#### SEPTEMBER 2023





# **RCET RAIPUR**

### NEWSLETTER

### VISION

To contribute to the progress of the state, nation and humanity as a whole providing education through research and innovation to the future citizens and creating a new order of peace and prosperity.

#### MISSION

To pave a path for the students to tread confidently, gaining knowledge and skills through that they may use to take the nation to the pinnacles of success.

### Everything is theoretically impossible until it is done.





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Kajal Gupta (83.20% B.Tech CSE 1st year)

# MEET THE TEAM

#### **EDITORIAL DESK**

#### Dear Readers,

As we embark on another month, I am thrilled once again to welcome you to our cherished publication. It's a true honor to serve as your editor and be the custodian of this vibrant platform that connects us all. With each passing month, our team dedicates itself to bringing you the latest news, insightful perspectives, and exciting stories that matter most to our community.



This month, we are particularly excited about the content we've curated for you. We believe it's our best yet, and we can't wait to share it with you. So, fasten your seatbelts because we're about to take you on a journey through words, images, and ideas that will both inform and inspire. Thank you for being a part of our growing family. Your support and feedback mean the world to us.

WARM REGARDS, DR. PRAGYA AWADHIYA ASSOCIATE PROFESSOR & HOD 1ST YEAR, RCET RAIPUR

# MEET THE TEAM

### **EDITORIAL BOARD**







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TEJESH SAO



ADITYA VERMA CSE 7TH SEM

# **G-20 SUMMIT**



The 2023 G20 Summit stands as a pivotal event in global diplomacy and cooperation, poised to address pressing global challenges in a rapidly evolving world. As leaders from the world's most influential economies converge, the summit's significance cannot be overstated.

Scheduled to be hosted in a nation of strategic importance, the summit's central themes encompass a wide array of global issues. Climate change is set to be a paramount concern, with leaders expected to commit to more aggressive targets and international cooperation to combat its effects. Economic inequality, trade imbalances, and strategies for sustainable economic growth will also occupy the discussions.

In addition to these pressing matters, the 2023 G20 Summit provides a platform for diplomatic engagements and fostering international relations. Bilateral meetings on the sidelines often result in important agreements and understanding among nations.

The summit's outcomes will reverberate globally, influencing policies related to climate, trade, security, and more. It is a momentous opportunity for nations to collaborate, seek common ground, and chart a course toward a more equitable, sustainable, and peaceful world.

The 2023 G20 Summit reminds us of the importance of international cooperation in tackling shared challenges, recognizing that only through unified efforts can we hope to overcome the complex issues that affect our interconnected world.

# **ISRO ADITYA-L1**



The Aditya-L1 mission, undertaken by the Indian Space Research Organisation (ISRO), is an ambitious endeavor aimed at studying the Sun, our closest star. Scheduled to be launched in the near future, this mission represents a significant step forward in India's space exploration efforts.

Aditya-L1's primary objective is to observe the Sun's outermost layer, the solar corona, and its magnetic field structure. By studying these aspects, scientists aim to gain a deeper understanding of the Sun's behavior and its impact on space weather, which can affect Earth's communications, navigation systems, and power grids.

The satellite, equipped with advanced instruments, will be placed in a special orbit known as the Lagrange Point 1 (L1), where it can maintain a stable position between the Earth and the Sun. This strategic location allows for continuous observations of the Sun, providing valuable data for research and space weather forecasting.

The mission is not only a significant scientific endeavor but also contributes to India's space progress. It showcases the nation's capabilities in designing and launching complex space missions, fostering international collaboration, and advancing our knowledge of the universe.

In summary, the Aditya-L1 mission represents a vital step in India's space exploration journey, focusing on unraveling the mysteries of our Sun and enhancing our ability to predict and mitigate space weather-related challenges on Earth.

# **TEACHER'S DAY**









college's Teachers' Our Day celebration this year was nothing short of spectacular, as our esteemed educators took center stage to perform for their adoring students. The day began with a heartfelt tribute to Dr. Sarvepalli Radhakrishnan, setting the tone for the festivities. Then the teaching and non teaching staff of RCET, KDRCST and RCPSR surprised students with their mesmerising performances in dance and songs.

It was a cheerful day and our dignitories presence made this a great success

## INDUCTION PROGRAM 11TH SEPTEMBER

RCET, RCPSR and KDRCST Raipur has organised its first day of Induction day program i.e Sports Activity on Krishna's Vikash college campus , Raipur. The event aimed to promote physical fitness, teamwork, and sportsmanship among participants while fostering a sense of camaraderie and community within our organization. The two events of day 1 were Musical Chair and Tug of War.

Two teams of girls and boys were made, in boys Mr. Dev Singh BBA KDRCST, Raipur 1st sem and and Yamni Dewangan of B.Pharmacy RCPSR –Raipur 1st sem in girls secured 1st position and won the first event.

Boys final event was played between RCPSR and KDRCST in which KDRCST emerged victorious and win exciting game.

While in girls event both team of RCET and RCPSR secured equal scores and secured 1st position.

### **INDUCTION PROGRAMME**

Organised By :

Vikash

Rungta College of Engineering & Technology, Raipur Rungta College of Pharmaceutical Science & Research, Raipur KD Rungta College of Science & Technology,

Raipur

### DAY 1 SPORTS ACTIVITY

Musical Chairs Tug of War VENUE: Rungta College Campus, Raipur DATE: 11 sep 2023 TIME: 2pm onwards

EVENT INCHARGES Mr. Sandeep Roy (RCET-R) Ms. Rinkee Verma(RCPSR-R) Mr. Apurv Jadeja(KDRCST-R)

OVERALL INCHARGE Dr. Pratibha Shrivastava RCET-R



## INDUCTION PROGRAM 12TH SEPTEMBER

RCET, RCPSR and KDRCST Raipur has organised the second day of Induction day program i.e Quiz Competition Activity on Krishna's Vikash college campus, Raipur. The event aimed to promote learning and education. They can be used as a tool to test and enhance participants knowledge on wide range of topics, from academic subjects to general knowledge. In this event students of RCET, RCPSR and KDRCST have actively participated, more than 200 students participated.

At Last,

First position RCET Raipur and second position RCPSR Raipur.



# INDUCTION PROGRAM 13TH SEPTEMBER

### **Event Details:** Photography and Best out of waste Activity Day 3 **Organizer:** RCET, RCPSR and KDRCST Raipur

#### **Program Details:**

**Lecture of Dr. Jawahar Suri Setti Sir** - n this lecture Sir has given motivational speech about creating a better future which necessitates a collective commitment to positive change. It begins with fostering empathy, understanding, and collaboration among individuals and communities. Embracing sustainable practices, harnessing renewable energy, and priorities. motivational speech about creating a better future necessitates a collective commitment to positive change. It begins with fostering empathy, understanding, and collaboration among individuals and collaboration among individuals and communities. Embracing sustainable practices, harnessing renewable energy, and priorities, understanding, and collaboration among individuals and communities. Embracing sustainable practices, harnessing renewable energy, and priorities.



2.Best out of Waste competition: The aim of this event is a creative concept that encourages individuals to repurpose or transform unused or discarded items into something useful, attractive,or artistic. It's a sustainable approach that promotes recycling and reduces waste



# INDUCTION PROGRAM 14TH SEPTEMBER

#### 1. Poster Making Competition (Digital India )

Digital India" is a flagship initiative by the Government of India aimed at transforming India into a digitally empowered society and knowledge economy. If you're looking to create a poster for a competition centered around the Digital India initiative, here are some ideas and tips to help you design an impactful and visually appealing poster.

2.Essay Writing Plastic (Waste free India)-

In this event student of RCET, RCPSR and KDRCST has actively participated. According to the title India, a land of diverse cultures and traditions, is facing a formidable challenge in managing its waste efficiently.

3. Reels making competition (My College) -

Organizing a Reels making competition centered around the theme "My College" is a fantastic way to engage students and showcase their creativity and love for their institution.



## INDUCTION PROGRAM 15TH SEPTEMBER

The department of Engineering (RCET-R), organized a program in the integrated campus on 15th September 2023. All members of the Engineering department (RCET) along with the members of KDRCST and RCPSR celebrated this day. The program began in the afternoon by 12:00 PM in Dr. Avdhoot Shivanand Auditorium- Krishna's Vikash Campus.

All the coordinators of Krishna's Vikash committee indulged in the work of program. All the students lead the main role in the management of the program . Hard efforts were taken by the department with continues support of dignitaries.

### NOTA Vikasl Rungta College of Engineering and RUNGTA Technology, Raipur Welcomes you all to celebrate ENGINEER'S DAY **Let's Feel Proud** To Be An ENGINEER Venue : RCET Avdhoot Shivanand Auditorium Time : 11am onwards Eagerly Waiting, **RCET** Students ADDY ENGINE

# INDUCTION PROGRAM 16TH SEPTEMBER

RCET, RCPSR and KDRCST Raipur has organised the sixth day of Induction day program i.e solo song , solo dance, Group song and Group dance Competition Activity on Rungta college campus, Raipur. Music binds our soul, heart and emotions. Music is the best method of relaxation. Dance is the hidden language of souls. It is something that makes you feel joy and enthusiasm.

In Solo song Competition, Mr Teman Sahu (D.pharm 1st year) achieved the first prize, Ms Saloni Vishwatarm (BSC 1st year) got the Second Prize and Ms. Saloni (B.tech 1st year) got the third prize. In Solo Dance Competition, Mr Teman Sahu (D.pharm 1st year) got the first prize, Mr Garv (BCA 1st year) got the Second Prize and Ms Renuka (B.tech CSE) got the Third Prize.

In the Group Song Competition, Samia, Pooja and Anamika from BBA 1st year got the first prize. In Group Dance Competition, Dimple and munmun from BCA 1st year got the first prize.



### **TRAINING & PLACEMENT**

Mr. Sanjeev Ranjan, Mr. Sandeep Roy, Mr. Saurabh Sharma, Ms. Shreya Chandrakar, Mr. Vivek Tripathi T&P Head, SPOCs

- The T&P Department in Rungta College of Engineering and Technology is running in collaboration with Talentisglobal.
- Mr. Arunava Roy is the Head of the Talentisglobal. The Department is created in the ground floor. The T&P Department has Office, Seminar Hall, and GD rooms in the ground floor.
- The T&P department with the help of Talentisglobal has conducted two online Placement drive of company "Synnova Gear" and "Logic Mo" with 04 and 02 students selected respectively.
- The placement drive for "Pick your trial" will be happening soon.
- Placement drive of Embassy India-Mart was organized on 26th August 2023 and 02 students were identified for the company.
- The University CSVTU has collaboration with the Company Nucleus Teq which is helping the students of different college of Computer Science and engineering, IT branch to get job opportunity in different multinational company.









Congratulations on Achievement



Placement in the month of September



Rahul Kumar Sen Embassy-IndiaMart (Placed)



Ujjwal Chourasiya Nuclues Teq (Selected for final round)

### **BEST WISHES FOR YOUR BRIGHT FUTURE...!!!**

### **ENGINEER'S DAY**





The department of Engineering (RCET-R), organized a program in the integrated campus on 15th September 2023. This day is celebrated by all members of the Engineering department. The programme began in the afternoon by 12:00 PM in Dr. Avdhoot Shivanand Auditorium- Krishna's Vikash Campus.

Our dignitaries shares the words of wonder and the program by our students were started with Quiz competition, dances, songs and many more. Lastly, all the Dignitaries and faculty members cut the cake.

### VISHWKARMA POOJA, GANESH POOJA & TEEJ CELEBRATIONS



The celebration of festivals like Vishwakarma Puja, Ganesh Puja, and Hartalika Teej was a vibrant reflection of our cultural diversity. With all these events celebration the college was full of happiness and energy . The festivals were a great way to welcome the new academic year along with the fresher batches of all the three colleges







### **YUVA MAHOSTAV**



YUVA Utsav 2.0 was organized by CII Chhattisgarh and YI Raipur Chapter on 22nd September at Deendayal Upadhya Auditorium from 10 AM to 5 PM. Students of Rungta College of Engineering and Technology, Raipur has participated in this event, this was the second edition of YUVA UTSAV earlier it was organized on Sept 2022. Theme of this year conclave is "Dreams to Reality: India's Global Ascent.



# **RESEARCH & INNOVATION**



A webinar on "Machine Learning and it's application in mechanical engineering" was conducted on 23.09.2023 at MATS School of Engineering & I T, Arang Raipur.

Dr. Ritesh Kumar Dewangan was invited as resource person. He has given the brief introduction of Machine Learning. He has explained how machine learning techniques can be implemented in mechanical engineering.

A journal paper is published with the title "Seasonal variation and source identification of PM 10 in an industrialized city" by Dr. Pallavi Pradeep Khobragade, Assistant Professor & Head of the Civil Engineering Department on August 11, Macromolecular 2023 in Symposia, a Scopus indexed journal published by Wiley in Volume: 410, Issue: with DOI: https://doi.org/10.1002/masy.2021002 17.



#### UNVEILING THE AIRBORNE SECRETS: UNRAVELING SEASONAL AEROSOL MYSTERIES AND THE PM 2.5 - AOD LINK IN RAIPUR, INDIA

DR. PALLAVI PRADEEP KHOBRAGADE

ASSISTANT PROFESSOR & HEAD OF THE CIVIL ENGINEERING DEPARTMENT, RCET, RAIPUR, CHHATTISGARH

Air quality plays a crucial role in maintaining environmental health, affecting various aspects such as respiratory health and the sustainability of ecosystems that are essential for our well-being. The city of Raipur, which serves as the capital of the Indian state of Chhattisgarh, has been confronted with persistent air pollution challenges over an extended period of time. In recent years, scholars have undertaken extensive investigations into the atmospheric complexities of urban areas, with a particular emphasis on aerosols and their correlation with levels of PM 2.5 (particulate matter having a diameter of 2.5 micrometers or less) and AOD (aerosol optical depth).

The comprehension of aerosols Aerosols, which are tiny particles of either solid or liquid nature that remain suspended in the atmosphere, have a significant impact on the dynamics of the Earth's atmosphere. Not only do they bear responsibility or the formation of captivating sunsets and obscured sky, but they also possess noteworthy consequences for climate patterns, visibility conditions, and general well-being. In the context of metropolitan settings like Raipur, contaminants in aerosols render them a significant area of investigation.

The factor of PM 2.5 The term & Particulate Matter 2.5 (PM 2.5) & pertains to particles that possess a diameter measuring 2.5 micrometers or less. These particles cause significant worry due to their ability to infiltrate the respiratory system, resulting in a variety of health complications. The measurement of PM 2.5 levels serves as an important metric for assessing air quality and is subject to careful scrutiny in numerous urban areas, including the city of Raipur. Aerosol Optical Depth (AOD) refers to the measure of the extent to which aerosols in the atmosphere attenuate and scatter solar radiation. Aerosol Optical Depth (AOD) quantifies the extent to which aerosols interact with solar radiation through absorption and scattering processes. Elevated values of Aerosol Optical Depth (AOD) frequently signify the existence of a substantial quantity of aerosol particles, which can exert a significant influence on both air quality and climate. The study of atmospheric aerosols aids scientists in comprehending the spatial arrangement and level of concentration of airborne particulate matter.

The present study aims to investigate the seasonal variations in Raipur, a city located in central India. The city of Raipur undergoes apparent seasonal variations, with each season presenting unique atmospheric difficulties. The research under consideration primarily examined the monsoon and postmonsoon periods, during which the air quality in Raipur tends to deteriorate significantly. Throughout these seasons, the researchers gathered data pertaining to the levels of PM 2.5, AOD, and meteorological indicators in order to clarify the complicated interaction among these variables. The results and observations

#### UNVEILING THE AIRBORNE SECRETS: UNRAVELING SEASONAL AEROSOL MYSTERIES AND THE PM 2.5 - AOD LINK IN RAIPUR, INDIA

DR. PALLAVI PRADEEP KHOBRAGADE,

ASSISTANT PROFESSOR & HEAD OF THE CIVIL ENGINEERING DEPARTMENT, RCET, RAIPUR, CHHATTISGARH

The study conducted in Raipur revealed a number of significant findings:

<u>Seasonal Patterns</u>: The levels of PM 2.5 were found to be at their maximum during the post-monsoon season, which coincides with the peak of local pollution sources such as car emissions and building activity. The levels of AOD did not demonstrate a consistent pattern, indicating the potential impact of aerosol movement over both regional and long distances.

<u>Correlation between PM2.5 & AOD</u>: The study revealed a statistically significant positive connection between the levels of PM 2.5 and AOD during the monsoon season. This finding suggests that a certain proportion of PM 2.5 in Raipur during the monsoon season can be attributed to aerosol sources within the local area.

<u>Influence of meteorological conditions</u>: The impact of meteorological conditions on air pollution was observed, with wind speed and direction being identified as key factors affecting both PM 2.5 levels and AOD. This emphasizes the significance of taking meteorological conditions into account while doing research on air quality.

<u>Long-Range Transport</u>: The observation of increased levels of Aerosol Optical Depth (AOD) during the post-monsoon season indicates that aerosols originating from remote locations, such as industrial zones and regions with biomass burning activities, have the potential to influence the air quality in Raipur.

#### The implications and future directions

Comprehending the intricate relationship among PM 2.5, AOD and climatic factors is of significant importance in order to implement efficient air quality control strategies in Raipur and other comparable urban regions. The present article offers significant findings that might serve as a valuable resource for policymakers and urban planners in their endeavors to address and alleviate the issue of air pollution.

Future research endeavors may priorities the identification of distinct origins of aerosols and PM 2.5 in Raipur, the implementation of precise involvements to mitigate pollution during crucial periods, and the formulation of predictive models to anticipate air quality patterns using meteorological data and AOD.

In summary, the article titled & Unveiling the Airborne Secrets: Unravelling Seasonal Aerosol Mysteries and the PM 2.5 -AOD Link in Raipur, India & provides insights into the complex interplay among aerosols, PM 2.5 concentrations, and atmospheric dynamics within an urban setting. Through the process of unravelling these problems, scholars and decision-makers are able with enhanced capabilities to address the air quality difficulties encountered by urban center's such as Raipur. Ultimately, their endeavors are directed towards the attainment of purer and healthier atmospheric conditions for the entire population.

# **UPCOMING EVENTS**

1. **Value Education**: The value education session will be conducted by RCET Raipur with speakers from Om Alaukik Asharam, Achoti.

2. **CSVTU Sports**: The university is organizing its annual sports events from 04.09.2023 to 15.09.2023. The events in annual sports are comprised of both Indoor and Outdoor games. The colleges under the affiliation of CSVTU are divided into different zones. Our institute comes under the Raipur zone and has to compete in different sports events organized in different colleges of Raipur. Our institute has been assigned the conduct of a Basketball Ball for the zone and RCPSR has been assigned the conduction of a Football for the Zone.

3. **Hackathon**: The Department of Computer Science & Engineering is going to organize an internal hackathon " Phoenix Hackfest", under the KV Infinity Coders Club on 16th Oct, 17th Oct, and 18th Oct. The event will be of 3 days where 1st day will be scheduled for the presentation of different ideas by participants, on 2nd day, the coding session will start till 3rd day afternoon, and at last, the judges will announce the winner on 3rd day.

4. **Garbha Celebration**: On an auspicious festival of Navratri, we the students of RCET, Raipur are going to organize the Raas-Garbha Celebration on 21st October 2023, with joint support of KDRCST & RCPSR. We invite you all to the Garbha Celebration.

5. **NSS Activities**: RCET Raipur has created an NSS group. Mr.Sandeep Roy is the NSS coordinator for the university. The NSS team is going to organize different activities in the month of October. On 2nd Oct, under Swatch Bharat Abhiyaan, a drive will be initiated by the students for cleaning of the Campus.





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