
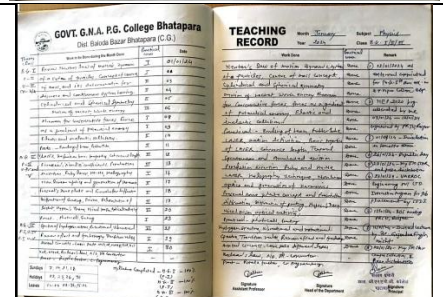


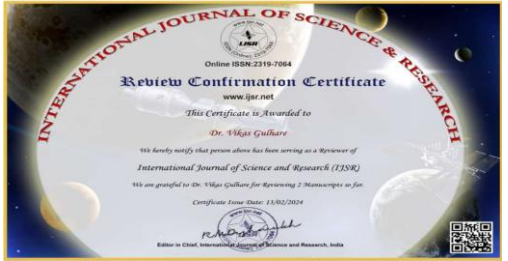
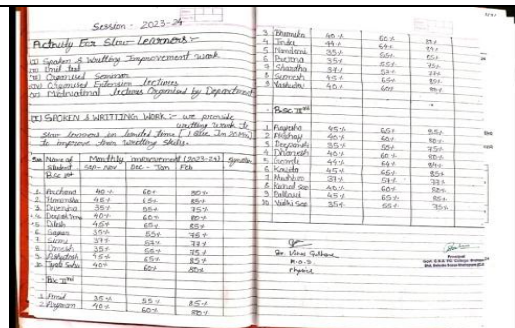







**Department of Physics**  
**Govt. G.N.A. P.G. College, Bhatapara C.G.**  
**Annual Report 2023-24**

SN	TYPE	STATUS	REMARK	
1	Attendance register	Yes	Filled according with academic calendar	
pp2	Daily Diary	Yes	Filled according with academic calendar	
3	Unit and internal test	Yes	Filled according with academic calendar	
4	Pre university	Yes	Filled according with academic calendar	
5	Extension Lecture	01	Dr. Gajendra Singh Bisth UP Higher Education 15/01/24	
6	Model presentation	06	In DWPS School BYT, IN 17 <sup>th</sup> Maths Convention prg. 30/12/2023 06- Students participated in program from the GNA college	

7	<b>SEDI Program</b>	<b>01</b>	<b>By Shri Sanjeev Vastrakar P.O. ACF SEDI</b>	
8	<b>Admission Enrolled</b>	<b>2023-24</b>	<b>List Attached</b>	
9	<b>Result</b>	<b>2022-23</b>	<b>List Attached</b>	
10	<b>Paper Publication</b>	<b>01-Published</b>  <b>01-In process</b>	<b>1-Deepak Kumar Yadav published</b>  <b>2-Deepak Kumar Yadav &amp; Dr. Vikas Gulhare</b> <b>Published in IJRRR Journal</b> <b>3-Dr. Preeti Soni and Vikas Gulhare</b> <b>Published in IJSR Journal</b>	
11	<b>Patent</b>	<b>01 registered</b>	<b>01- Dr. Vikas Gulhare</b>	<b>Chetosan used as heavy water removal materials</b>
12	<b>Book Writing</b>	<b>01</b>	<b>B. Sc. First Year Physics Prabodh (Hindi medium)</b> <b>01- Dr. Vikas Gulhare</b>	
13	<b>FDP program attend</b>	<b>04</b>		<b>03- Dr. Vikas Gulhare</b> <b>01- Deepak Kumar Yadav</b>
14	<b>Paper reviewed</b>	<b>02</b>	<b>01- Dr. Vikas Gulhare</b>	
15	<b>Membership in editorial board IJSR</b>	<b>01</b>	<b>01- Dr. Vikas Gulhare</b>	<b>IJSR Journal Open access Certificate enclosed</b>
16	<b>Membership</b>	<b>01</b>	<b>01- Dr. Vikas Gulhare</b>	<b>Physics BOS of Pt. PRSU Raipur</b>

	of University board			Certificate enclosed
17	Central BOS In CG	01	01- Dr. Vikas Gulhare	Physics, CG state Certificate enclosed
18	Slow & advanced learner record	Yes	UG level	
19	ICT class	Yes	Register maintained	
20	Faculty	Post-02 Filled- 02	Dr. Vikas Gulhare Deepak Kumar Yadav	Office maintained record
21	Lab. Technician	Post-01 Filled- 01(JB)	Tarun Kumar Verma	Office maintained record
22	Lab Attendant	Post-01 Filled- NIL	-----	-----
23	Department Time table	Yes	Attached File	Available
24	Stock register	Yes	Maintained	Available
25	Invited Talk	Yes	01- Polytechnique Bhatapara	 With letter

26	Judge in program	17 <sup>th</sup> maths convention program	Organized by DWPS School , Arjuni Bhatapara	
27	Tutorial and Discussion	Additional Classes done by Department	Attach photograph	
28	Quiz competition	Science Day 28/02/2024	<p>1. Priya patre – Msc III<sup>rd</sup> sem. Chemistry</p> <p>1. kirti yadu Bsc 1<sup>st</sup> year Maths</p> <p>2. Nadani gayakwad Msc IV<sup>th</sup> sem. Chemistry</p> <p>2. Sheetal dewangan Msc IV<sup>th</sup> sem. Chemistry</p> <p>Attached press note</p>	

**Admission Enrolled in 2023-24**

<b>No. of Students</b>	<b>UG-01 yr</b>	<b>UG-02 yr</b>	<b>UG-03 yr</b>
<b>Appearing</b>	<b>65</b>	<b>37</b>	<b>54</b>

**Result 2022-23**

<b>No. of Students</b>	<b>UG-01 yr</b>	<b>UG-02 yr</b>	<b>UG-03 yr</b>
<b>Appeared</b>	<b>66</b>	<b>112</b>	<b>80</b>
<b>Passed(M+F)</b>	<b>31(11+20)</b>	<b>39(16+23)</b>	<b>44(21+23)</b>

**Department of Physics**  
**Govt. G.N.A. P.G. College, Bhatapara (C.G.)**  
**Annual Report 2024-25**

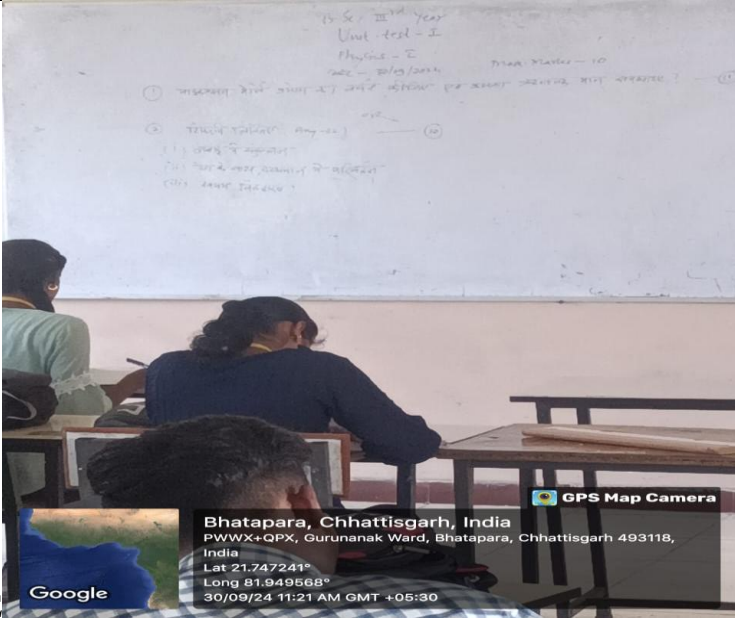

SN	TYPE	STATUS	REMARK
1	Attendance register	Yes	Filled according with academic calendar

Encl

SN	TYPE	STATUS	REMARK
2	Daily Diary	Yes	Filled according with academic calendar


E

n

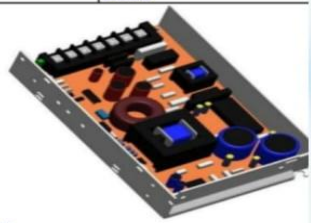
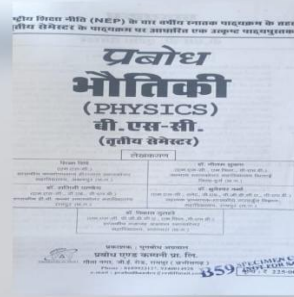



3	Unit and internal test	Yes	Filled according with academic calendar	 <p>GPS Map Camera</p> <p>Bhatapara, Chhattisgarh, India  PWVX+QPX, Gurunanak Ward, Bhatapara, Chhattisgarh 493118, India  Lat 21.747241°  Long 81.949668°  30/09/24 11:21 AM GMT +05:30</p>
4	Pre university	Yes	Filled according with academic calendar	Enclos 
5	Extension Lecture	01	Dr. Dinesh Uthra Assistant Professor, Physics Guru Ghasidas Central University, Bilaspur 09/12/2024	Enclosed P



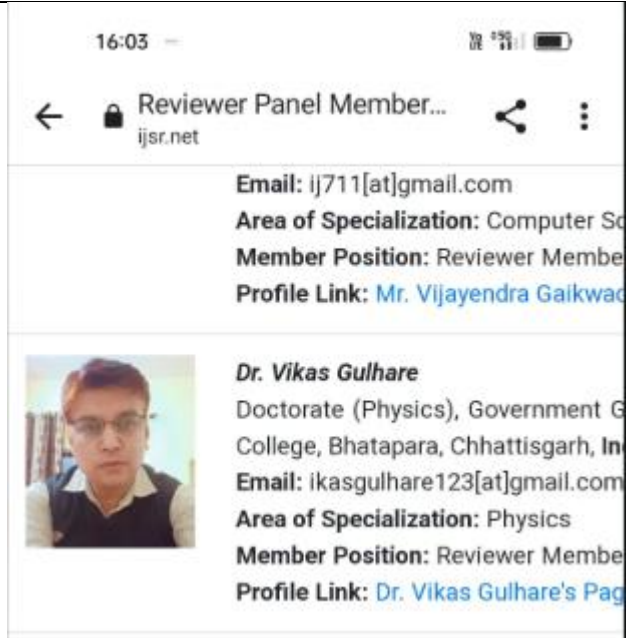
# hotograph

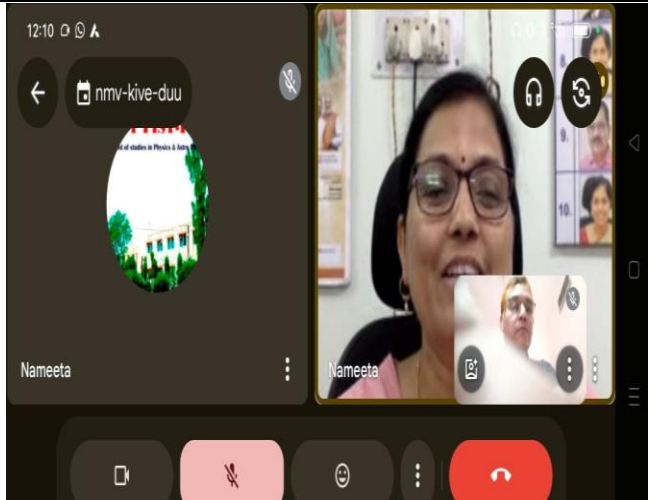

[illegible]

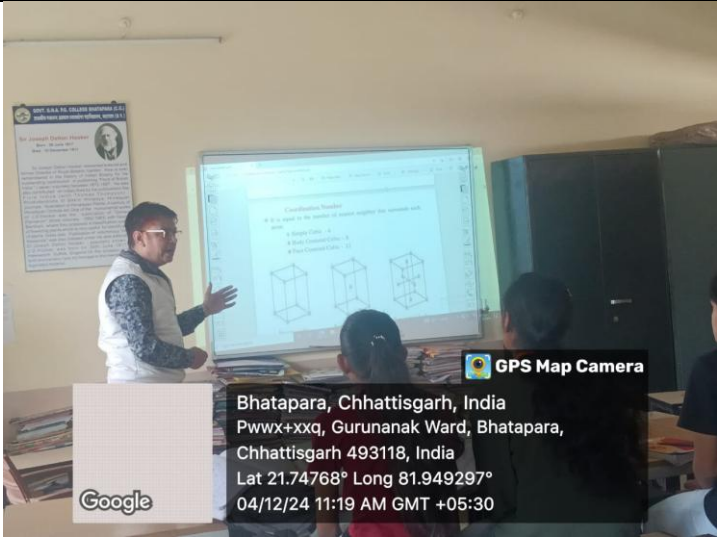
7	<b>SEDI ,SIDI Programs</b>			 <p>भाटापारा:- जीएनए कॉलेज में स्पेश डिजाइन पर कार्यशाला का हुआ आयोजन - KHABA...</p> <p>भाटापारा:- (खबर-भाटापारा) शासकीय गजानंद अग्रवा...</p> <p>khavar-bhatapara.in</p> <p>भाटापारा:- जीएनए कॉलेज में स्पेश डिजाइन पर कार्यशाला का हुआ आयोजन</p> <p><a href="https://khavar-bhatapara.in/?p=7316">https://khavar-bhatapara.in/?p=7316</a></p> <p>22:46</p>
8	<b>Admission Enrolled</b>		<b>List Attatched</b>	
9	<b>Result</b>		<b>Report Enclosed</b>	

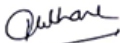

10	Paper Publication	01	<div data-bbox="836 195 1567 1232"> <div data-bbox="836 195 1567 262"> <div>International Journal of Science and Research (IJSR)</div> <div>ISSN: 2319-7064</div> <div>Impact Factor 2024: 7.101</div> </div> <div data-bbox="836 262 1567 304"> <div>A Review of Nanotechnology and Its Application</div> </div> <div data-bbox="836 304 1567 367"> <div>Vikas Gulhare</div> <div>Department of Physics, Govt. G. N. A. P. G. College, Bhatapara (C. G.) 493118, India</div> <div>Email: vikasgulhare123[at]gmail.com</div> </div> <div data-bbox="836 388 1567 451"> <div>Abstract: <i>Nanotechnology is new frontiers of this century. Numerous advantages of nanotechnology depend on its capacity to modify materials at incredibly small scales to attain certain features that would significantly improve the materials science toolset. Considering the molecules and interacting groups of molecules in connection to the bulk macroscopic qualities of the material becomes necessary when controlling the underlying molecular structure, which provides control over the macroscopic chemical and physical properties. The main application and scientific, technological facets of nanotechnology are explained in this overview.</i></div> </div> <div data-bbox="836 462 1567 483"> <div>Keywords: Nanotechnology and its Applications</div> </div> <div data-bbox="836 493 1567 1165"> <div>1. Introduction</div> <div>Nanotechnology has been employed in industries for different industrial applications and grows exponentially over few decades [1]. It has a great significant impact on medical equipment like imaging probes, drug delivery systems, and diagnostic biosensors in the pharmaceutical communities of practice. According to Morris [2] nanotechnology is the application of knowledge and control over matter at dimensions between 1 and 100 nm, where special physical features enable the development of novel applications. Hobson [3] said Nanotechnology, is the advancement of man - made or designed particles with dimensions in the nanoscale range (1 - 100nm). A field of expertise deals with objects and materials with nanoscale structures. Nanotechnology has created better power densities to maintain the storage charge that is employed for various battery types with reduced inflammable possibilities, and conversion of waste heat in nano - machine to useful energy. More so, solar film solar panels are being built by scientists that can be mounted to machines cases and lightweight piezo - electric nano - wires to produce usable energy from wind, friction, and body heat to operate mobile electronic equipment [5 - 6]. Nanoscale and sensors can help to deliver cost - efficient structural control of roads, bridges, trains, parking structures, and flooring over time. In the medical field, nanotechnology is being studied to improve injuries to the spinal cord or brain cells, or nerve cells. According to Matthew [8] nanotechnology creates multidimensional impacts on societies as the benefits are manifested daily. As scientists take advantage of atomic and molecular assemblages that are constructed at the nanoscale, nanotechnology has emerged as one of the emergent scientific initiatives of the early 21st century. This review explores the significant advancements in nanotechnology, its wide applications and future prospects.</div> <div>2. Nanotechnology and its applications</div> <div>The nanotechnology is a transforming skill that tends to stimulate scientific innovation while greatly benefiting society and its applications are reflected in the medical field, computing, engineering, etc.</div> <div>2.1 Applications of nanotechnology in electronics</div> <div>At nanoscale, materials have novel properties like increased strength, resiliency, electrical conductivity [7, 8]. Kumar et al. [9] studied the development of various signal transduction techniques using nanomaterials in the realm of biological and chemical analyses changing biosensors, and enabling in vivo research. Results from nanotechnology - based encouraging. This is accorded to their high surface permeability, surface - to - volume ratio, reactivity, and high penetrability. Nanomaterials use less substrate and material than larger materials and perform physical and chemical processes more effectively [10]. Nanotechnology has significantly improved computing and electronics by providing faster, smaller, and more portable systems that can manage and store larger amounts of information. Applications of nanotechnology include the followings: Nanoparticles copper suspension have been developed as a safer, cheaper, and more reliable alternative to lead base solder and other hazardous materials commonly used to fuse electronics in the assembling process. Enhancement in computer booting performance, and also to improve data saving during a system shutdown. Ultra high definition displays which production of ultra - responsive hearing aids, flash memory for smartphones, and more bright colors using quantum dots while using less energy and thumb drives. Pandey [10] mentions that when nanotechnology began to take center stage in research initiatives in both wealthy and developing nations of the world, it raised concerns among scientists about the function that it plays in electrical gadgets. The field of nanoelectronics, which was created by fusing nanotechnology and electronics, is concerned with handling, characterizing, building, and producing electronic devices at the nanoscale. The electrical characteristics of materials change as they are shrunk, and interatomic interactions and quantum phenomena assume a key role. To employ them in next - generation electronic devices, it is necessary to understand their electrical characteristics at the nanoscale. The age of nanoelectronics has begun as a result of the desire to reduce the size and increase component density.</div> <div>2.2 Applications of Nanotechnology in Medical Fields</div> <div>One of the most promising applications of nanotechnology in medicine is drug delivery. Nanomaterials can be designed to target specific cells or tissues, improving drug efficacy</div> </div> <div data-bbox="836 1165 1567 1232"> <div>Volume 14 Issue 6, June 2025</div> <div>Fully Refereed   Open Access   Double Blind Peer Reviewed Journal</div> <div><a href="http://www.ijssr.net">www.ijssr.net</a></div> <div>Paper ID: SR25614093356      DOI: <a href="https://dx.doi.org/10.21275/SR25614093356">https://dx.doi.org/10.21275/SR25614093356</a>      1016</div> </div> </div>
----	----------------------	----	---


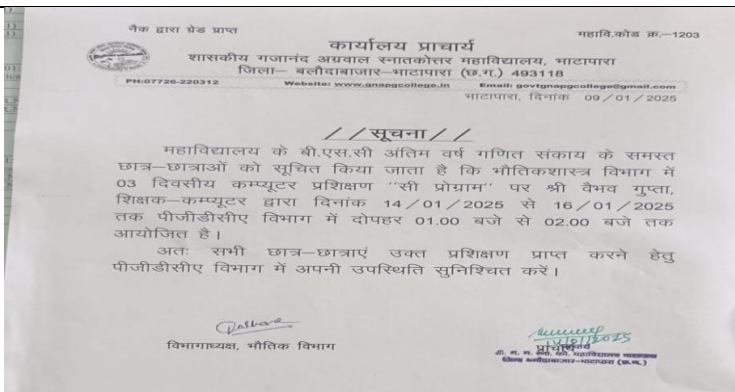

11	Patent	01	Quad Magnetic Axel	<div> <div> 09/09/2024 12:05:00  <b>Applicant Name:</b>  1. Dr. Dinesh Uthra  2. Mr. Kiran Thakur  3. Mr. Dharampal Rathia  4. Dr. Vikas Gulhare  5. Dr. Preeti Soni  6. Mr. Deepak Kumar Yadav  7. Dr. G Nag Bhargavi  <b>Design Application Status</b>  <b>Application Status:</b>  Design Accepted and Published, Journal No is 03/2026 and Journal Date is 16/01/2026 </div> <div>  </div> </div> <p>The Patent Office Journal No. 03/2026 Dated 16/01/2026</p>
12	Book Writing	03- Dr.Vikas Gulhare	NEP- B. Sc. 1 <sup>st</sup> Sem Physics, Prabodh NEP- B. Sc. 1 <sup>st</sup> Sem VAC, Civil Publication in Hindi Medium Renewable Energy And Energy Harvesting NEP- B. Sc. 1 <sup>st</sup> Sem VAC, Civil Publication in English Medium Renewable Energy And Energy Harvesting	<div> <div>  </div> <div>  </div> </div> <div> <div>  </div> <div>  </div> </div> <p>Enclosed Photograph</p>


13	FDP program attend				
14	Paper reviewed	14	IJSR(Open Access) -11 Journal of Optics(Springer)- 03		Certificate attached
15	Reviewer in editorial board IJSR	Yes	IJSR(Open Access) Journal of Optics(Springer)		

16	Membership of University board	01	Dr. Vikas Gulhare BOS of Pt. PRSU Raipur		Physics
17	Central BOS In CG	01	Dr. Vikas Gulhare		
s18	Slow & advanced learner record	Yes	Register maintained	Photograph	

19	ICT class	Yes	Register maintained	 <p><b>Photograph</b></p>
20	Faculty	Post-02 Filled- 02	Dr. Vikas Gulhare Deepak Kumar Yadav	<b>Office maintained Record</b>
21	Lab. Technician	Post-01 Filled	Atul Singh	<b>Lab and Office Record maintained</b>
22	Lab Attendant	Post-01 Filled- NIL	-----	-----

23	Department Time table and Academic Calendar	Yes	Attached File	<div>Govt. G.N.A. P.G. College, Bhatapara (C.G.) Department of PHYSICS Academic Calendar Session – 2024-25</div> <table><thead><tr><th>MONTH</th><th>ACTIVITIES</th></tr></thead><tbody><tr><td>July</td><td>Admission (UG)</td></tr><tr><td>August</td><td>Commencement of classes (B.Sc.- I, II &amp; III Year) Induction Programme (NEP Students) Assignment Distribution (B.Sc. – I Sem.)</td></tr><tr><td>September</td><td>First Internal Exam (B.Sc. – I Sem.) Unit Test (B.Sc. – II &amp; III Year) Teachers Day Celebration</td></tr><tr><td>October</td><td>Unit Test (B.Sc. – II &amp; III Year)</td></tr><tr><td>November</td><td>Second Internal Exam Unit Test ICT Class (B.Sc.-II Year)</td></tr><tr><td>December</td><td>Semester Practical Exam (B.Sc. - I Sem.) Assignment Assessment (B.Sc. – I Sem.)</td></tr><tr><td>January</td><td>End Semester Examination (B.Sc.- I Sem.)</td></tr><tr><td>February</td><td>Pre University Exam Practical Exam (B.Sc.- II &amp; III Year) National Science Day Celebration</td></tr><tr><td>March</td><td>Annual Exam (B.Sc. - II &amp; III Year) First Internal Exam (B.Sc.-II Sem.) Assignment Distribution (B.Sc. – II Sem.) Extra Classes for Slow Learner</td></tr><tr><td>April</td><td>Annual Exam (B.Sc. - II &amp; III Year) Second Internal Exam (B.Sc.-II Sem.)</td></tr><tr><td>May-June</td><td>Semester Practical Exam (B.Sc. - II Sem.) End Semester Examination B.Sc.- II Sem. World Environment Day</td></tr></tbody></table> <div><div> HOD PHYSICS</div><div> प्रधान डॉ. म. म. रमा. को. महाविद्यालय भटपारा शिक्षण भारीवाडगुडर-भटपारा (छ.ग.)</div></div>	MONTH	ACTIVITIES	July	Admission (UG)	August	Commencement of classes (B.Sc.- I, II & III Year) Induction Programme (NEP Students) Assignment Distribution (B.Sc. – I Sem.)	September	First Internal Exam (B.Sc. – I Sem.) Unit Test (B.Sc. – II & III Year) Teachers Day Celebration	October	Unit Test (B.Sc. – II & III Year)	November	Second Internal Exam Unit Test ICT Class (B.Sc.-II Year)	December	Semester Practical Exam (B.Sc. - I Sem.) Assignment Assessment (B.Sc. – I Sem.)	January	End Semester Examination (B.Sc.- I Sem.)	February	Pre University Exam Practical Exam (B.Sc.- II & III Year) National Science Day Celebration	March	Annual Exam (B.Sc. - II & III Year) First Internal Exam (B.Sc.-II Sem.) Assignment Distribution (B.Sc. – II Sem.) Extra Classes for Slow Learner	April	Annual Exam (B.Sc. - II & III Year) Second Internal Exam (B.Sc.-II Sem.)	May-June	Semester Practical Exam (B.Sc. - II Sem.) End Semester Examination B.Sc.- II Sem. World Environment Day
MONTH	ACTIVITIES																											
July	Admission (UG)																											
August	Commencement of classes (B.Sc.- I, II & III Year) Induction Programme (NEP Students) Assignment Distribution (B.Sc. – I Sem.)																											
September	First Internal Exam (B.Sc. – I Sem.) Unit Test (B.Sc. – II & III Year) Teachers Day Celebration																											
October	Unit Test (B.Sc. – II & III Year)																											
November	Second Internal Exam Unit Test ICT Class (B.Sc.-II Year)																											
December	Semester Practical Exam (B.Sc. - I Sem.) Assignment Assessment (B.Sc. – I Sem.)																											
January	End Semester Examination (B.Sc.- I Sem.)																											
February	Pre University Exam Practical Exam (B.Sc.- II & III Year) National Science Day Celebration																											
March	Annual Exam (B.Sc. - II & III Year) First Internal Exam (B.Sc.-II Sem.) Assignment Distribution (B.Sc. – II Sem.) Extra Classes for Slow Learner																											
April	Annual Exam (B.Sc. - II & III Year) Second Internal Exam (B.Sc.-II Sem.)																											
May-June	Semester Practical Exam (B.Sc. - II Sem.) End Semester Examination B.Sc.- II Sem. World Environment Day																											
24	Stock register	Yes	Maintained	<div>Available</div> <div>Available</div>																								

25	Tutorial and Discussion	Yes	Additional Classes done by Department	 <p>GPS Map Camera</p> <p>Bhatapara, Chhattisgarh, India 🇮🇳 Pwwx+qpx, Gurunanak Ward, Bhatapara, Chhattisgarh 493118, India</p>
26	Computer Skill Enhancement training prg.	Yes	Three days computer training program for B. Sc. 3 <sup>rd</sup> year Expert - Shri Vaibhav Gupta	
28	Orientation	Yes	Dr. Deepak Kumar Yadav	Certificate Enclosed
29	International Seminar, and Paper Presented	01	M. A. S. T. Conference 2024 Govt. D. B. Girls College, Raipur	 <p>GPS Map Camera</p> <p>Raipur, Chhattisgarh, India 6JMP+2MH, Kalibadi Chowk, Nehru Nagar, Budhapara, Raipur, Chhattisgarh 492001, India Lat 21.232665° Long 81.636878° 18/10/24 01:27 PM GMT +05:30</p>

30	International Webinar	01  01	Dr. Vikas Gulhare Bhatter College, Datan West bagal Dr. Deepak Kumar Yadav Bhater College, Datan West bagal	 <p><b>BHATTER COLLEGE, DANTAN</b> (NAAC accredited grade "A" college) (Affiliated to Vidyasagar University) P.O. Dantan, Paschim Medinipur, West Bengal 721426, INDIA</p> <p><b>CERTIFICATE OF PARTICIPATION</b> This is to certify that <b>Dr Vikas Gulhare</b> of Government Gajanand Agrawal postgraduate College bhatapara cg has successfully participated in the International seminar on "CURRENT TRENDS IN GREEN CHEMISTRY" organized by Department of Chemistry, Bhatter College, Dantan in collaboration with Department of Physics &amp; Mathematics, Bhatter College, Dantan on 16.09.2024.</p> <p>(Dr. P. K. Khattua) Principal Bhatter College-Dantan Paschim Medinipur</p> <p>Dr. Subhankar Sardar Convenor Seminar</p> <p>Dr. Kriti Ranjan Sahu Convenor Seminar</p> <p>Dr. Alauddin Dafadar Convenor Seminar</p>
31	Degree awarded	01	Dr. Deepak Kumar Yadav	Ph. D. Degree award certificate enclosed
32	Award achievement	01	Dr. Vikas Gulhare By DWPS School BYT	Certificate and Photograph enclosed

### Admission Enrolled in 2024-25

No. of Students	1 <sup>st</sup> Sem.(NEP)	UG-02 yr	UG-03 yr
Appearing	56	36	42
Passed(M+F)			

# Govt. Gajanand Agrawal P. G. College, BHATAPARA (C.G.)

## DEPARTMENTAL ACADEMIC CALANDER

### Department of Physics- Session 2023-24

SN	Month	1 <sup>st</sup> week	2 <sup>nd</sup> week	3 <sup>rd</sup> week	4 <sup>th</sup> week
1	June	<b>Admission</b>			
2	July	Department Meeting for Syllabus, University guidelines and work distribution	Teaching start 2 <sup>nd</sup> and 3 <sup>rd</sup> yr	Induction class 1 <sup>st</sup> yr	Unit test 2 <sup>nd</sup> and 3 <sup>rd</sup> yr
3	August		Unit test 1 <sup>st</sup> yr		Unit test 2 <sup>nd</sup> and 3 <sup>rd</sup> yr
4	September	Physics practical/ batch allotment	Seminar topic distribution	Seminar by student 1 <sup>st</sup> yr, 2 <sup>nd</sup> and 3 <sup>rd</sup> yr	Unit test 1 <sup>st</sup> yr, 2 <sup>nd</sup> and 3 <sup>rd</sup> yr
5	October	Slow and advanced learners activity	Parent teacher meet	Unit test 1 <sup>st</sup> yr, 2 <sup>nd</sup> and 3 <sup>rd</sup> yr	Seminar by student 1 <sup>st</sup> yr, 2 <sup>nd</sup> and 3 <sup>rd</sup> yr
6	November	Department Meeting for annual and practical exam	ICT Teaching	Extension Lecture by Expert In online mode	
7	December	Unit test 1 <sup>st</sup> yr, 2 <sup>nd</sup> and 3 <sup>rd</sup> yr	ICT Teaching	Skill development program	Science model preparation
8	January	Practical record verification	Annual Internal test	Private student Laboratory work	Pre university exam
9	February	Preparation of practical exam	Annual Practical Examination	Additional Classes for exam preparation	Science day Quiz competition

10	March-April	Annual Exam-2023-24
----	-------------	---------------------

**HOD-PHYSICS**

**Govt. Gajanand Agrawal P. G. College, BHATAPARA (C.G.)**

**Department of Physics- Session 2023-24**

### **DEPARTMENTAL REPORT**

According to academic calendar of session 2023-24 the following points are mentioned here for the execution of departmental programs:

1. The departmental time table is designed for conducting UG classes.
2. The guidelines of university and syllabus description provided to all students.
3. The induction classes are organized by department for newly regular scholar.
4. The practical work allotted to all students according to their course offered by university.
5. Continuous unit test, slow and advanced learner activity also conducted in the department and maintained record.
6. Seminar topic distributed by faculty to all students and taking performances.
7. ICT teaching was conducted by faculty for enhancement to the student's knowledge.
8. Online lecture is organized by physics department to know the other specific knowledge.
9. On the science day celebration quiz competition organized by the department.
10. For the skill development of the students with the help of SEDI institute, Bhatpara the program organized in the department.

### **Result 2023-24**

No. of Students	UG-01 yr	UG-02 yr	UG-03 yr
Appeared	65	37	54
Passed(M+F)	11+16=27	12+20=32	15+28=43

## **HOD-PHYSICS**