

### C.M.DUBEY POST GRADUATE COLLEGE BILASPUR (C.G.)

(Accredited "B+" by NAAC) An Affiliated College of Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur(C.G.)

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2.3.1 - Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences.

# **LINK FOR ADDITIONAL INFORMATION**

# **C.M.DUBEY P.G.COLLEGE**

## C.M.D TECH-FEST 2024

# **JANUARY 18-19**

### Brief Report of TECH-FEST (Session 2023-2024)

Well-organized science exhibitions showcase the academic rigor and research excellence of its students and faculty. It provides a platform for college to network with industry professionals, potential employers, and other academic institutions. By providing a platform to explore science in a fun, creative, and supportive environment, science exhibition in our institution incubates and inspires students to explore their scientific mind.

C. M. Dubey. P. G College, Bilaspur organized TECH- FEST on 18<sup>th</sup> January 2024 to 19<sup>th</sup> January 2024 exhibiting a wide variety of models. This exhibition gave exposure to new technologies, improves personal development, hands on learning experience, inspires students to do something innovative. The Chief Guest on this occasion was Shri Ajay Kumar Yadav, IG Bilaspur Range, other dignitaries included Dr. S R Kamlesh Principal Govt. Bilasa Girls P.G.Autonomus College, Bilaspur, Dr. Jyoti Rani Singh Principal Govt. E. Raghvendra Rao P.G Science College, Bilaspur, Dr.S.L.Nirala Principal Government Jamuna Prasad Verma P.G.Arts and Commerce College, Bilaspur who assessed the various models. The Chairman of Governing Body of the College, Dr. Sanjay Dubey presided the inaugural session. He encouraged all the participants to regularly organize such exhibition. Other dignitaries also sought explanation about the details of all the different models from students who made models. Students of different colleges also visited the exhibition. On 19<sup>th</sup> January, Honorable Shri Arun Sao, Deputy Chief Minister of Chhatisgarh visited the institution and showered his blessings to the participating students.



#### **INNAGURATION OF C.M.D TECH FEST 2023**

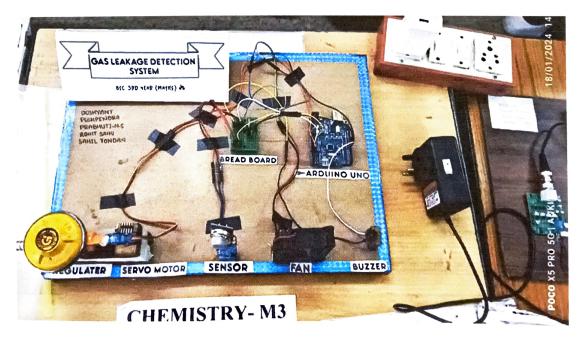
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Students from Department of Physics, Chemistry, Botany, Zoology, Microbiology, Bio-Chemistry and Management created innovative science models using a variety of technologies and concepts and project-based learning.

Nearly 30 students from the **Department of Chemistry**, participated in the TECH FEST. Ten models were presented in exhibition. Brief introduction about some of the Models and Name of the Participating Students:

**Gas Leakage System** : Gas leakage model refers to the theoretical frameworks and simulations used to understand the behavior and dynamics of gas leaks in various environments. These models help predict how gases escape from their containment and disperse in the atmosphere.

S.NO	NAME OF STUDENT	CLASS
1	Puspendra Yadav	B.Sc Part-III
2	Dushyant Sidar	B.Sc Part-III
3	Rohit Sahu	B.Sc Part-III



**Gas Leakage System** 

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### **Chemistry Behind Black Magic:**

Black magic, in the context of chemistry, often refers to the use of specific chemical reactions and compounds to create effects that may seem magical or mysterious. This can include the use of chemical reactions that produce dramatic visual changes, such as color changes, smoke, or even temperature fluctuations.

S.NO	NAME OF STUDENT	CLASS
1	Soumik Karmakar	Faculty
2	Chitralekha Yadav	M.Sc Sem-III
3	Menaka Yadav	M.Sc- Sem-IV



**Chemistry Behind Black Magic** 

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	DEPARTMENT OF PHYSICS		
S.No.	Name of Student	Title	Object of the Model
1	Ashutosh Mali	Aurdino Based Smart Blind Stick	To Develop a Sound Based Assistance that
	Khemprabha Sahu		helps Blind Person to Travel
	Livendra Karsh		Independently and Work Efficiently.
	Ayush Kumar Sarkar	Single Axis Solar Tracking System	
C	Yamini Kashyap		To Design and Produce Increased Energy
2	Rashi Acharya		Compared to a Fixed Solar System.
	Vineet Dubey		
	Vikas Gavel	45W Audio	To Amplify Audio Signals to a Level where Operator Can Drive Speakers or Other Audio Transducers Effectively with
3	Nilesh Singh Koram	Power Amplifier	
	Muskan Sahu		An Output Power of 45 Watts.
	Gagandeep Arora	Footstep Power Generator	Utilization of the Waste Energy of Foot Power with Human Locomotion as a Source of Renewable Energy in highly
	Rahul Rathore		
4	Ankita Sharma		
	Himanshu Gupta		Populated Countries like India.
	Devasish Patel	Bidirectional Visitor Counter With Automatic Light System	Controlling the Room Lights as well as Counting the Number of Visitors in the Room Quite Accurately.
5	Pankaj Sidar		
	Sobi Dewangan		
	Nitesh Kumar	Hybrid Inverter With Solar Battery Charging	To Kinder the Minds of the Youth & Elders Today to Indulge more Towards Clean Energy.
	Atanu Das Adhikary		
6	Chandrasekhar Singh		
	Mitali Chandra		
	Ishwar Prasad Dansena	Human And Car Speed Detection	To Measure the Speed of Human & Passing Vehicles Accurately with the help of IR Sensor.
_	Ishi Pathariya		
7	Deepesh Kumar Rathore		
	Keshar Patel		

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## EXPERTS ASSESSING THE VARIOUS MODELS OF PHYSICS DEPARTMENT



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Deputy Chief Minister of Chhattisgarh Govt. interacting with students

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Department of Management List of Participating students in TECH-FEST Students
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Name	Model Name	Application
Vishal	Smart Home with Google Assistance	Operating of Lights and Fans through voice command at home or office
Pratibha, Akshara and Shivangi	Gas Leakage Indicator	During Gas leakage automatic beep sound will come to make aware the family members and with that exhaust fan which operates through DC current will automatic start.
Aditi, Ushmi	Home Security through laser light.	Laser light will move surrounding the house and as any outsider enters into the boundaries of that house, sound will come automatically.

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### Students of Department of Management displaying the models

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Students of Department of Management and Arts displaying the models

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#### Department of Biotechnology & Biochemistry

17 students from the Department of Biotechnology & Biochemistry, C.M.D.P.G. College, Bilaspur (C.G.) participated in the TECH-FEST. Three models were presented in exhibition 1) Carbon purification (B.Sc PART-1 Biochemistry), 2) Organic insecticides (B.Sc PART-1 Biotech ) and 3) Biofuel City (M.Sc Sem-III Biotechnology).

1) <u>Carbon Purification</u>: This model is working model. Carbon purification involves placing a sulphide-soaked cloth above chimneys, covering discharged dust or smoke with the cloth, and transporting it to a body of water, where it becomes liquid, refining carbon.

CARBON PURIFICATION		
S.NO	STUDENTS NAME	CLASS
1.	Chanchal	B.Sc 1 <sup>st</sup> Biochemistry
2.	Anant Bhushan gaur	B.Sc 1 <sup>st</sup> Biochemistry
3.	Harshvardhan Yadav	B.Sc 1 <sup>st</sup> Biochemistry
4.	Ashutosh Chauhan	B.Sc 1 <sup>st</sup> Biochemistry
5.	Rajeev Lahre	B.Sc 1 <sup>st</sup> Biochemistry

## CARBON PURIFICATION ---- B.Sc. BIOCHEMISTRY PART- I



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#### **Organic Insecticides:**

This model is static model. In this model insecticide is made by grinding leaves from calves, combining them with Cow Urine, boiling, and filtering. It's simple to make, safe for plants and crops, and can be easily manufactured. A small factory could make it accessible to farmers without expensive inorganic pesticides.

ORGANIC INSECTICIDE		
S.NO	STUDENTS NAME	CLASS
1.	Mushrrat Jahan	B.Sc 1 <sup>st</sup> Biotech
2.	Surbhi Tamboli	B.Sc 1 <sup>st</sup> Biotech
3.	Ashu Verma	B.Sc 1 <sup>st</sup> Biotech
4.	Laxmikant Sahu	B.Sc 1 <sup>st</sup> Biotech
5.	Vinay Patel	B.Sc 1 <sup>st</sup> Biotech
6.	Somesh Nishad	B.Sc 1 <sup>st</sup> Biotech
7.	Aditya Shrestha	B.Sc 1 <sup>st</sup> Biotech
8.	Arpita Yadav	B.Sc 1 <sup>st</sup> Biotech

### ORGANIC INSECTICIDE -- B.Sc. BIOTECHNOLOGY PART- I



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2) Biofuel city: This model is static model. According to this model, the city is powered by bioethanol, which is produced from photosynthetic plants like algae and is becoming more and more popular because of its straightforward structure and photosynthetic capabilities. The city's industrial bioethanol production supply runs smoothly thanks to the improvements made to microalgal species by adjusting physicochemical conditions like light, pH, temperature, and nutrients.

BIOFUEL CITY		
S.NO	STUDENTS NAME	CLASS
1.	Bibhu Sahay Mali	M.Sc SEM-III
2.	Happy Patel	M.Sc SEM-III
3.	Shweta Dubey	M.Sc SEM-III
4.	Smith Sendray	M.Sc SEM-III

### **BIO-FUEL CITY --- M.Sc. BIOTECHNOLOGY SEM-III**



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#### **Department of Zoology**

Models were prepared by M.Sc Sem- I & Sem- III students of Zoology under the supervision of Dr Indira Chaturvedi, Coordinator & Assistant Professor Department of Zoology. Guest Faculty Mrs Deepika Bhosle, Mrs Priyanka Kaiwart, Ms Pooja Shrivas & Ms Reema Bishwas were incharge of models and Lab Attendant Ram Manohar Kaushik and Rameshwar Sahu also provided their support in this activity. MSc Zoology Sem-III Group-1 students demonstrated the Effect of Physical Exercise on Cardiovascular System. One of the notable models presented was Eye Donation, developed by MSc Zoology Sem-III Group-2 students . This model reveals that current corneal donation rates are insufficient to meet India's transfer needs, and each missed opportunity adds to this growing quandary. This activity is extremely important as it illustrates the lack of awareness among our society. Much effort is required in imparting knowledge to bring about effective change. Another remarkable creation was the Human Anatomy Model by M.Sc Zoology Sem-I Group-1 students. Models are very useful for explaining structural relationships and function in the human body. They come in a wide range of configurations designed to focus the learning on a key system or specific mechanisms, or to show the complete body with all structures in place. MSc Zoology Sem-I Group-2 students, presented a model on Poaching of Wild Life. This is part of the awareness program. Illegal hunting should be stopped because it is a serious threat to biodiversity.



**Department of Zoology** 

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**OUTCOMES**: Science exhibition in colleges contribute to the development of students' academic, practical, and interpersonal skills while also fosters a greater appreciation of science in society. It is essential for encouraging curiosity, critical thinking, and collaboration, which are keys to success in both academic and professional careers. Science exhibitions provide students with the opportunity to explore their ideas, conduct experiments, and present innovative solutions. This enhances the spirit of curiosity and creativity. This hands-on learning helps deepen understanding the scientific causes and allows students to apply theoretical knowledge in practical more relatable. The group projects help students develop teamwork, share responsibilities, collaboration skills and integrate different ideas into a project. Students often explain their projects to peers, professors, and visitors which enhances their communication skill.

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