resources from Eastern India through excellence in educational practices.

MISSION

- To foster holistic excellence in the new generation of students.
- To instill in them, the power of aggressive positive thinking, insatiable desire for information and knowledge, a penchant for out-of-the box ideation and capacity of execution.
- To contribute to the society with honesty and integrity through innovative research in the multi-disciplinary areas of evolving and upcoming technologies.

FACILITIES AT THE CAMPUS**LIBRARY**

The college has a central library with all modern facilities. The library has 60000 book volumes, 274 e-journals, 275 science direct and 25 IEEE articles. The library also provides e-learning facility, digital library, reading room and reference section. All the library operations have been computerized. Computerized Library Management includes search, indexing, issue/return records. Bar-coding of records are common and all book volumes are managed through bar-code readers.

COMPUTER LAB

TAT has spacious, air conditioned and centrally controlled and monitored Computer Laboratories. Well equipped and operational systems with current edition of antivirus, licensed software and latest configuration of hardware are made available to the students for their convenience in adapting to modern technology.

**TRANSPORT**

The college has outsourced the transport facility, A dedicated fleet of buses has been provided by the operator and these buses ply in five different routes picking up students

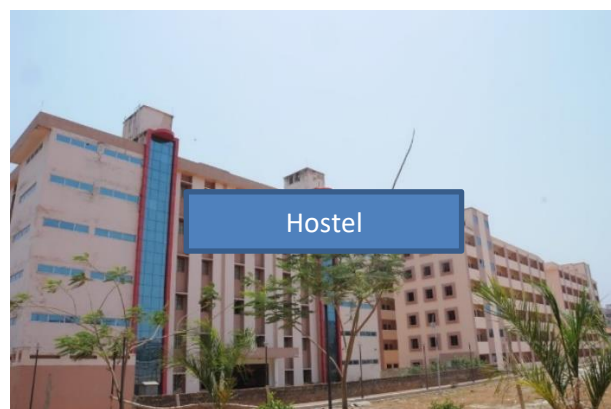
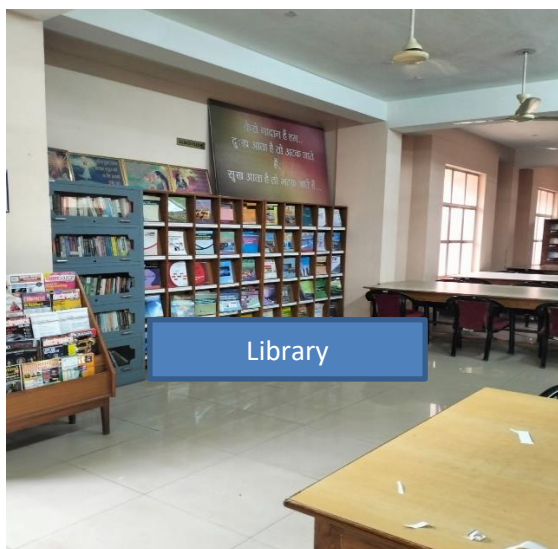
from designated bus stops across the city. The present arrangement of routes can be viewed by clicking here.

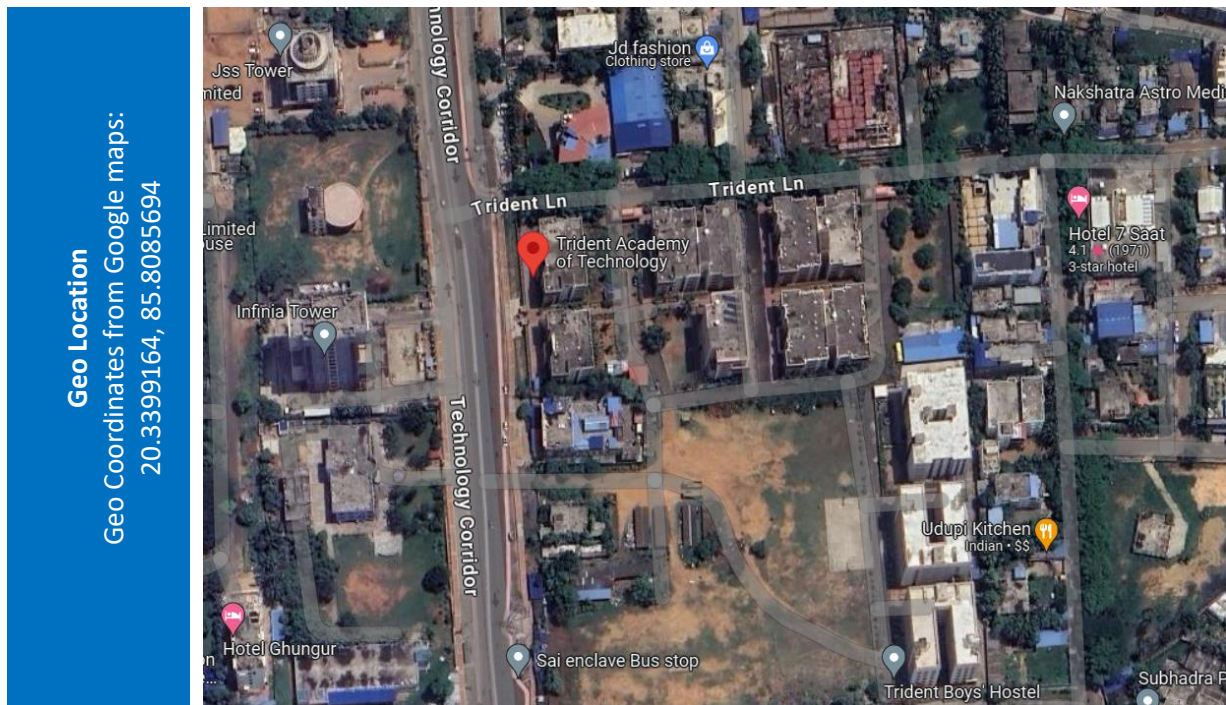
HOSTEL

The college has three in-campus hostels with capacity of 1200 inmates. The rooms are spacious, well-furnished and duly maintained. Mess facility is provided for students. Hygienic vegetarian and non-vegetarian foods are provided to the students at a nominal rate. Incoming telephone facility is provided for the hostel.

CANTEEN

The centralized food court of Trident Group of Institutions providing round-the-clock breakfast, lunch and other refreshments and dinner. Separate canteen and cafeteria facilities are available for TAT and TACT. Whereas the TAT canteen serves South Indian Snacks and breakfast along with Oriya style lunch, the cafeteria provides dry snacks.



**Geo Location**

Geo Coordinates from Google maps:
20.3399164, 85.8085694

AUDIT PARTICIPANTS

On behalf of College

Participant Name	Designation/ Role
Dr. Deba Narayan Pattanayak	Principal
Prof. (Dr.) Amarendra Baral	Dean, Science and Humanities

On behalf of EHS Alliance Services

Name	Position	Qualifications
Mr. Vijay Singh	Lead Auditor	M.Sc. M. Tech (Environment Science & Engineering) Energy Auditor, Post Diploma in Industrial Safety Management
Dr. Uday Pratap	Co-Auditor	Ph.D., EMS: Lead Auditor ISO14001:2015, QCI-WAS

EXECUTIVE SUMMARY

The purpose of this Energy Audit was to seek opportunities to improve the energy efficiency of the Trident Academy Of Technology. Reducing the energy consumption despite improving the human comfort, health and safety were of primary concern.

Beyond just identifying the energy consumption pattern, this audit sought to detect and categorize the most energy efficient appliances. Additionally, some daily practices relating common appliances have been shared which may help reducing the energy consumption. Data collection for energy audit of the College was carried out by the EHS Alliance Team. The Energy Audit Report accounts for the energy consumption patterns of the College on actual survey and detailed analysis during the audit.

The work comprehends the area wise consumption traced using suitable equipment. The analysis was carried out by our team with the support of the staff members from Trident Academy Of Technology. The report provides a list of possible actions to preserve and efficiently access the available source, resources and their saving potential was also identified. We look forward towards optimization that the authorities, students and staff members would follow the recommendations in the best possible way. The report is based on certain generalizations including the approximations wherever necessary. The views conveyed may not reveal the general opinion. They merely represent the opinion of the team guided by the interviews of clients. We are happy to submit this Energy audit report to the Trident Academy Of Technology.

ENERGY AUDIT ANALYSIS

1. ENERGY CONSUMPTION

To understand the Energy Consumption trends and for analyzing the average monthly consumption we have collected electricity energy bills from July 2022 to Jun 2023.

The details of “**Meter Connection**” at “**TRIDENT ACADEMY OF TECHNOLOGY**” are as follows-

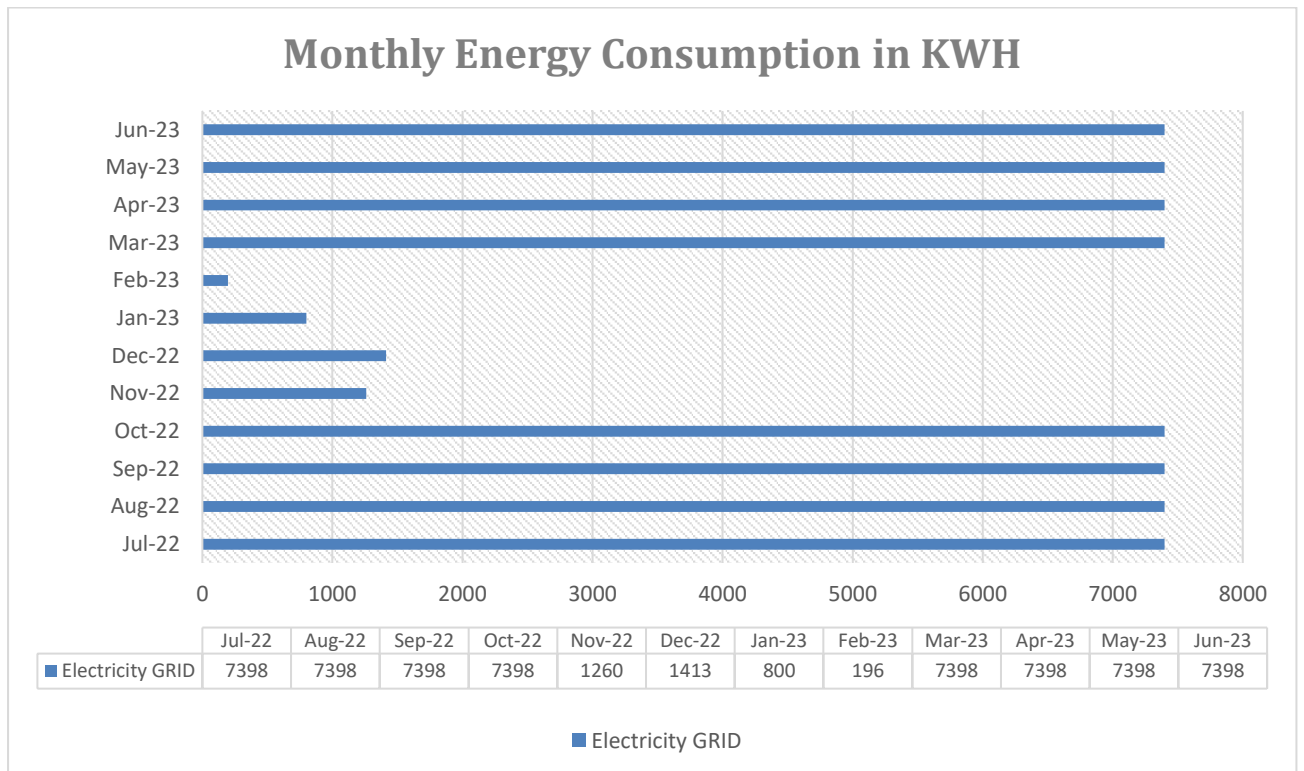
Name	-	Dinabandhu Foundation
Consumer Id:	-	80000033573

1.1 Summary of Monthly Electricity Consumption and Total Bill Amount

To understand the Energy consumption trend and for developing the baseline parameter we have collected monthly energy bill for the 12 months i.e. from July 2022 to Jun 2023.

Month	Grid Units	Amount	Solar Units	Net Metering Units	Amount
Jul-22	7398	6.2	1,440	7398	45868
Aug-22	7398	6.2	1,440	7398	45868
Sep-22	7398	6.2	1,440	7398	45868
Oct-22	7398	6.2	1,440	7398	45868
Nov-22	1260	6.2	1,440	1260	7812
Dec-22	1413	6.2	1,440	1413	8761
Jan-23	800	6.2	1,440	800	4960
Feb-23	196	6.2	1,440	196	1215
Mar-23	7398	6.2	1,440	7398	45868
Apr-23	7398	6.2	1,440	7398	45868
May-23	7398	6.2	1,440	7398	45868
Jun-23	7398	6.2	1,440	7398	45868
SUM	62853		17280	62853	389689

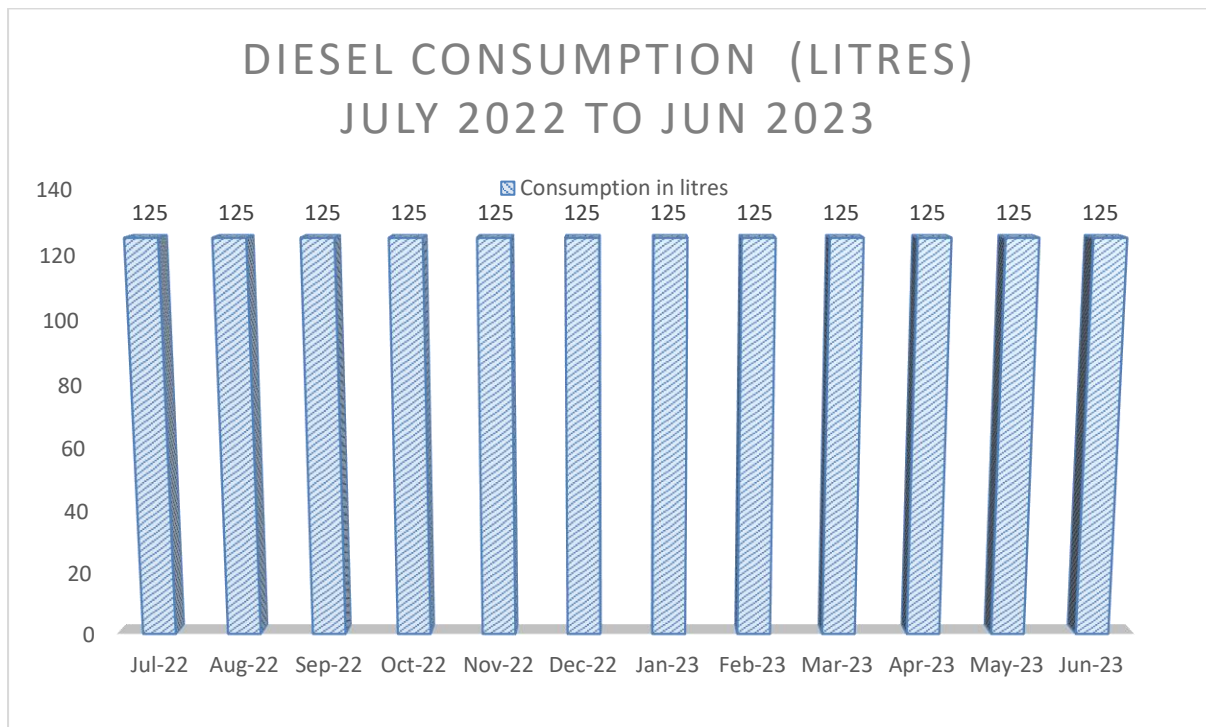
Monthly grid electricity consumption is based on the information provided by the college.



2. DIESEL CONSUMPTION

Below is the diesel consumption details in liters from July 2022 to Jun 2023.

Month wise Diesel Consumption July 2022 to Jun 2023	
Period	Diesel Consumption (Litres)
Jul-22	125
Aug-22	125
Sep-22	125
Oct-22	125
Nov-22	125
Dec-22	125
Jan-23	125
Feb-23	125
Mar-23	125
Apr-23	125
May-23	125
Jun-23	125
Total	1500



The college has no records for diesel purchases and has provided monthly average consumption details

3. ANALYSIS OF DG SETS

In the College, there is one Diesel Generator (DG) sets for its electrical power needs in case of Grid power failure. Total installed DG sets capacity is 250 kVA.

Description	Unit	DG Station -1	DG Station -2
Design details:		Kirloskar Green	
Rated capacity	kVA	125	125
Hz		50	50
Sl No.		08.20/20-21/0272	08.20/20-21/0273
Make		Koel Green	Koel Green
Volts	Volts	415	415
PF		0.8	0.8
Phase		3	3
RPM		1500	1500
Amps	Amps	174	174
Mfg.		August2020	August2020



Description	Unit	DG at Station 1
Operational details:		
Operating hours during testing	Hours	0.50
% Loading	%	69.75
Energy Generation	kWh	38.35
Load	KVA	85.6
Fuel consumption during testing	Litre	9
Specific energy generation	kWh/litre	3.21

Observation and Suggestions:- As per the trial taken during the energy audit the percentage loading of DG set is 69.75% which is ok and specific energy consumption of DG Sets 3.21 KWH/Litre which is satisfactory because as per manufacturer recommendation, best practices for SEC in DG sets range from 3.0 to 3.5 kWh/litre and above.

4. AC SYSTEM

Energy Efficiency Ratio (EER): Performance of smaller chillers and rooftop units is frequently measured in EER rather than kW/ton. EER is calculated by dividing a chiller's cooling

Capacity (in Btu/h) by its power input (in watts) at full-load conditions. The higher the EER, the More efficient the unit. The cooling effect produced is quantified as tons of refrigeration (TR). The above TR is also called as air-conditioning tonnage.



There are Split and cassette ACs installed in Trident Academy Of Technology in various areas of various capacity whose detail is given below:-

Sl No.	Location/Identification	Type(Window/Split)	QTY	TR	Room Temp. (°C)	AC-Tout (°C)	AC-Tin (°C)	Room-RH (%)	Area (m2)	Air velocity (m/s)	Enthalpy Hout	Enthalpy Hin	Heat Load in TR	KW supplied	(Eff.) Power per Ton (KW /TON)	EER
1	Guest House	Split	34	1.5	24	11	19	52	0.03	3	24	37	0.4	0.6	1.5	2.3
2	Academic Building	Split/Cassette	20	2	24	10	18	52	0.03	2	24	37	0.4	0.5	1.5	2.3
3	Administration	Split	2	1.5	23	12	20	52	0.03	2	25	38	0.3	0.6	1.7	2.1

Remarks: - We have checked the Energy Efficiency Ratio of all AC's and EER of all AC's is fairly OK. But in future, you can purchase 5-Star rated inverter-based split AC's because power consumption of inverter-based BEE 5-Star rated AC's is less than non-star rated AC's.

5. CEILING FANS ANALYSIS

In the College, 783 Ceiling Fans, and 32 bracket fans are installed.

Sl No.	Location/Identification	Ceiling Fan-50W	Bracket Fan 45W	Ceiling Fan-35W
1	Guest House	71	1	
2	Boys Hostel	174		
3	Girls Hostel	212		
4	Academic Building	0	31	326
5	TOTAL	457	32	326

Observation and Suggestions:

In the College, ceiling fans of 50 W are installed along with BEE 5 Star Rated of 30W Ceiling Fans. We recommend that the college to consider purchasing BEE 5 star rated 30W ceiling fans for all future purchases.

Note:- Energy savings will increase or decrease if the operating hours of the machine /equipment will be increased or decrease and the payback period will also increase or decrease if the cost of investment(Cost of machine/equipment/accessories of the machine) will increase or decrease because the cost of investment is taken on a tentative basis.

6. ANALYSIS OF LIGHTING SYSTEM

6.1 Brief description of the existing system

For assessing the energy efficiency of the lighting system, an Inventory of the Lighting System has been noted/collected, with the aid of a lux meter, measurement and documentation of the lux levels at various locations at the working level have been done.

6.2 Inventory of Lighting

Sl. No.	Location/ Identification	200W-LED High Mast	10W LED	12 W LED Round	36W lights	20W LED
1	Guest House	0	0	64	0	0
2	Boys Hostel	0	0	181	0	0
3	Girls Hostel	0	0	188	0	0
4	Academic Building	69	179	194	315	61
	TOTAL	69	179	627	315	61

6.3 Lux Measurement

Description	Lux	Remark
Class Rooms	120 to 235	Acceptable
Offices	130 to 240	Acceptable
Corridors	35 to 90	Acceptable
Washrooms	45 to 76	Acceptable
Outdoor	36 to 95	Acceptable
Computer Lab	150 to 289	Acceptable
Parking area	45 to 94	Acceptable
Canteen	69 to 185	Acceptable

Observation

The college has initiated an LED-based lighting solution, but there are still nearly 315 (36W) tube lights and CFL bulbs. LEDs save energy, the life span is much greater, and emit virtually no heat. We recommend replacing the tube lights with LEDs.

We also recommend using solar lights for open areas like parking, ground, street lights, etc.

Table below shows the performance characteristics comparison of all luminaries.

Table - Luminous Performance Characteristics of Commonly Used Luminaries					
Type of Lamp	Lumens/Watt		Colour Rendering Index	Typical Application	Typical Life
	Range	Avg			
Incandescent	8-18	14	Excellent (100)	Homes, restaurants, general lighting, emergency lighting	1000
Fluorescent lamps	46-60	50	Good w.r.t coating (67-77)	Offices, shops, hospitals, homes	5000
Compact fluorescent Lamps (CFL)	40-70	60	Very Good (85)	Hotels, shops, homes, offices	8000-10000
High-pressure mercury (HPMV)	44-57	50	Fair (45)	General lighting in factories, garages, car parking, flood lighting	5000
Halogen lamps	18-24	22	Excellent (100)	Display, flood lighting, stadium exhibition grounds, construction areas	2000 - 4000
High-pressure sodium (HPSV) SON	67-121	90	Fair (22)	General lighting in warehouses, factories, street lighting	6000 - 12000
Low-pressure sodium (LPSV) SOX	101-175	150	Poor (10)	Roadways, tunnels, canals, street lighting	6000 - 12000
Metal halide lamps	75-125	100	Good (70)	Industrial bays, spot lighting, flood lighting, retail stores	8000
LED Lamps	30-50	40	Good (70)	Reading lights, desk lamps, night lights, spotlights, security lights, signage lights, etc.	40000 - 100000

7. OTHER POWER CONSUMPTION

7.1 Infrastructure Details

SI No.	Location/ Identification	Desktop	Laptop	Printers	Scanners	Servers	Other
	Computer Lab	30					
	Administration	42	1	22	2	Nil	

7.2 Pump Details

Sr. No.	Description	Unit	Pump No.-1	Pump No.-2	Pump No.-3
Make			KS6C-0505 (Submersible Pump-2)	KOS844+ (Monoblock-total No-4)	KOS325+ (Monoblock Total No.-2)
1	Rated Power of Motor	KW	3.7	5.5	2.2
2	Motor Eff.	%	47	50	50
3	Discharge Head	m	120-690	180-640	180-520
4	Suction Head	m	12-58	24-44	12-28
5	Pump Type	Type	Submersible	Monoblock	Monoblock

7.3 Other Load Details

Sl No.	Location/ Identification	60W Exhaust Fan	35W Exhaust Fan	82W Exhaust Fan
1	Guest House	30		
2	Boys Hostel	27		
3	Girls Hostel	26		
4	Academic Building		60	8

ANALYSIS

There should be regular maintenance schedule of Geyser and water coolers. College should install solar water heater instead of electric geysers. Solar geysers are convenient to use and cost effective as well as environment friendly. Computers, more than 5 years should be replaced with new computers/laptops.

8. CAPACITOR BANK

Sl. No.	Location/ Identification	Capacity in KVAR
1	Main LT Panel1 Room	165
2	Main LT Panel2 Room	165

******* END OF THE REPORT *******



TRIDENT
ACADEMY OF
TECHNOLOGY



**TRIDENT ACADEMY OF
TECHNOLOGY**

GREEN AUDIT REPORT

2022-2023

**PREPARED BY
EHS ALLIANCE SERVICES**

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CERTIFICATE



CERTIFICATE

PRESENTED TO

TRIDENT ACADEMY OF TECHNOLOGY

F-2, Chandaka Industrial Estate In front of Infocity, Infocity
Chandrasekharpur, Bhubaneswar Odisha - 751024

Has been assessed by EHS Alliance Services for the comprehensive study of environmental impacts on institutional working framework to fulfill the requirement of

GREEN AUDIT

ACADEMIC YEAR 2022-23

The green initiatives carried out by the institution have been verified on the report submitted and was found to be satisfactory.

The efforts taken by the management and the faculty towards environment and sustainability are appreciated and noteworthy.



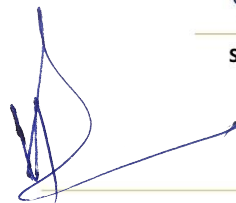
SIGNATURE



11.05.2023

DATE OF AUDIT

ATTESTED



Principal
Trident Academy of Technology
Bhubaneswar-751024

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
WWW.EHSALL.IN | BUSINESS@EHSALL.IN | EHSALLIANCE@GMAIL.COM

ACKNOWLEDGEMENT

EHS Alliance Services would like to thank the management of Trident Academy Of Technology, Bhubaneswar, Odisha for assigning this important work of Green Audit. We appreciate the co-operation to the teams for completion of assessment.

First of all, we would like to thank **Dr. Deba Narayan Pattanayak - Principal, Trident Academy Of Technology** for giving us an opportunity to evaluate the green performance of the campus.

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DISCLAIMER

EHS Alliance Services Audit Team has prepared this report for Trident Academy Of Technology based on input data submitted by the representatives of College complemented with the best judgment capacity of the expert team.

While all sensible care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

If you wish to distribute copies of this report external to your organisation, then all pages must be included.

EHS Alliance, its staff and agents shall keep confidential all information relating to your organisation and shall not disclose any such information to any third party, except that in the public domain or required by law or relevant accreditation bodies.

EHS Alliance staff, agents and accreditation bodies have signed individual confidentiality undertakings and will only receive confidential information on a 'need to know' basis.



Signature

LEAD AUDITOR

CONCEPT AND CONTEXT

The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory from the academic year 2019–20 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. 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.

In view of the NAAC circular regarding Green auditing, the College management decided to conduct an external environment assessment study by a competent external professional auditor. The green audit aims to examine environmental practices within and outside the campus, which impact directly or indirectly on the atmosphere. Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of college environment. It was initiated with the intention of reviewing the efforts within the institutions whose exercises can cause risk to the health of inhabitants and the environment.

Through the green audit, a direction as how to improve the structure of environment and inclusion of several factors that can protect the environment can be commenced. This audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management & Carbon Footprint etc. being implemented by the institution.



INTRODUCTION

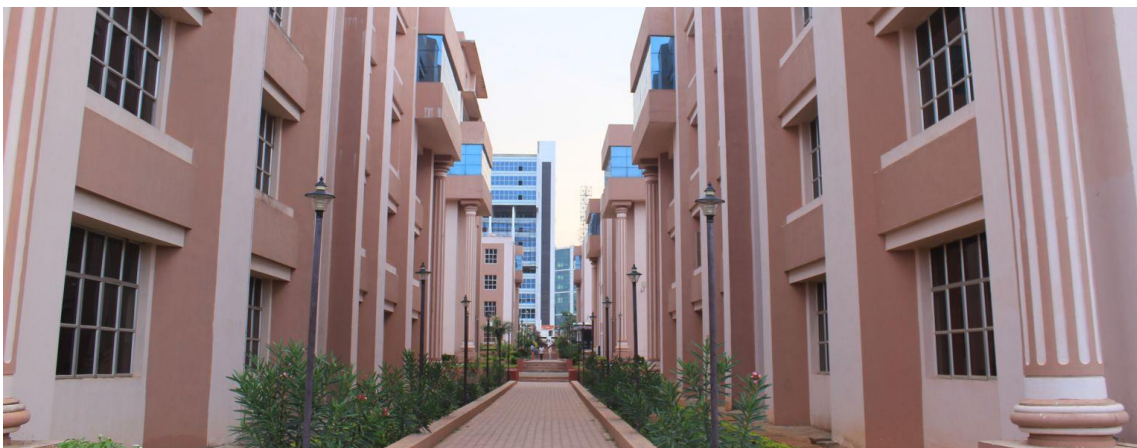
Now days, the educational institutions are becoming more thoughtful towards the environmental aspects and as a result new and innovative concepts are being introduced to make them sustainable and eco-friendly. To preserve the environment within the institution, a number of viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the saving the energy, waste recycle, water consumption reduction, water harvesting and many more...

The activities carried out by the institution can also create adverse environmental impacts. Green audit is defined as an official inspection of the effects a College has on the environment. Green Audit is conducted to evaluate the actual scenario at the institution campus. Green audit can be a useful tool for a College to determine how and where they are using the most of the energy or water or resources; the College can then decide how to implement changes and make savings. It can also be used to determine the nature and volume of waste, which can be used for a recycling project or to improve waste minimization plan.

Green auditing and the application of mitigation measures is a win-win situation for all the institutions, the learners and the mother earth. It can also result in health awareness and can promote the environmental awareness, values and beliefs. It provides a better understanding to staff and students about the Green impact on institution. Green auditing also upholds financial savings through reduction of resource usage. It gives an opportunity to the students and teachers for the development of ownership of the personal and social responsibility. The audit process involves primary data collection, site walk through with the team of college including the assessment of policies, activities, documents and records.

OVERVIEW OF THE COLLEGE

Trident Academy of Technology, a name that has become a brand in the field of technical education, is today synonymous with excellence. Trident is where Education meets Enthusiasm. Within just a few years of its establishment, Trident group of institutions has built an image amongst the aspiring masses which is worth the quality of education it imparts.



Trident is passionate about grooming leaders who are not only thorough professionals but also are good human beings with values and “sanskars”. Emphasis is given not only on making the students academically brilliant, but grooming them as true leaders and team players, thus preparing them for real life corporate world. The college has been ranked at No.25 in recently concluded DATAQUEST CMR RANKINGS.

In the recently concluded local rankings for BTech, MCA, MBA colleges (Under Biju Patnaik University of Technology, Odisha) and BCA and BBA institutions (Under Utkal University, Odisha), the Trident colleges have got the following ranks.

- No.1 MCA institution status for Trident Academy of Creative Technology, Bhubaneswar.
- No.1 Biotechnology college of Utkal University for the School of Biotech Sciences, Trident Academy of Creative Technology, Bhubaneswar.
- No.2 BCA /BBA college status under Utkal University for the School of undergraduate studies, Trident Academy of Creative Technology, Bhubaneswar.
- No.4 Private Engineering College status under Biju Patnaik University of Technology, Odisha for Trident Academy of Technology, Bhubaneswar.

VISION

Undisputed leadership in sustained development of skilled human resources from Eastern India through excellence in educational practices.

MISSION

- To foster holistic excellence in the new generation of students.
- To instill in them, the power of aggressive positive thinking, insatiable desire for information and knowledge, a penchant for out-of-the box ideation and capacity of execution.
- To contribute to the society with honesty and integrity through innovative research in the multi-disciplinary areas of evolving and upcoming technologies.

FACILITIES AT THE CAMPUS

LIBRARY

The college has a central library with all modern facilities. The library has 60000 book volumes, 274 e-journals, 275 science direct and 25 IEEE articles. The library also provides e-learning facility, digital library, reading room and reference section. All the library operations have been computerized. Computerized Library Management includes search, indexing, issue/return records. Bar-coding of records are common and all book volumes are managed through bar-code readers.

COMPUTER LAB

TAT has spacious, air conditioned and centrally controlled and monitored Computer Laboratories. Well equipped and operational systems with current edition of antivirus, licensed software and latest configuration of hardware are made available to the students for their convenience in adapting to modern technology.



TRANSPORT

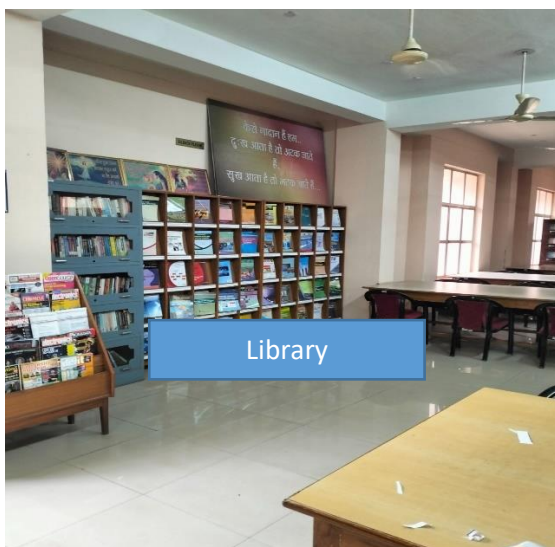
The college has outsourced the transport facility, A dedicated fleet of buses has been provided by the operator and these buses ply in five different routes picking up students from designated bus stops across the city. The present arrangement of routes can be viewed by clicking [here](#).

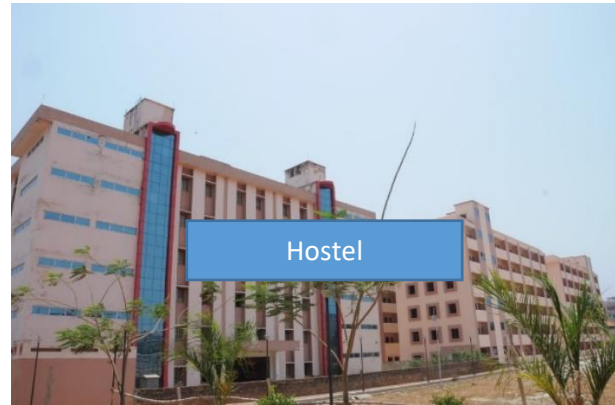
HOSTEL

The college has three in-campus hostels with capacity of 1200 inmates. The rooms are spacious, well-furnished and duly maintained. Mess facility is provided for students. Hygienic vegetarian and non-vegetarian foods are provided to the students at a nominal rate. Incoming telephone facility is provided for the hostel.

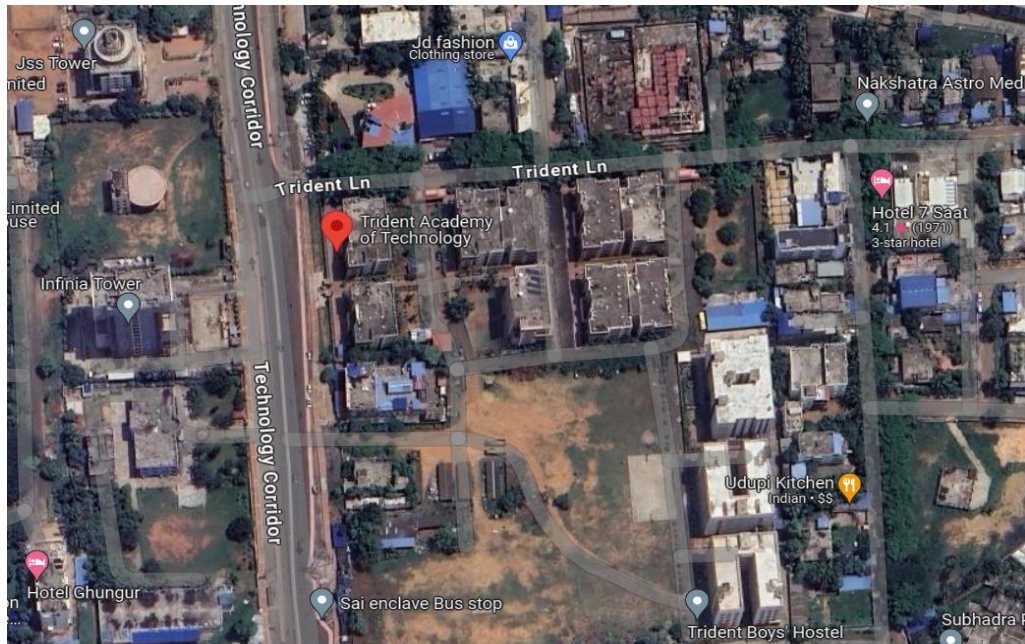
CANTEEN

The centralized food court of Trident Group of Institutions providing round-the-clock breakfast, lunch and other refreshments and dinner. Separate canteen and cafeteria facilities are available for TAT and TACT. Whereas the TAT canteen serves South Indian Snacks and breakfast along with Oriya style lunch, the cafeteria provides dry snacks.





Geo Location
 Geo Coordinates from Google maps:
 20.3399164, 85.8085694



AUDIT PARTICIPANTS

On behalf of college

Participant Name	Designation/ Role
Dr. Deba Narayan Pattanayak	Principal
Prof. (Dr.) Amarendra Baral	Dean, Science and Humanities

On behalf of EHS Alliance Services

Name	Position	Qualifications
Dr. Uday Pratap	Lead Auditor	Ph.D. , PDIS, QCI – WASH, Lead Auditor ISO 14001:2015
Ms. Pooja Kaushik	Co-Auditor	M. Sc., Field Expert, QCI – WASH

EXECUTIVE SUMMARY

Green auditing is an essential step to identify and determine whether the institutions practices are sustainable and ecological. Traditionally, we were upright and efficient users of natural resources. But over the period of time, excessive usage of resources like water, electricity, petrol, etc. have become habitual for everyone especially, in urban and semi-urban areas. It is actually the right time to check if we (our process) are consuming more than required resources? Whether we are using resources sensibly?

Green audit standardizes all such practices and provides an efficient way to use natural resources. In the time of climate change and resource exhaustion it is necessary to re-check the processes and convert it in to green and sustainable. Green audit provides an approach for it. It also increases overall awareness among the folks working in institution towards the eco-friendly environment.

This is the first attempt to conduct green audit of this College campus for fulfilment of NAAC criteria. This audit was mainly focused on greening indicators like consumption of energy in terms of electricity and fossil fuel, quality of soil, water usage, vegetation, waste management practices and carbon foot print of the campus. Initially a questionnaire was shared to know about the existing resources of the campus and resource consumption pattern of the students and staffs in the College.

GREEN AUDIT – ANALYSIS

1.1 GENERAL INFORMATION

1. Does any Green Audit conducted earlier?

Yes, This is first time a systematic way of monitoring their environmental eminence initiative taken by College for environment protection.

2. What is the total strength (people count) of the Institute?

Students

Male: 1715 Female: 748 Total: 2463

Teachers

Male: 114 Female: 41 Total: 155

Non-Teaching Staff

Male: 57 Female: 10 Total: 67

Total Strength

Male: 1886 Female: 799 Total: 2685

3. What is the total number of working days of your campus in a year?

There are two hundred sixty five (265) working days in a year.

4. Where is the campus located?

The campus is located at F-2, Chandaka Industrial Estate, In front of Infocity, Chandrasekhar, Bhubaneshwar, Odisha - 751024

5. Which of the following are available in your institute?

Garden area	Available
Playground	Available
Kitchen	Available
Toilets	Available
Garbage Or Waste Store Yard	Available
Laboratory	Available
Canteen	Available
Hostel Facility	Available
Guest House	Available

6. Which of the following are found near your institute?

Municipal dump yard	Not in vicinity of institute
Garbage heap	No Garbage heaps
Public convenience	Public convenience is available
Sewer line	2.0 KM sewer line within campus
Stagnant water	No stagnant water
Open drainage	No
Industry – (Mention the type)	No
Bus / Railway station	Infocity Bus Stop, Bhubaneswar Railway Station , Biju Patnaik International Airport, Bhubaneswar
Market / Shopping complex	Yes

1.2 WASTE MINIMIZATION AND RECYCLING

1. Does your institute generate any waste? If so, what are they?

Yes, Solid waste, Canteen waste, paper, plastic, horticulture, laboratory waste, e-waste, etc.

2. What is the approximate amount of waste generated per day? (in Kg) (approx.)

Biodegradable waste - 30 Kg
 Non-biodegradable waste – 5 Kg
 Hazardous Waste – 1 Kg
 Other waste –1 Kg
 BMW waste – 2 Kg

3. How is the waste generated in the institute managed? By Composting, Recycling, Reusing, Others (specify)

- College avoid use of single use plastic on the campus
- One side printed Paper is re-used for internal communication.
- Under SDG 6, college is introducing circular economy models for daily kitchen waste, water discharge from sewage treatment plant
- Mechanism for roof-top and field level water harvest and recharge of the four ground water

4. Do you use recycled paper in the institute?

No

5. How would you spread the message of recycling to others in the community?

- Seminars and webinars
- Reuse waste paper for poster-making
- Waste plastic containers are being used as planters
- Nearby village adoption for environment-related works
- Nukkar-Natak by Students to increase awareness

6. Can you achieve zero garbage in your institute? If yes, how?

Not yet achieved. Possible through waste management policy and planning.

1.3 GREENING THE CAMPUS

1. Is there a garden in your institute?

Yes, about 129167 Sq ft areas are developed as Gardens.

2. Do students spend time in the garden?

Yes, students spend around 2-4 Hours during winter.

3. Total number of Plants in Campus?

Plant type with approx. count

Full-grown Trees	64
Small Trees	672
Hedge Plants	2610
Grass Cover	129167 SQ FT

4. Is the College campus having a Horticulture Department? (If yes, give details)

Yes, Total 12 staff deployed in horticulture

5. How many Tree Plantation Drives organized by campus per annum?

Annually, around 4 times Tree Plantation Drives are Organized by campus. Total 50 trees and hedge plants planted in each drive with more than 60% survival rate.

6. Is there any Plant Distribution Program for Students and Community?

Yes, Saplings are distributed to Students and visitors at various Occasions on various events.

8. Is there any Plant Ownership Program?

No

1.4 WATER AND WASTEWATER MANAGEMENT

1. List uses of water in your institute

Basic use of water in campus:

Drinking – 77.52 KL/ month

Gardening – 216.00 Kl/ month

Kitchen and Toilets – 509.88 KL/ month

Others – 224.40 KL/ month

Hostel – 3094.20 KL/ Month

Total = 4122.01 KL/ Month

2. How does your institute store water? Are there any water saving techniques followed in your institute?

College stores water in terrace tanks

SAVING TECHNIQUES

- 1. All the pipes are closed when not in use*
- 2. Sensor is installed at the tank to avoid overflow of the water once the tank is full.*
- 3. Water purifier cum cooler machine is installed.*
- 4. Sensitizing students and staffs about importance of saving water*

3. Locate the point of entry of water and point of exit of waste water in your institute.

Entry - Water comes from borewells.

Exit- From Canteen, Toilets, labs, bathrooms by covered drainage which is connected to STP 100 KLD).

4. Write down ways that could reduce the amount of water used in your institute

Basic ways:

- 1. Close the taps after usage*
- 2. Maintenance and monitoring of valves in the supply system to avoid overflow, leakage and spillage*

1.5 ANIMAL WELFARE

1. List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)

Approx. 10 Birds, 2-3 Dogs, 1-2 Cats and around 10 Squirrels are found in campus. A variety of bird's species and other flora and fauna are available, so institute doing their bit for its conservation.

2. Does your institute have a Biodiversity Program or a KARUNA CLUB?

No

1.6 CARBON FOOTPRINT - EMISSION & ABSORPTION

1. Electricity used per year CO2 emission from electricity

(electricity used per year in kWh/1000) x 0.84
 $62853 \text{ kWh}/1000 \times 0.84$
 $=62853 /1000 \times 0.84$
 $= 52.80 \text{ tons}$

2. Transportation per year (Bus) CO2 emission from transportation

There are total 15 buses on campus
 $= (15 * 2 * 2 * 265 / 100) * 0.01$
 $= 1.59 \text{ tons}$

3. Transportation per year (car) CO2 emission from transportation

There are 7 college owned cars
 $= 7 * 4 * 2 * 265 / 100 * 0.02$
 $= 2.97 \text{ tons}$

3. CO2 emission from LPG/ PNG (Cooking)

(LPG used per year in kgs /1000) x 0.84
 $28500 \text{ kg}/1000 \times 2.99$
 $= 76.38 \text{ tons}$

3. CO2 emission from Diesel Generators

(Diesel used per year in Liters /1000) x 2.68
 $= 1500 \text{ Liters} /1000 \times 2.68$
 $= 4.49 \text{ tons}$

Total CO2 emission per year cumulative by electricity usage + bus transportation + car transportation + Cooking + DG Sets is 138.22 tons

Carbon absorption by flora in the institution

There are 64 full grown trees and 672 semi grown trees of different species, on the campus spread over 129167 sq ft.

Carbon absorption capacity of one full grown tree 22 kg CO2 Therefore Carbon absorption capacity of 64 full-grown trees $64 \times 22 \text{ kg CO2} = 1.41 \text{ tons of CO2}$.

The carbon absorption capacity of 672 semi-grown trees is approx. 30% of that of full-grown trees. Hence the carbon absorption $672 \times 6.8 \text{ kg of CO2} = 4.57 \text{ tons of CO2}$

There are approximately Hedge Plants 2610 of various species being raised in the gardens and grown in the areas where no buildings are built Carbon absorption of bush plants varies widely with their species. Certain bushes absorb very high level of CO₂ where as some others absorb very low level of CO₂. In the absence of a detailed scientific study, 200g of CO₂ absorption is taken per bush (in consultation with Environmental Science specialists). Based on this, total carbon absorption of bushes is 2610 x 200 g = 0.52 tons of CO₂

The lawns on the campus have buffalo grass, Mexican grass and indigenous grass species and cover a total area of 129167 sq. ft. Carbon absorption capacity of a 10 sq. ft. area of lawn is 1 g per day Therefore, carbon absorption by lawn area 129167 x 365 x 0.1 g CO₂ = 4.71 kg CO₂ per year.

Grand total of carbon absorption capacity of the campus is 11.21 tons.

Transparency of Green Audit Report

Green audit report is one of the useful means of demonstrating an organization's commitment to openness and transparency. If an Organisation believes it has nothing to hide from its stakeholders, then it should feel confident enough to make its green audit reports freely available to those who request them. As a basic rule, green audit reports should be made available to all stakeholders.

GREEN INITIATIVES BY CAMPUS

- **Renewable Energy** - A solar power plant of capacity 12 KW is installed on the building roof that will supply approx. 20% of total power requirements in campus.
- **Tree Plantation Drives** – Four plantation Drives Annually.
- **Air Pollution Reduction** - Personal Vehicles (Students) not allowed at campus
- **Solid Waste Management** – Waste management by segregation of waste, recycling, and selling of paper, plastic, milk packets, etc. to recyclers. There is a ban on single-use plastic and plastic crockery in campus.
- Webinars and Seminars on environmental issues.
- E-Abhiyan for nearby schools for education and awareness
- **Eco club Initiatives**
 - Van-Mahotsav Conducted for three days

RECOMMENDATIONS

- Eco-friendly parameters should be included in the purchase of articles and goods for the College campus.
- Water Meter should be installed at every building of institute for monitoring of water consumption per capita.
- College should display environment-conscious poster/paintings/slogans in the building for spreading awareness amongst students.
- 'Save Energy' Messages should be displayed at various locations to aware the students and staff about energy Savings.
- Plant ownership programs should be started with students to create awareness and responsibility towards environment.
- Enhance recycling - This can be done by creating a group where students can recycle books, personal clothes and other material to needy students. This can be an initiative under green program.
- Sensor-based lighting systems should be installed for common areas like library, corridor, mess, stairs, washrooms, etc.
- College should start the use of Sprinklers gardening purpose
- Increase plantation drives in nearby villages, local bodies, NGO and Municipal Corporation in order to balance the carbon emission and absorption.
- Arrange training programs on environmental management system and nature conservation for schools and local people.



CONCLUSION

This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. Trident Academy Of Technology has for YRC (Youth Red Cross) sustainable use of resources. Overall 30 % area of College campus is for landscaping. The audit has identified several observations for making the campus premise more environmentally friendly. The recommendations are mentioned with observations for College campus team to initiate actions.

REFERENCE:

- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control Of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Air [Prevention & Control Of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981)
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices

ANNEXURE I – PHOTOGRAPHS OF ENVIRONMENT CONSCIOUSNESS



Well ventilated building structure



Well maintained College campus



Auditorium



Hostel building



Color coded dustbin



Push taps to save water



Class rooms



Urinals to save water



Plantation drive



Green campus



Well equipped Computer lab



Spacious library



Swatchhta abhiyaan activity



Awareness campaign



World Water Day



Awareness program

***** END OF THE REPORT *****



TRIDENT
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**TRIDENT ACADEMY OF
TECHNOLOGY**

ENVIRONMENT AUDIT REPORT

2022-2023

PREPARED BY
EHS ALLIANCE SERVICES

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AUDIT CERTIFICATE



CERTIFICATE

PRESENTED TO

TRIDENT ACADEMY OF TECHNOLOGY

F-2, Chandaka Industrial Estate In front of Infocity, Infocity
Chandrasekharpur, Bhubaneswar Odisha - 751024

Has been assessed by EHS Alliance Services for the comprehensive study of environmental impacts on institutional working framework to fulfill the requirement of

ENVIRONMENT AUDIT

ACADEMIC YEAR 2022-23

The environment legal compliances and initiatives carried out by the institution have been verified on the report submitted and were found to be satisfactory.

The efforts taken by management and faculty towards environment and sustainability are highly appreciated and noteworthy.



Principal

Trident Academy of Technology
Bhubaneswar-751024



SIGNATURE



11.05-2023
DATE OF AUDIT

ATTESTED

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EHS Alliance Services Audit Team has prepared this report for Trident Academy Of Technology, Bhubaneswar, Odisha, based on input data submitted by the representatives of the College complemented with the best judgment capacity of the expert team.

While all sensible care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

If you wish to distribute copies of this report external to your organisation, then all pages must be included.

EHS Alliance, its staff and agents shall keep confidential all information relating to your organisation and shall not disclose any such information to any third party, except that in the public domain or required by law or relevant accreditation bodies.

EHS Alliance staff, agents and accreditation bodies have signed individual confidentiality undertakings and will only receive confidential information on a 'need to know' basis.



Signature

LEAD AUDITOR

CONCEPT AND CONTEXT

In India, the process for environmental audit was first mentioned under the Environment Protection Act, 1986 by the Ministry of Environment of forests on 13th March 1992. As per this act, every person owning an industry or performing an operation or process needs a legal consent and must submit an environmental report or statement.

The National Assessment and Accreditation Council (NAAC), New Delhi has made it mandatory from the academic year 2019–20 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the sustainable environment.

In view of the NAAC circular regarding environment auditing, the College administration decided to conduct an external environment assessment study by a competent external professional auditor.

The term ‘Environmental audit’ means differently to different people. Terms like ‘assessment’, ‘survey’ and ‘review’ are also used to describe similar activities. Furthermore, some organizations believe that an ‘environmental audit’ addresses only environmental matters, whereas others use the term to mean an audit of health, safety and environment-related matters. Although there is no universal definition of Environment Audit, many leading companies/institutions follow the basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (ICC) in its publication of Environmental Auditing (1989).

The ICC defines Environmental Auditing as:

“A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects.”

This audit focuses on the environment legal compliances and implementation of rules defined by MoEFCC or state pollution control board. The concepts, structure, objectives, methodology, tools of analysis, and objectives of the audit are discussed below.

INTRODUCTION

Nature is very precious gift for all life forms. Disturbance in the nature causes environmental problems. These are increasing day by day as a result of development of urbanization and industrialization on earth. Because of unplanned utilization of resources, our planet is facing tremendous pressure results a sharp rise in temperature. Therefore, there is an urgent need to plan the consumption of the resources in sustainable manner in order to conserve natural resources for future generation.

Sustainable development is becoming popular in the world for saving the earth. Utilizing resources judiciously can save the earth's precious resources. Measurement of environmental components is the most effective step to conserve and protect natural resources.

Environmental auditing had begun in the early 1970s with provision of civil lawsuits for non-compliance with environmental regulations. Environment auditing involves on site visit, collection of samples, performing analyses, and report results to competent authorities.

Industry, the corporate world is initiating auditing for saving natural resources. Academic institutions also can contribute to the preservation and conservation of resources within their premises.

This "Environment Audit" report would help everyone to think about preserving resources, show willingness to learn their importance, adopt steps to minimize resource use and set an example for others to follow the path of eco-friendly practices to achieve the goal of sustainable development. Effective implementation of environmental auditing helps in minimization of environmental risks at low cost.



OVERVIEW OF THE COLLEGE

Trident Academy of Technology, a name that has become a brand in the field of technical education, is today synonymous with excellence. Trident is where Education meets Enthusiasm. Within just a few years of its establishment, Trident group of institutions has built an image amongst the aspiring masses which is worth the quality of education it imparts.



Trident is passionate about grooming leaders who are not only thorough professionals but also are good human beings with values and “sanskars”. Emphasis is given not only on making the students academically brilliant, but grooming them as true leaders and team players, thus preparing them for real life corporate world. The college has been ranked at No.25 in recently concluded DATAQUEST CMR RANKINGS.

In the recently concluded local rankings for BTech, MCA, MBA colleges (Under Biju Patnaik University of Technology, Odisha) and BCA and BBA institutions (Under Utkal University, Odisha), the Trident colleges have got the following ranks.

- No.1 MCA institution status for Trident Academy of Creative Technology, Bhubaneswar.
- No.1 Biotechnology college of Utkal University for the School of Biotech Sciences, Trident Academy of Creative Technology, Bhubaneswar.
- No.2 BCA /BBA college status under Utkal University for the School of undergraduate studies, Trident Academy of Creative Technology, Bhubaneswar.
- No.4 Private Engineering College status under Biju Patnaik University of Technology, Odisha for Trident Academy of Technology, Bhubaneswar.

VISION

Undisputed leadership in sustained development of skilled human resources from Eastern India through excellence in educational practices.

MISSION

- To foster holistic excellence in the new generation of students.
- To instill in them, the power of aggressive positive thinking, insatiable desire for information and knowledge, a penchant for out-of-the box ideation and capacity of execution.
- To contribute to the society with honesty and integrity through innovative research in the multi-disciplinary areas of evolving and upcoming technologies.

FACILITIES AT THE CAMPUS

LIBRARY

The college has a central library with all modern facilities. The library has 60000 book volumes, 274 e-journals, 275 science direct and 25 IEEE articles. The library also provides e-learning facility, digital library, reading room and reference section. All the library operations have been computerized. Computerized Library Management includes search, indexing, issue/return records. Bar-coding of records are common and all book volumes are managed through bar-code readers.

COMPUTER LAB

TAT has spacious, air conditioned and centrally controlled and monitored Computer Laboratories. Well equipped and operational systems with current edition of antivirus, licensed software and latest configuration of hardware are made available to the students for their convenience in adapting to modern technology.



TRANSPORT

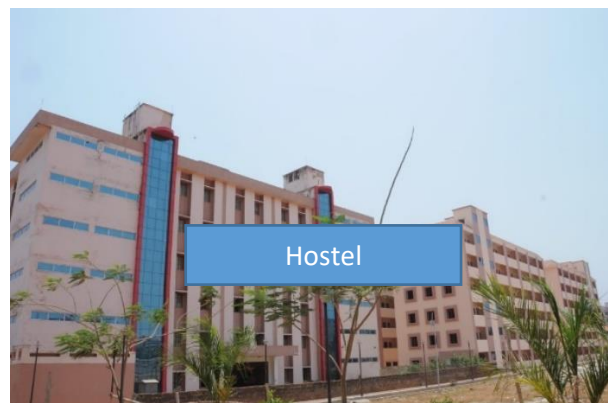
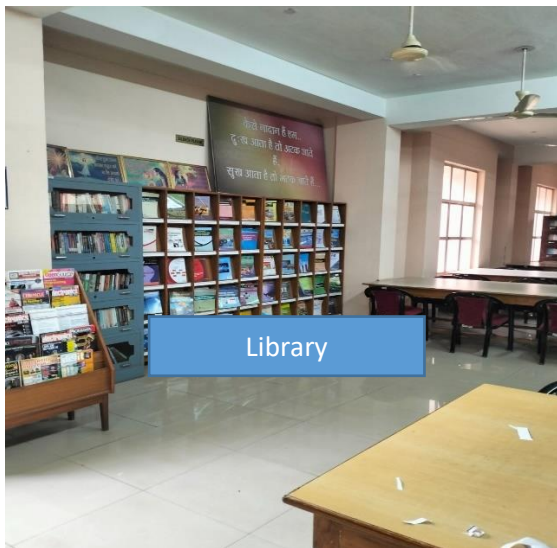
The college has outsourced the transport facility, A dedicated fleet of buses has been provided by the operator and these buses ply in five different routes picking up students from designated bus stops across the city. The present arrangement of routes can be viewed by clicking here.

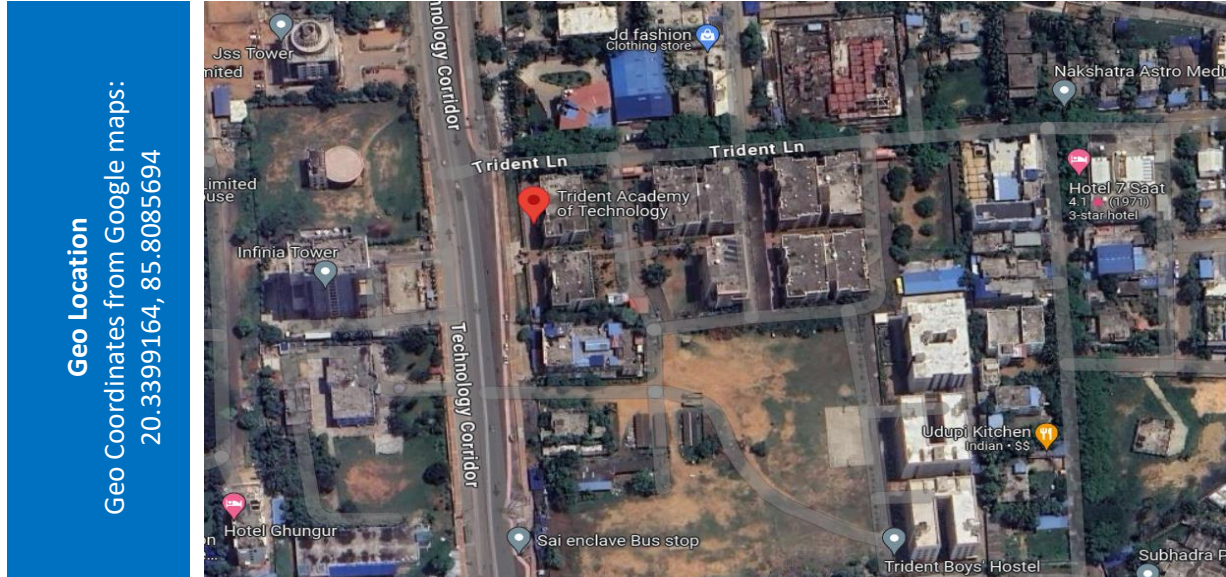
HOSTEL

The college has three in-campus hostels with capacity of 1200 inmates. The rooms are spacious, well-furnished and duly maintained. Mess facility is provided for students. Hygienic vegetarian and non-vegetarian foods are provided to the students at a nominal rate. Incoming telephone facility is provided for the hostel.

CANTEEN

The centralized food court of Trident Group of Institutions providing round-the-clock breakfast, lunch and other refreshments and dinner. Separate canteen and cafeteria facilities are available for TAT and TACT. Whereas the TAT canteen serves South Indian Snacks and breakfast along with Oriya style lunch, the cafeteria provides dry snacks.





AUDIT PARTICIPANTS

On behalf of College

Participant Name	Designation/ Role
Dr. Deba Narayan Pattanayak	Principal
Prof. (Dr.) Amarendra Baral	Dean, Science and Humanities

On behalf of EHS Alliance Services

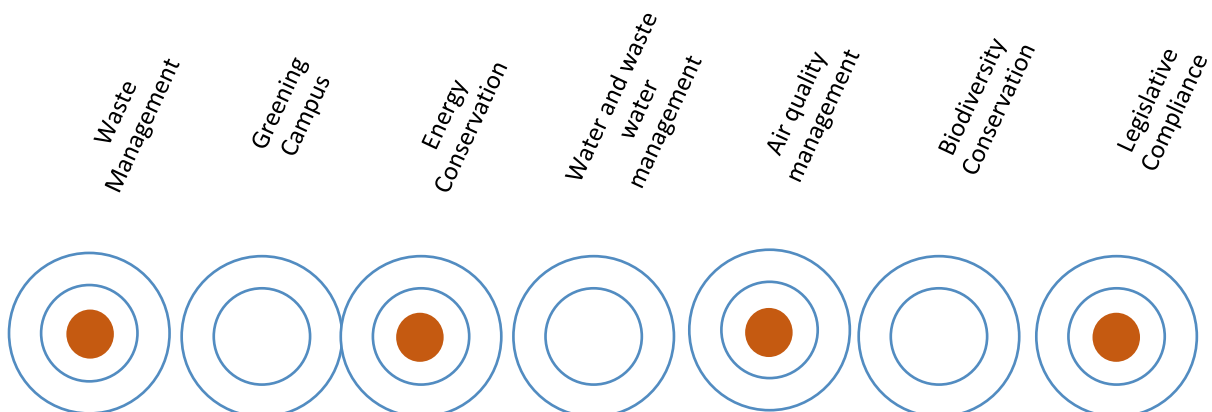
Name	Position	Qualifications
Dr. Uday Pratap	Lead Auditor	Ph.D. , PDIS, QCI – WASH, Lead Auditor ISO 14001:2015
Ms. Pooja Kaushik	Co-Auditor	M.Sc., Field Expert, QCI – WASH

EXECUTIVE SUMMARY

The environment audit is a snapshot in time, in which one assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes out-dated unless there is some mechanism in place to continue the effort of monitoring environmental compliance. Our approach to promote a Green Campus to inculcate the sustainable value systems among the students, so that they carry the learning and practices them in their future endeavours. This will ensure that Sustainability and Environmental practices get embedded in all the institutions and organizations in the country.

A Green Campus is a place where environment friendly practices and education combine to promote sustainability in the campus which ultimately offers an institution the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of the mankind.

This is very first environment audit of College for doing their bit towards environmental protection and environmental awareness at local and global front. Audit criterion is environmental cognizance, waste minimization and management, biodiversity conservation, water conservation, energy conservation and environmental legislative compliance by the campus. A questionnaire is used during audit. This audit report contains observations and recommendations for improvement of environmental consciousness.



WASTE MANAGEMENT

TYPES OF WASTE ON COLLEGE CAMPUS

To create effective waste management plans, college first need to know the types of waste they produce. Below, we have compiled a list of various kinds of waste commonly generated on institutional campus:

1. **Food Waste** - The reasons for food waste on an educational campus may be over purchasing food to ensure a sufficient supply and then throwing it away, especially in all hostel messes where plentiful stores are essential. And in the cafeteria or hostel mess, students may pile food onto their empty trays, find it unappealing once they sit down and dutifully scrape it into the garbage. Immediate attention is given to the food waste minimization techniques.
2. **Recyclable Paper, Cardboard, Plastic, Glass and Cans** -Campus tends to produce vast quantities of these recyclables. Even in the digital age, many students, professors and staff members still prefer handwritten notes and end up with piles of unwanted paper once their courses and projects are complete. The snacks so essential to late-night studying or socializing tend to come in recyclable plastic, glass or aluminium containers. And shipments of necessary items throughout the year are likely to arrive in recyclable plastic and cardboard packaging. Quantitative analysis should be carried out to reduce waste in coming academic sessions.
3. **Student Clothes and Housewares** - As we have mentioned above, many students find it more convenient to throw away their clothes and dorm furnishings at the end of the year than donate or recycle them. College has adopted a donation camp in summer and winter season to help needful people with the available old books and old clothes.
4. **E – Waste - Student and facility electronics often form a large portion of a campus’s waste** — As campus continually upgrade their computing facilities and office computers to keep up with the latest technology, the old computers have to go somewhere. So do old printers, phones, copy machines and other electronics that receive upgrades over the years. Discarded student electronics often become part of a college’s waste stream as well. Students may throw away old phones, TVs, tablets, laptops and printers, along with cords and other accessories. Recycling is a much more eco-friendly option — the metals in old electronics often have a high reuse value. College has tie-up with external authorised agency details mentioned in legislation compliances.
5. **Chemical Waste** - Chemical waste on a college campus may come from numerous sources. Campus laboratories generate waste chemicals, as do cleaning services. The detergents used in campus laundry rooms eventually become waste as well. Much of these chemical substances are hazardous waste under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and must undergo specific disposal processes according to state environmental rules and regulations.

6. **Maintenance Waste** - In the maintenance department, spent paints, solvents, adhesives and lubricants all form potentially hazardous waste. Because they are difficult to recycle, spent incandescent light bulbs usually become landfill waste. Spent fluorescent light bulbs, which contain small amounts of mercury, typically require special handling because of the environmental and health risks they pose.
7. **Biological Waste** - Biological waste from laboratories will require special handling and disposal as per BMW Rules, 2016. Tissue from biology biological waste, as do tissue samples, contaminated bandages and used sharps from medical facilities.
8. **Furniture** - Furniture waste on a college campus has a couple different sources. The campus itself may also get rid of old furniture as it modernizes its classrooms, cafeterias, computer labs and study spaces. Annually sold to junk dealer.
9. **Books/Magazines/Newspapers** - Books accounted for solid waste generation and college often generate tons of textbook waste. As courses upgrade to new editions, they may end up throwing their newly obsolete textbooks into the garbage if donation programs cannot use them. Students, too, may find it more convenient merely to throw away their books at the end of the year rather than donating or reselling them.
10. **C & D Waste** - Due to expansion of college campus building and renovation works result significant amount of construction and demolition waste that should be either used for back filling or disposed-off through authorised dumping site by CPCB/SPCB.
11. **Solid Waste** - The College is managing solid waste by its own through waste treatment plant.
12. **Horticulture Waste** – College campus has lavish greenery and grounds that results significant horticulture waste which is managed by in-house composting system.

ENERGY CONSERVATION

1. **List ten ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.**

- Solar power plant of capacity 12 kW installed to save electricity
- Electricity saves by use of LED bulbs for illumination
- LPG saves by use of Pressure cookers for cooking food.

2. **Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some**

Yes

- Switching off the lights and Fans of the classroom after the class is vacant
- Use of BEE rated Appliances such as ACs, Refrigerators, Water Purifier cum Cooler etc.
- The lights and Fans in classroom are arranged in such a manner that during 50% of load the entire classroom can have proper illumination and air comfort.
- All Hostels and some classrooms CFL lights are being replaced with LED lights
- 40% Air conditioning system are replaced with VRF Air Conditioner

3. How many CFL/LED bulbs has your institute installed?

Approximate 30 % of Total Conventional bulbs and tube lights are replaced by LED/CFL Lights.

4. Do you run “switch off” drills at institute?

No

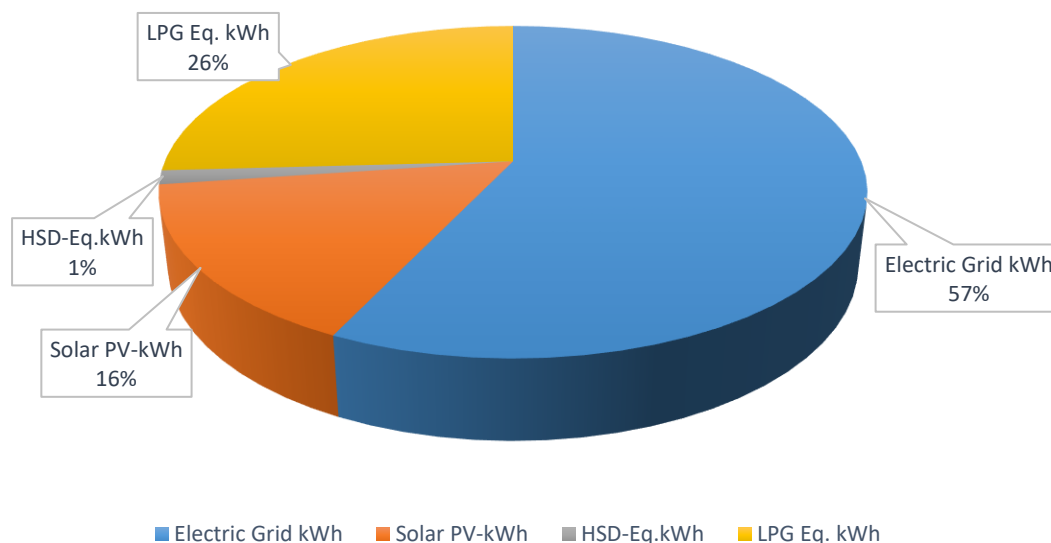
5. Are your computers and other equipment’s put on power-saving mode?

Yes, In Practice

6. Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?

Yes, approx. 6 hours

Energy Share in KWH



Energy Share	kWh	Percentage
Electric Grid kWh	62853	57.07%
Solar PV-kWh	17280	15.69%
HSD-Eq. kWh	1500	1.36%
LPG Eq. kWh	28500	25.88%
Total -kWh	110133	100%

WATER AND WASTE-WATER MANAGEMENT

1. List uses of water in your institute

Basic use of water in campus:

Drinking – 77.52 KL/month

Gardening – 216 KL/month

Kitchen and Toilets – 509.88 KL/month

Others – 224.40 KL/month

Hostel – 3094.20 KL/Month

Total = 4122.01 KL/Month

2 How does your institute store water? Are there any water saving techniques followed in your institute?

College stores water in terrace tanks

Saving Technique:

1. All the pipes are closed when not in use
2. Sensor is installed at the tank to avoid overflow of the water once the tank is full.
3. Water purifier cum cooler machine is installed.
4. Sensitizing students and staffs about importance of saving water

3. Locate the point of entry of water and point of exit of waste water in your institute. (Entry and Exit)

Entry - Water comes from borewells.

Exit- From Canteen, Toilets, bathrooms, laboratories by covered drainage which is connected to STP (100 KLD).

4. Write down ways that could reduce the amount of water used in your institute

Basic ways:

- Close the taps after usage
- Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage

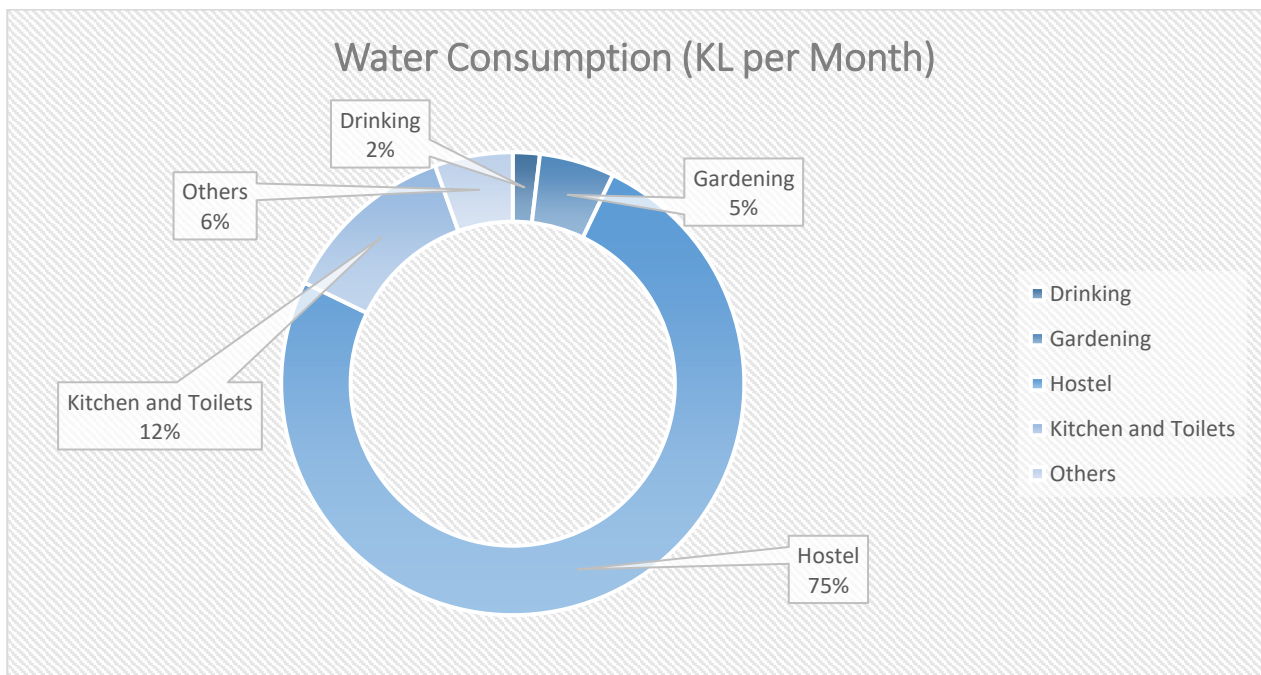
5. Does your institute harvest rainwater?

Yes,

6. Is there any water recycling System?

Yes, college has installed STP (100 KLD).

Uses of Water	KL per Month
Drinking	77.52
Gardening	216.00
Hostel	3094.20
Kitchen and Toilets	509.88
Others	224.40
Total	4122.01



AIR QUALITY MANAGEMENT

1. Are the Rooms in Campus Well Ventilated?

Yes, as per National Building Code, guidelines

2. Window Floor ratio of the Rooms?

Very Good, ample daylight utilization because of big windows.

3. What is the ownership of the vehicles used by your campus?

College-owned & contractual vehicles only

4. Provide details of College-owned vehicles?

Bus – 15
Car – 9
Total – 24

5. PUC done?

Yes

6. Specify the type of fuel used by your campus's vehicles

All Buses and 7 cars operates on diesel and 2 cars are EV cars.

8. Air Quality Monitoring Program (If, Any)

No

ENVIRONMENT LEGISLATIVE COMPLIANCE

1. Are you aware of any environmental Laws Pertaining to different aspects of environmental management?

Yes, faculty members & administrative team is well aware of national environmental laws.

2. Does your institute have any rules to protect the environment? List possible rules you could include.

Yes, initiatives are being taken by college to reduce pollution and go green.

3. Does Environmental Ambient Air Quality Monitoring conducted by the Institute?

No

4. Does Environmental Water and Wastewater Quality monitoring conducted by the Institute?

No

5. Does stack monitoring of DG sets conducted by the Institute?

Periodical Inspection by Electrical Inspector by Energy

6. Is any warning notice, letter issued by state government bodies?

No

7. Does any Hazardous waste generate by the Institute?

No

GENERAL INFORMATION

1. Does your institute have any rules to protect the environment? List possible rules you could include.

1. Ban on single use plastic
2. Save and plant trees
3. Generate as less waste as possible
4. Commute with bicycle once a week
5. Save water and energy

2. Are students and faculties aware of environmental cleanliness ways? If Yes Explain

Yes, various awareness campaigns like plantation, energy conservation, pollution reduction campaigns carried out by college

E-Abhiyan Project in association with CISCO

Plantation Drive in association with Halchal Youth Club

Blood Donation Camp in association with the NGO 'Ama Odisha'

Socio-economic surveys in association with SPARC

3. Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?

Yes, World Environment Day, Ozone Day, Earth Day and more are celebrated by campus.

4. Does Institute participate in National and Local Environmental Protection Movement?

Yes, Swachh Bharat Abhiyan by students at campus

5. Does Institute have any Recognition or certification for environment friendliness?

No

7. Does Institution conduct a green or environmental audit of its campus?

This is the first external audit carried out by the college.

8. Has the institution been audited /accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?

College is NAAC accredited with B⁺

RECOMMENDATIONS

- Provide sanitary waste disposal facility as per the CPCB guidelines for management of sanitary waste (as per Solid Waste Management Rules, 2016). Installation of Incinerator is recommended in campus
- Environmental Monitoring i.e. (Ambient Air Quality monitoring, Stack Monitoring of DG sets, Water monitoring need to be conducted by State Pollution Control Committee, approved laboratory) should be conducted periodically.
- Environmental parameters should be included in purchase policy to achieve cradle to grave approach for sustainability.
- Agreement with third party authorised vendors should be done for different types of waste management, such as paper recycling, e-waste, BMW, Plastic waste, etc.
- Eco-friendly parameters should be included in the purchase of articles and goods for the campus.
- College should run Conservation awareness campaigns like online sessions and webinars for students and staff.
- Green building guidelines with ECBC compliance should be adopted for future expansion projects of the College.
- Borewell permission should be taken from CGWA.

CONCLUSION

This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to environmental aspects. Overall 30% of College campus is for landscaping. The audit has identified some observations for making the campus premise more environment friendly. The recommendations are also mentioned with observations for College campus team to initiate actions. The audit team opines that the overall site is well-maintained from environmental perspective. Still there are few things that are important to initiate urgently which includes installation of incinerator, construction of rain water storage tanks, and borewell permission and periodic inspection of buildings to increase the energy efficiency.

REFERENCES

- **The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)**
- **The Petroleum Act: 1934 – The Petroleum Rules: 2002**
- **The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle Rules:1989 (Amended in 2005)**
- **Energy Conservation Act 2010.**
- **The Water [Prevention & Control Of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975**
- **The Air [Prevention & Control Of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982**
- **The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981**
- **E-waste management rules 2016**
- **Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)**
- **The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)**
- **The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)**
- **The Batteries (Management and Handling) rules, 2001 (Amended 2010)**
- **Relevant Indian Standard Code practices**

ANNEXURE I – CERTIFICATES & COMPLIANCE



Certificate of Appreciation

This is to certify that

TRIDENT ACADEMY

Has contributed in
Shramdaan for Swachh Bharat
On
1st October, 2023, at 10 AM

A Swachh Bharat Mission Initiative

ANNEXURE II - PHOTOGRAPHS



Well ventilated building structure



Well maintained campus



Plantation drive on occasion of Environment Day



Cleanliness Drive



10 kWp Solar Plant



TAT in media



Cassette ACs for power saving



Diesel generator



100 kLD STP plant



International Water Day Celebration

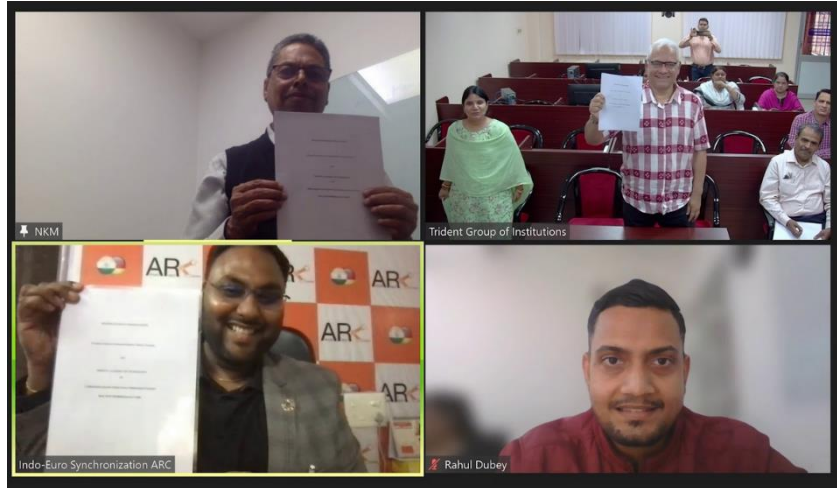


Swachhata Abhiyan by Students



Nature coservation message display

***** END OF THE REPORT *****



MOU Signing between TRIDENT and German Varsity



Emerging Technologies in collaboration with STPI



ATTESTED

**Principal
Trident Academy of Technology
Bhubaneswar-751024**

Virtual Lab Workshop in collaboration with IIT-Bhubaneswar



Innovation Mela in collaboration with NASSCOM Foundation



Science Camp in collaboration with Inspire

ATTESTED

**Principal
Trident Academy of Technology
Bhubaneswar-751024**



Start-up Bootcamp in association with Start-up Odisha



CSI Young IT Scientist Award-2020 in association with Computer Society of India

ATTESTED

Principal
Trident Academy of Technology
Bhubaneswar-751024



Water Quality Monitoring and its Quality Assurance Sponsored by BPUT under TEQIP-III



Women Day Celebration in association with Ashwini Group of Hospitals

ATTESTED

**Principal
Trident Academy of Technology
Bhubaneswar-751024**